



# Strategic Energy Plan

## California State University, Long Beach

Final Submittal

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# 1

## Executive Summary

### 1.1 Background and Scope

California State University, Long Beach currently has 96 buildings on its campus spread over 323 acres with a total approximate square footage of 4,400,000. The Campus has executed numerous energy retrofit projects in the past, ranging from lighting retrofits to DDC, VAV conversions and VFD Conversions and installation of high efficiency motors. P2S Engineers Inc. was retained by California State University, Long Beach (CSULB) to develop a Strategic Energy Plan for the campus that identifies energy efficiency projects, evaluates provision of alternative energy sources at the campus and analyzes their contribution to helping the campus reduce energy consumption and associated greenhouse gas emissions.

The scope of this plan involved:

- Evaluating existing mechanical systems and their related control configurations in existing buildings,
- Evaluating existing Central Plant , analysis of piping distribution and control configurations,
- Evaluating existing lighting systems, their efficiencies and their controls,
- Identifying potential energy conservation measures for lighting and mechanical systems,
- Evaluating sites suitable for providing photovoltaic panels to generate solar power,
- Establishing Rough Order of Magnitude Construction Cost Estimates for the identified potential energy conservation measures,
- Estimating simple energy paybacks.
- Establishing existing and proposed greenhouse gas emissions projections

### 1.2 Campus Sustainable Policies

Executive Order No. 987 put forth by the Chancellors office delegates to each president or his/her designee at the campus, the implementation of the California State University Board of Trustees' energy conservation, sustainable building practices, and physical plant management policy. This executive order reaffirms the need to conserve energy in order to achieve the goal originally set in 2001 and reevaluated in 2005. The new goal is to reduce consumption by 15% by the end of FY 2009/10, as compared to 2003/04. The trustee policy is consistent with Governor Arnold Schwarzenegger's Executive Order S-12-04, which requests the CSU's active participation in statewide energy conservation and reduced electrical demand.

This executive order retains general operational provisions and sustainable building practices while adding the CSU Sustainable Measurement Checklist process. It encourages campuses to continue to adopt an integrated design approach that includes sustainable materials and practices. It also requires new goals for energy conservation, and the purchase and generation of renewable power.

In addition, the campus signed the ACUPCC Presidential Climate Commitment on May 31, 2011 to reduce greenhouse gas emissions and pursue the goal of reducing greenhouse gas (GHG) emissions to 1990 levels by 2020, following the California Global Warming Solutions Act of 2006 (AB32) directive on GHG emissions. This target is not growth adjusted.

The new campus energy and sustainable policy currently in review and in draft form now mandates stricter reductions in greenhouse gas emissions compared to AB 32. All campuses are required to reduce greenhouse gas emissions to 80% below 1990 level by 2040 as compared to 2050 stipulated under the AB 32 Act.

The policy also indicates that each CSU will endeavor to meet or exceed the State of California and California Public Utilities Commission Renewable Portfolio Standard (RPS) that sets a goal of procuring 20 percent of its electricity needs from renewable sources, by 2010 subject to the constraints of program needs and standard budget parameters.

In addition, all major capital projects starting design beginning in the FY 2011-2012 shall meet the following requirements: new construction projects shall at a minimum outperform the 2010 Title 24 Standards (California Energy Code) by at least 15 percent. Major capital renovations projects shall at a minimum outperform the Title 24 Standard by at least 10 percent if connected to a campus central plant, or 7.5 percent if a standalone project. These efforts will help to reduce the BTU/square foot consumption of the projects.

The campus over the years has aggressively pursued reduction of energy consumption by executing a number of energy retrofit projects involving both mechanical and electrical systems within the buildings and making the existing central plant efficient. A list of these projects executed by the campus in the past are provided at the end of the chapter. The campus has also pursued the provision of renewable power sources at the campus and currently produces approximately 500,000kWh of energy from renewable per year.

Electricity and gas purchases represent 45% of campus GHG emissions so energy conservation and GHG reduction goals are closely linked. Accordingly, it is expected that the Strategic Energy Plan projects will be one of the main tools the campus uses to meet its GHG targets.

### 1.3 Energy Use and Greenhouse Gas Reduction Targets

The campus energy use and associated greenhouse gas emissions for the years 1990, 2004 and 2009 are documented in Table 1-1. The total energy consumption (both electric and gas) were provided by the campus. The greenhouse gas emissions are calculated based on published US Emission Factors by eGRID for each sub-region.

The campus has embraced the AB32 and the chancellor's policy targets for reducing their greenhouse gas emissions. The past efficiency projects executed by the campus and the proposed potential SEP projects contributing to the reduction in greenhouse gas emissions are provided in tables 1.1C.

Table 1-1 shows energy usage and GHG emissions for the campus, starting with the baseline year 1990. Table 1-2 shows the impacts of all potential projects identified in the SEP.

## 1.4 Strategic Energy Plan Projects

This Strategic Energy Plan identifies potential energy efficiency retrofit projects at the campus and are summarized in Table 1-2. The projects include primarily lighting, HVAC and commissioning measures. A number of other measures are included that apply to all evaluated buildings, regardless of size. The Plan also addresses the potential for energy efficiency in new construction and renovated buildings based on the projected campus 5-year state and non-state funded capital programs (new construction, renovation and deferred maintenance/capital renewal) A separate line item shows the potential from addition of photovoltaic power to roof areas on campus. All projects were evaluated using the campus energy rates.

The Strategic Energy Plan is comprehensive in its identification of potential energy projects. As a result the total potential energy savings is significant and the payback periods for some of the measures are fairly long. During implementation the campus will select measures to implement which meet its investment and physical plant needs.

The efficiency measures will be implemented through the UC/CSU Investor Owned Utility Partnership Program in the 2009-11 and 2012-14 funding cycles. Utility incentives are projected to be similar to those that have been used in past cycles at the rate of \$0.24/kWh. Energy savings have been calculated on a project by project basis, with incentives based on the building level savings. This report does not represent an investment grade audit so the financial and energy reduction numbers are expected to be refined in project-specific engineering that will be undertaken before the campus submits proposals for individual project initiatives or funding. The photovoltaic projects would be implemented using the California Solar Initiative incentives.

The effect of these potential projects on meeting the efficiency and GHG targets is illustrated in Table 1-2. In these tables the energy savings are reported as they would be measured at the utility meters, taking into account the effect TES at the central plant. The indication is that the SEP projects will play a significant role in helping the campus reach its GHG emissions reduction goal, with the estimated emissions reductions being around 35-40% of that needed to reach 1990 levels.

The economics of the projects are described in Table 1-2, which lists the potential projects by each building. Table 1-3 also lists the Solar Projects along with projected California Solar Initiative incentives and the net simple paybacks to the site, factoring in the incentives.

The list of potential projects will be continuously tuned and updated as projects are built, savings are measured, new technologies become commercially available, and campus loads change over the course of the coming years.

## 1.5 Report Overview

A review of the existing state owned buildings on campus and discussions had with CSULB staff revealed that majority of the buildings on campus have implemented energy saving strategies in the past years. The campus identified a total of 49 state owned buildings and 17 non-state owned buildings for our investigation and are included as part of this report. An investigation of these buildings identified potential mechanical energy saving measures and potential lighting retrofit opportunities. A campus map identifying these buildings that have potential mechanical energy saving opportunities and lighting retrofit opportunities is provided at the end of this Chapter.

The cost of electricity for the purposes of pay back calculations has been assumed to be \$0.089/kWh. The cost of natural gas is calculated to be \$0.90/therm. Both values were obtained after discussions with the campus.

Chapter 2 provides an Introduction to our report. Chapter 3 and 4 discuss the historical energy usage and associated greenhouse gas emissions and existing metering at the campus. Chapter 5 and 6 discuss the current utilities and their procurement options and the electrical and gas infrastructure at the campus.

Chapter 7 provides details on the alternative technologies evaluated as part of our report, identifies current renewable generation at the campus and provides locations of proposed renewable power generation.

Chapter 8 provides a description of energy efficiency measures evaluated as part of our effort that are applicable to the buildings surveyed and analyzed.

Chapter 9, 10 and 11 provide building and project summaries with their associated energy conservation measures for all buildings evaluated as part of our effort.

Chapter 12 and 13 provide current greenhouse gas emissions, current legislations and their goals and future goals of the campus in reducing the same

Appendix A provides photographs of existing systems, and their descriptions along with details of existing equipment.

Appendix B provides details of calculations of conservation measures.

Over all, an estimated \$11,344,332 projects with an estimated savings of 13,858,803 kWh which includes estimated \$484,739 of lighting projects with an estimated savings of 2,183,501 kWh were identified. The overall yearly demand of the campus is currently estimated approximately at 50,000,000kWh. These are summarized in Table 1-2.

Figure 1.1 shown in the next page shows CO<sub>2</sub> equivalent emissions trends and trajectories for business as usual and state target as dictated by the AB 32 ordinance.

Figure 1.2 shown in the next page shows CO<sub>2</sub> equivalent emissions trends and trajectories for business as usual and potential reductions in the emissions after implementation of the various energy conservation measures recommended in the report. These include energy conservation measures projects in HVAC, and Lighting, MBCx projects, reduction in plug loads, and behavioral based load reductions.

FIGURE 1-1—CO<sub>2</sub> EQUIVALENT EMISSIONS TRENDS AND TRAJECTORIES

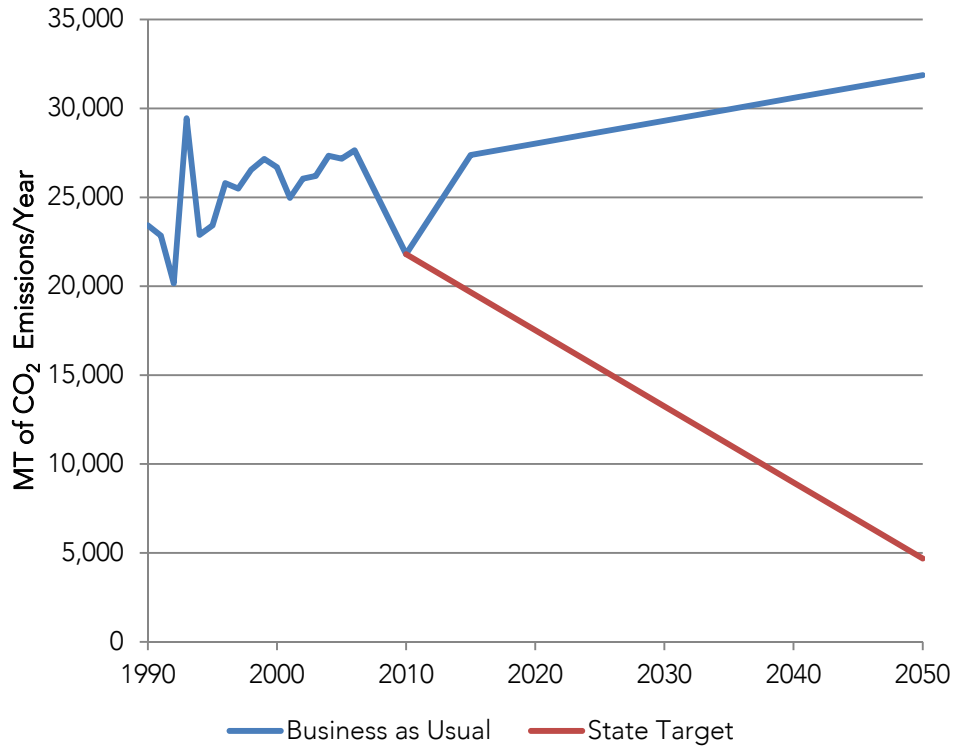


FIGURE 1-2—BUSINESS AS USUAL VS. POTENTIAL EMISSION REDUCTION INITIATIVES

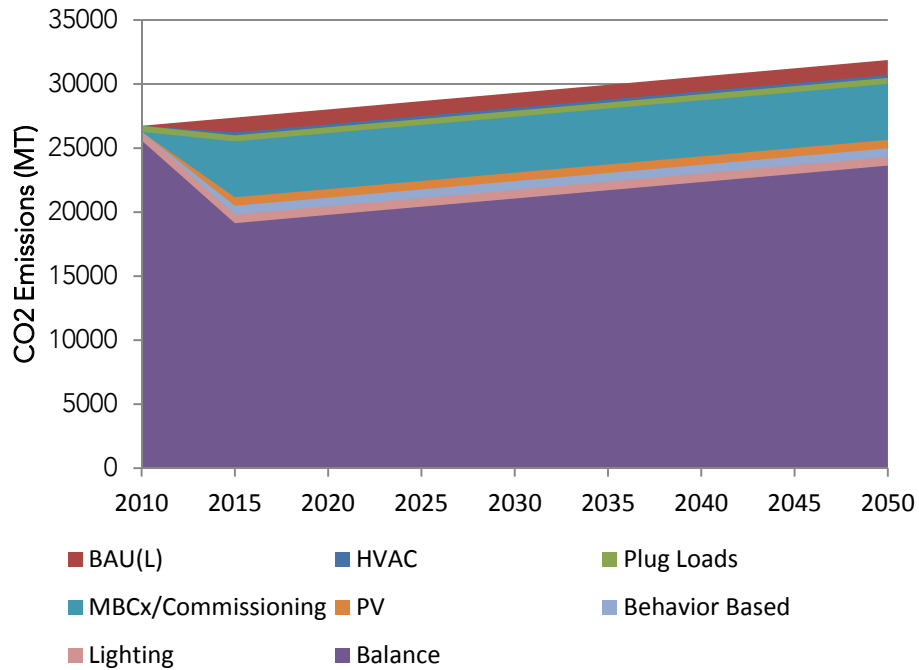




TABLE 1-1

Year	Annual Electrical Energy Usage (kWh/Yr)	Annual Thermal Energy Usage (Therms/Yr)	Total Energy Usage (kBtu/Yr)	Approximate, ft <sup>2</sup>	kBtu/ft <sup>2</sup> /Yr	Total Campus GHG Emissions (MT/Yr)	GHG Emissions vs. 1990 Baseline
1990	48,531,845	1,664,834	332,122,631	2,850,000	116.53	23,424	100.00%
2004	61,275,291	1,656,991	374,831,664	3,450,000	108.65	27,336	116.70%
2009	50,223,070	1,218,983	293,309,638	3,682,423	79.65	21,641	92.39%
2015	28,542,192	1,154,727	212,887,242	3,682,423	57.81	14,609	62.37%

TABLE 1-2

Savings Measure	Electric kWh/Yr	Peak Demand kW	Gas Therms/Yr	GHG (CO <sub>2</sub> ) MT/Yr	Total Cost Savings (\$/Yr)	Project Cost	Incentive	Net Cost	Simple Payback (Years)
HVAC	3,653,978	724	6,688	1,165	\$351,490	\$7,031,099	\$845,691	\$6,185,408	17.60
Plug Loads	639,563	73	5,640	226	\$50,556	\$362,472	\$128,667	\$233,805	4.62
MBCx/ Commissioning	4,103,279	468	46,069	1,501	\$410,757	\$1,565,918	\$886,624	\$679,293	1.65
PV	13,274,848	8,428	0	4,369	\$1,181,461	\$55,787,345	\$9,956,136	\$45,831,209	39.00
Behaviour Based	2,143,804	0	0	664	\$-	\$-	\$-	\$-	0.00
Lighting	2,286,577	694	0	708	\$249,462	\$3,421,270	\$548,779	\$2,872,491	11.51
<b>Totals</b>	<b>26,102,048</b>	<b>10,388</b>	<b>58,398</b>	<b>8,632</b>	<b>\$2,243,726</b>	<b>\$68,168,103</b>	<b>\$12,365,897</b>	<b>\$55,802,207</b>	<b>24.87</b>

TABLE 1-3

# of Bldgs	Technology	Approx. Roof SF	PV Size KW	kWh Generation	System Cost*	Incentives	Annual Savings**	Simple Payback (Years)	GHG Emissions Reduction MT/yr
14	Roof Mounted PV	321,198	1,606	2,529,434	\$8,029,950	\$1,897,076	\$225,120	27	832
7	Canopy Mounted PV	1,364,497	6,822	10,745,414	\$47,757,395	\$8,059,060	\$956,342	42	3,536
21	Totals	1,685,695	8,428	13,274,848	\$55,787,345	\$9,956,136	\$1,181,461	39	4,369

# 2

## Introduction

### 2.1 Strategic Energy Plan Methodology

California State University contracted with P2S Engineering to develop a Strategic Energy Plan for the campus that identifies a) potential energy saving projects, b) current and future provision of renewable energy sources, current and future greenhouse gas emissions projections, and their contribution to helping the campuses meet the system-wide goals of reduced energy consumption and reduced greenhouse gas emissions. A list of SEP buildings (state and non state owned) identified by the campus and that were part of our analysis is provided in section 2.5.

The following methodology was adopted in developing the strategic energy plan for the campus:

1. Reviewing existing drawings and performing field investigation. The following information was gathered from the existing drawings and field investigation:
  - a. Configurations of installed equipment.
  - b. Equipment operation, level of control and strategies.
  - c. Nameplate data for HVAC components including skid-mounted package units, pumps, and boilers.
  - d. System control schematic diagrams.
  - e. Apparent system deficiencies.
2. Identifying opportunities and options for system modifications and upgrades to optimize energy usage. This task included:
  - a. Establishing proposed lighting modifications and upgrades.
  - b. Identifying potential alternate cooling and heating plant configurations and control strategies.
  - c. Identifying alternative airside distribution system configurations.
  - d. Identifying potential control system modifications.
3. Performing economic savings analysis and calculating Rough Order Magnitude costs/Payback for ECM's described herein.
4. Presenting ECM recommendations for implementation by each building.
5. Evaluating provision of alternative energy sources at the campus.
6. Calculation of current and future greenhouse gas emissions consistent with AB 32 requirements.
7. Development of Strategic Energy Plan report.

During the analysis phase, the compiled field data was analyzed to develop projects with consistency and reasonableness in mind, using the most detailed methods of analysis possible in the time available. To this end, a standardized analysis tool was used to analyze the majority of the air handler related projects. The analysis tool provides results which incorporate factors typical of a more detailed investigation as opposed to a strategic level project analysis, including system specifics, site specific weather data, operating schedules, control strategies and typical system setpoints as determined by field investigation. Analysis of other projects was performed using project-specific engineering calculations and followed recognized engineering principles. Reasonable engineering judgment was applied to all project analyses.

Construction costs of recommended projects are built up from contractor quotes, Means manuals, experience from past project cycles, and a variety of other sources. Project costs are the sum of the construction cost with a 15% contingency. While individual projects' final costs and savings may vary from the results presented in this report, it is anticipated that the aggregate level of accuracy by campus or by utility service territory will be reasonable.

This report assumes incentive rates of \$0.24/kWh for payback analysis. These rates are used in the analyses of all projects in this report. There is no rebate for gas savings.

The projects included in this SEP are the result of a survey of the campus, discussions with campus personnel, and preliminary engineering of projects. This effort is not an investment grade audit. This means that the projects will require additional detailed cost estimating and refinement of savings before the campuses or the utilities can commit to specific construction budgets and energy saving calculations.

This effort was designed to identify major energy conservation measures required to make buildings energy efficient. It did not concentrate on operational details that might be found in an investment grade audit, such as a broken economizer, or an improper control sequence. However, the Strategic Energy Plan does recommend the monitoring-based commissioning (MBCx) of each of these buildings over the years (excluding buildings that have already been commissioned through the Partnership). This process will ensure that the operational problems of each building are identified and corrected, so that all measures that might be identified in an investment grade audit will ultimately be included. The energy cost savings for projects in the SEP have been simplified to meet the financial criteria, and to be consistent with utility incentive requirements. For HVAC projects, chilled water and hot water savings calculated at the buildings have been converted to electric (kWh) and natural gas (therms) savings using assumed central plant efficiencies, and summed with direct electric and natural gas savings, which include cooling or heating from local sources. The sums of these savings for each project become the equivalent electric and gas savings, and are used for the basis of the utility incentive. Operational and maintenance savings have generally been discounted in financial analysis of measures, as proposed funding will involve only the purchased utility budgets as a repayment source. The following table shows the utility rates and marginal central plant efficiencies used in this report.

**TABLE 1.1—UTILITY RATES**

Campus	
\$/kWh	\$/Therm
\$0.09	\$.91

TABLE 1.2—MARGINAL CENTRAL PLANT EFFICIENCIES

Campus	
Plant kWh/Bldg ton-hr	0.8
Plant Therm/Bldg ton-hr	0 (n/a)
Plant Therm/Bldg MMBTU	12.5

## 2.2 General Project Identification Categories and Approach

The following is a general description of the projects that were identified by the Strategic Energy Plan. More detailed scope and savings information is included in the Project Descriptions section of the report.

In general, projects were selected for this report that will bring campus systems up to the state of the art technology. This is intended to identify all of the possible energy savings available through retrofit projects. This results in some projects with longer paybacks where the existing system may be moderately efficient, but not necessarily state of the art. However, it defines a maximum savings target for the buildings evaluated. The campus can decide on the appropriate level of investment based on their individual needs and their performance in meeting energy savings and green house gas emissions goals.

### 2.2.1 Lighting Projects

The report identifies the potential to convert existing T12 and 32W T8 fluorescent fixtures to 25W T8 lamps with premium efficiency ballasts with low ballast factor, at 42 W per two lamp fixture. Also recommended are increased penetration of occupancy sensor controls, daylight harvesting, new stairwell fixtures, and replacement of interior HID fixtures with fluorescent. LED conversion is also recommended for parking structures and all parking lots/walkways.

### 2.2.2 HVAC Projects

A variety of HVAC projects are recommended for implementation at campus buildings. The general intention of these retrofits is to make all air handlers of 10 hp and above meet basic efficiency standards: variable air volume with economizers, operating only the hours necessary, with direct digital controls, demand control ventilation where warranted, and static pressure reset.

### 2.2.3 Monitoring Based Commissioning Projects

This report includes a monitoring-based commissioning project at every Strategic Energy Plan building. This is an integral element of the retrofit projects that are recommended at most buildings. The combination of retrofits and commissioning will capture the majority of the energy saving potential of the HVAC systems. Monitoring based commissioning is also recommended for central plant where it has not yet been implemented.

## 2.2.4 New Construction and Renovation from Capital Program

This report includes a number of planned construction and renovation projects at the campus. It is assumed that a Savings by Design process will be pursued to generate a design which outperforms Title 24 by at least 20%. The campus contribution to the resulting construction costs are assumed to come from State bond funding. This removes the capital constraint from the construction budget and allows more efficient buildings to be designed and built.

## 2.2.5 Deferred Maintenance and Capital Renewal Projects

The campus spends up to \$X million per year on deferred maintenance and capital renewal projects. This report estimates that about 12% of these projects have an energy savings component. It is recommended that utility incentives be employed to make these measures marginally more efficient. It is also recommended that bond funds be used where possible to supplement project funding to allow construction of energy saving projects that otherwise might not be funded.

## 2.2.6 Campus Wide Projects

Campus wide projects include the installation of occupancy sensor controls on vending machines. The campus wide use of power management software is recommended to reduce the energy consumption of network computers when they are not in use. The replacement of CRT monitors with LCD monitors is recommended as well.

## 2.2.7 Other Projects

Several other miscellaneous projects were evaluated, including swimming pool projects. Pool covers with powered take up spools are recommended where they are not currently used. Variable speed drives are recommended for pool filter pumps during off hours operations.

## 2.3 Campus Overview

California State University, Long Beach currently has 96 buildings (approximately) on its campus spread over 323 acres with a total square footage of 4,400,000. A list of all buildings along with their square footages and numbers on campus are provided below. The Campus has executed numerous energy retrofit projects in the past, ranging from lighting retrofits to DDC, VAV conversions and VFD Conversions and installation of high efficiency motors.

Number	Building	Tag	ASF
1	Brotman Hall	BH	127,050
2	Student Health Services	SHS	38,629
3	Nursing	NUR	17,527
4	Soroptomist House	SH	2,474
5	Family & Consumer Sciences	FCS	39,860
6	University Student Union	USU	161,300
7	Cafeteria	CAFE	35,305

Number	Building	Tag	ASF
8	University Bookstore	BKS	65,922
9	Psychology	PSY	85,147
10	Liberal Arts 5	LA5	63,220
11	Liberal Arts 4	LA3	14,210
12	Liberal Arts 3	LA3	15,689
13	Liberal Arts 2	LA2	13,708
14	Liberal Arts 1	LA1	40,230
15	Faculty Office 3	FO3	33,373
16	Faculty Office 2	FO2	11,994
17	Lecture Halls 150/151	LH	7,050
18	Faculty Office 1	FO1	
19	Library	LIB	206,521
20	Academic Services	AS	143,085
21	Multi-Media Center	MMC	6,728
22	Education 1	ED1	23,447
23	Education 2	ED2	24,237
24	McIntosh Humanities Bldg	MHB	42,510
25	Language Arts Building	LAB	27,480
26	Studio Theatre	ST	61,400
27	University Theatre	UT	19,598
28	University Telecommunications	UTC	23,600
29	Art Annex	ANNEX	
32	Fine Arts 1	FA1	15,504
33	Fine Arts 2	FA2	20,074
34	Fine Arts 3	FA3	22,910
35	Fine Arts 4	FA4	83,844
36	Faculty Office 4	FO4	13,768
37	Peterson Hall of Science 1	PH1	65,000
38	Peterson Hall of Science 2	PH2	80,018
39	Peterson Hall of Science 3	PH3	
40	Science Lecture Hall	SLH	
41	Microbiology	MIC	47,498
42	Animal House	AH	
43	Greenhouse 1&2		
44	Electical Substation (North)		
45	Faculty Office 5	FO5	12,306
46	Social Sciences & Pub Affairs	SS/PA	57,951
47	Physical Education/Gym	PE	167,286
48	Health & Human Services 1	HHS1	8,200

Number	Building	Tag	ASF
	Classrooms		
49	Health & Human Services 2 Offices	HHS2	13,034
50	Vivian Engineering Center	VEC	87,000
51	Engineering 2	EN2	24,378
52	Engineering 3	EN3	24,385
53	Engineering 4	EN4	16,929
54	Design	DESN	44,768
55	Human Services and Design	HSD	24,300
56	Engineering Technology	ET	67,143
57	Facilities Management	FM	9,313
58	Corporation Yard	REC	51,833
		WHSE	
59	Isabel Patterson Child Development Center	IPCDC	14,544
60	Los Cerritos	RH2	45,977
61	Los Alamitos	RH3	45,399
62A	Residence Commons	RH4	4,893
62B	Parkside Commons	RH5	3,980
63	Recycling Center	RC	7,482
64	Greenhouse 3		
65	Electrical Substation (South)		
66	University Print Shop (Reprographics)	UPS	2,400
67	Main Distribution Facility A		1,700
68	Restroom/Storage		
69	Softball Field Restroom		
70	Main Distribution Facility C		700
71	University Music Center	UMC	66,476
72A	Carpenter Performing Arts Center	CPAC	143,897
72B	Dance Center	DC	
73	Pyramid	PYR	157,335
74	Parking and Transportation Svc	PTS	3,627
75	International House	RH1	14,179
76	Earl Burns Miller Japanese Garden	MJG	
77	Sports, Athletics and Recreation	SAR	
78	Visitor Information Center	VIC	
79	Main Distribution Facility B		1,200
80	University Police	UP	6,000
81	Pyramid Annex	PA	19,150
82	Foundation	FND	67,500



Number	Building	Tag	ASF
83	Engineering/Computer Sciences	ECS	101,607
84	Horn Center	HC/UAM	49,686
85	College of Business Administration	CBA	87,531
86	Central Plant	CP	41,999
88	Parking Building 1		
89	Housing & Residential Life	HRL	3,814
91	Parking Building 2		
94	Molecular & Life Sciences Center	MLSC	93,159
100	Maintenance Shop		900
101	Shipping/Receiving		
102	Miller House		5,150
103	Outpost		8,800
104	Residence Commons Dining Hall		9,473
105	Residence Hall A		19,121
106	Residence Hall B		19,121
107	Residence Hall D		19,121
108	Residence Hall E		19,121
109	Residence Hall F		9,820
110	Residence Hall C		9,820
111	Residence Hall G		19,102
112	Residence Hall H		19,102
113	Residence Hall J		19,102
114	Residence Hall K		19,102
115	Residence Hall L		19,102
116	Residence Hall M		19,102
117	Residence Hall N		19,102
118	Residence Hall P		19,102
119	Residence Hall Q		19,102
120	Parkside Dining Hall		13,358

## 2.4 Central Plant

The existing central plant at the campus was completed in 1997 which centralized the production and distribution of heating and cooling to majority of the buildings on campus. Chilled water is generated at the Central Plant by a combination of (4) 1250ton and (1) 600ton centrifugal Electric Chillers and Electric Ice Harvesting Machines that are part of a Thermal Energy Ice Storage System. Thermal Energy Storage was incorporated into the Chilled Water system that reduced the peak electrical loads and saves the University substantial costs by shifting the cooling production to off-peak hours. The 600ton chiller was added in 2007 to meet the low loads of the campus and improve the efficiency of the plant.

The heating demands of the campus are met by (10) 6,250,000 Btu/hr (input) boilers with space and utilities for 2 more. The Natural Gas fired boilers are piped in a Primary/Secondary arrangement, with 4 primary pumps and 6 secondary pumps, 2 for each of the 3 distribution loops. The North loop is served by an 8" main, West loop is served by a 6" main and the South Loop is served by an 8" main that immediately splits into two 6" mains that circle the south campus.

Currently 50 buildings are served with heating hot water (HHW) and 38 buildings are served with Chilled Water (CHW).

A few of the buildings on campus have local chillers. These include the Microbiology, Engineering 1, Performing Arts, Pyramid and the Engineering and Computer Science buildings.

A few of the buildings on campus have local heating hot water boilers. These include the Microbiology, Performing Arts, Pyramid and the Engineering and Computer Science buildings.

Electricity savings at the buildings will appear at the meter as electric purchase reductions because the campus is likely to remain a net electricity importer during regular operations. Chilled water savings at the buildings will result in a reduced chiller load at the plant.. Therefore, reductions in chilled water loads at the buildings are projected to reduce electrical costs for the campus.

## 2.5 Strategic Energy Plan Buildings

The following buildings were investigated as part of this SEP effort, and were selected by the campus based on their potential and previously implemented projects. The total gross area of the SEP buildings represents 2,111,089 square feet or 70% of the campus gross area.

TABLE 2.1 SEP - STATE BUILDINGS

ASF	Building
206,521	Library (LIB)
167,286	University Gymnasiums (PE)
157,335	Mike And Arline Walter Pyramid (PYR)
143,897	Carpenter Performing Ctr (CPAC)
127,050	E. James Brotman Hall (BH)
87,531	Business Administration (COB)
87,000	Vivian Engineering Ctr (VEC)
85,147	Psychology (PSY)
83,844	Fine Arts 4 (FA4)
67,143	Engineering Technology (ET)
63,220	Liberal Arts 5 (LA5)
61,400	Studio Theatre (TA)
57,951	Social Sci/Pub Affairs (SS/PA)

ASF	Building
51,833	Corporation Yard (CORP)
47,498	Microbiology (MIC)
44,768	Design (DESN)
42,510	Mcintosh Humanities Bldg (MHB)
41,999	Central Plant (CP)
40,230	Liberal Arts 1 (LA1)
39,860	Family/Consumer Sciences (FCS)
33,373	Faculty Office #3 (FO3)
27,480	Language Arts (LAB)
24,385	Engineering 3 (EN3)
24,378	Engineering 2 (EN2)
38,629	Student Health Service (SHS)
24,300	Human Services and Design
24,237	Education 2 (ED2)
23,600	UnivTelecommunicatCtr (UTC)
23,447	Education 1 (ED1)
22,910	Fine Arts 3 (FA3)
20,074	Fine Arts 2 (FA2)
19,598	University Theatre (UT)
17,527	Nursing (NUR)
15,504	Fine Arts 1 (FA1)
13,034	Health & Human Srvcs 2 (HHS2)
11,994	Faculty Office #2 (FO2)
9,313	Facilities Management (FM)
8,200	Health & Human Services - (HHS1)
7,050	Lecture Hall 150-151 (LH 150/151)
6,728	Multimedia Center (MMC)
6,000	University Police Bldg
2,400	Reprographics
1,700	Commun-Main Distr A
1,200	Commun-Main Distr B

TABLE 2.2 NON-STATE BUILDINGS

ASF	Building
3,627	Parking & Transportation Services (PTES)
19,510	Pyramid Annex (PA)
161,300	University Student Union (USU)
14,544	Patterson Child Developmt (CDC)
35,305	Cafeteria
65,922	Bookstore
45,977	Los Cerritos Hall
9,473	Residence Commons Dining Hall
4,893	Residence Commons Office
19,121	Residence Hall A
9,820	Residence Hall F
19,102	Residence Hall G
13,358	Parkside Dining Hall
3,980	Parkside Commons Office
14,179	International House
3,814	Housing & Residential Life Office
65,200	Foundation Building - 6300 State Univ. Dr.

## 2.6 Recent Energy Project Inventory

The campus has actively and aggressively participated in the UC/CSU/IOU Partnership Programs. The following projects were implemented during the 2004-05 and during the 2006-2008 Partnership cycle. Since they were implemented no later than calendar year 2005, the associated energysavings are considered to be reflected in the historical energy use data gathered for 2006-07. Therefore, no adjustment has been made to the baseline energy use.

A list of projects executed by the campus over the years is summarized in Table 2.3 below. The table also provides the kWh and kW savings for each project and amount of incentives received by the campus for each of the projects.

TABLE 2.3 ENERGY RELATED INCENTIVES

Project	Annual KWH Savings	Annual KW Savings	Annual Energy Avoidance	Incentive Payout	Pmnt #	Pay Status
Events Center Energy Efficiency Upgrade	793,813	481	\$87,319.43	\$166,700.73	#1	\$158,250.96
					#2	\$-
					#3	\$8,449.77
New Science Building MLSC Savings by Design	-	-	\$-	\$68,153.00	#1	\$67,642.00
Brotman Hall Lighting Retrofit	117,659	27	\$12,942.49	\$5,405.76	#1	\$2,213.28
					#2	\$1,904.79
					#3	\$1,287.69
					Bonus	\$2,700.00
AB811 Demand Profile Rebate	-	-	\$-	\$3,818.28	#1	\$3,818.28
Enron VLRP Program	-	-	\$-	\$2,582.56	#1	\$2,582.56
Fine Arts 1 Savings by Design	-	-	\$-	\$2,368.00	#1	\$3,960.00
Fine Arts 2 Savings by Design	-	-	\$-	\$6,168.00	#1	\$7,583.00
Fine Arts 3 Savings by Design	-	-	\$-	\$2,199.00	#1	\$2,199.00
Fine Arts 4 Savings by Design	-	-	\$-	\$4,196.00	#1	\$4,196.00
Summer Initiative Energy Retrofit	3,692,664	1,647	\$406,193.04	\$1,843,460.00	#1	\$921,730.00
					#2	\$737,384.00
					#3	\$184,346.00
AB970 Lighting Retrofit	843,226	224	\$92,754.86	\$467,244.00	#1	\$467,244.00
Summer 2003 DLRP Program				\$3,360.00	#1	\$3,360.00
Parking Office Savings By Design	25,247	8	\$2,777.17	\$2,218.00	#1	\$2,218.00
Library Renovation Savings By Design	89,503	18	\$9,845.33	\$6,873.00	#1	\$6,873.00
Pkg Structure Phase I Savings By Design	136,520		\$15,017.20	\$5,461.00	#1	\$5,461.00

Project	Annual KWH Savings	Annual KW Savings	Annual Energy Avoidance	Incentive Payout	Pmnt #	Pay Status
2003/2004 ECM Lighting IOU Incentive	922,243	157	\$101,446.73	\$340,000.00	#1	\$136,000.00
					#2	\$170,000.00
					#3	\$34,000.00
Summer 2004 DLRP Program					#1	\$4,188.80
					#2	\$7,225.00
					#3	\$5,250.32
Summer 2005 DLRP Program					#1	\$1,599.51
					#2	\$3,397.40
					#3	\$5,655.94
					#4	\$3,325.41
					#5	\$7,241.77
Summer 2006 DLRP Program					#1	\$-
					#2	\$-
					#3	\$-
					#4	\$2,210.00
Summer 2007 DLRP Program					#1	\$1,298.54
					#2	\$2,794.77
					#3	\$2,058.66
					#4	\$438.75
Summer 2008 DLRP Program					#1	\$3,000.00
					#2	\$3,000.00
					#3	\$3,000.00
					#4	\$3,000.00
UC/CSU/IOU MLSC MBCx Incentive	271,560	31	\$29,871.60	\$160,000.00	#1	\$80,000.00
					#2	\$64,000.00
					#3	\$16,000.00

Project	Annual KWH Savings	Annual KW Savings	Annual Energy Avoidance	Incentive Payout	Pmnt #	Pay Status
UC/CSU/IOU CP MBCx Incentive	1,168,868		\$128,575.48	\$168,316.80	#1	\$168,316.80
				\$112,211.20	#2	\$112,211.20
2004/2005 ECM Lighting IOU Incentive	436,970	91	\$48,066.70	\$91,763.70	#1	\$45,881.85
					#2	\$36,705.48
					#3	\$9,176.37
2005/2006 ECM Lighting IOU Incentive	168,955	90	\$18,585.05	\$40,549.00	#1	\$24,329.40
					#2	\$16,219.60
UC/CSU/IOU 06/08 HVAC Retrofit #3 Incentive	620,501	69	\$68,255.11	\$89,352.00	#1	\$89,352.00
				\$59,568.00	#2	\$59,568.00
UC/CSU/IOU 06/08 Retrofit #2 Lighting Incentive	448,281	143	\$49,310.91	\$64,552.20	#1	\$64,552.20
				\$43,034.80	#2	\$43,034.80
SGIP BH PV SGIP06065	319,010	204	\$35,091.10	\$571,833.00	#1	\$570,054.80
				\$2,859.00	App Fee	\$2,859.00
SGIP Corp Yard PV SGIP06064	153,125	103	\$16,843.75	\$290,369.40	#1	\$273,627.20
				\$1,452.00	App Fee	\$1,452.00
UC/CSU/IOU 06/08 HVAC Retrofit #4 Incentive CP/UTC	1,425,246	1,127	\$156,777.06	\$205,235.40	#1	\$205,235.40
				\$136,823.60	#2	\$136,823.60
Parking Structure 3 Savings By Design	557,403	52	\$61,314.33	\$133,777.00	#1	\$80,266.00
Peterson Hall 3 Replace Savings By Design	1,279,697	131	\$140,766.67	\$144,446.00	#1	\$-
Student Rec & Wellness Savings by Design						
SCE VFD Express Efficiency				\$14,800.00		\$14,800.00
VEC PV CSI	67,733	42	\$7,450.63	\$87,031.00		
MWD Water Incentive				\$111,032.00		
<b>Total</b>	<b>13,538,224</b>	<b>4,644</b>	<b>\$1,489,204.64</b>	<b>\$5,520,598.30</b>		<b>\$5,096,553.90</b>

Project	2014-2015	2015-2016
Peterson Hall '2' Renovation	\$34.3million	
Peterson Hall '1' Renovation	\$29.08million	
Corporation Yard Renovation	\$18.9million	
Liberal Arts '5' Renovation		\$26.9million
Language Arts Renovation		\$14.7million

Table above provides the list of capital projects along with their periods of proposed construction and approximate construction amounts.



# 3

## Historical Campus Energy Use

### 3.1 Baseline 1990, (2003-04) and 2009-10 Energy Consumption

The campus currently has an annual electrical consumption of approximately 50million kWh and an annual gas consumption of approximately 1.3million therms as recorded from the bills for the period Jun 2009- June 2010 provided by the campus.

Charts 'A' and 'B; provide the total electrical energy usage in kWh and gas usage in therms by each year respectively. Chart 'C' below provides the total electrical energy consumption in kWh for the year 1990, 2003-2004 and 2009-2010. Chart 'D' below provides gas consumption for the years 1990, 2003-2004 and 2009-2010. The total energy consumption at the campus (site energy) is a combination of electrical energy usage in kWh and natural gas usage in therms and is expressed in kBtus. The total kBtu of energy consumption (gas and electric) at the campus for the years 1990, 2003-2004 and 2009-2010 is provided in Chart 'E' below. Energy Use Intensity in kBtu/sqft depicted in Chart 'F' below represents the energy consumed by the buildings relative to their size and is calculated by taking the annual total energy consumption in kBtus and dividing the same by the gross square footage of the facilities.

CHART 'A' — ENERGY USAGE IN kWh BY YEAR

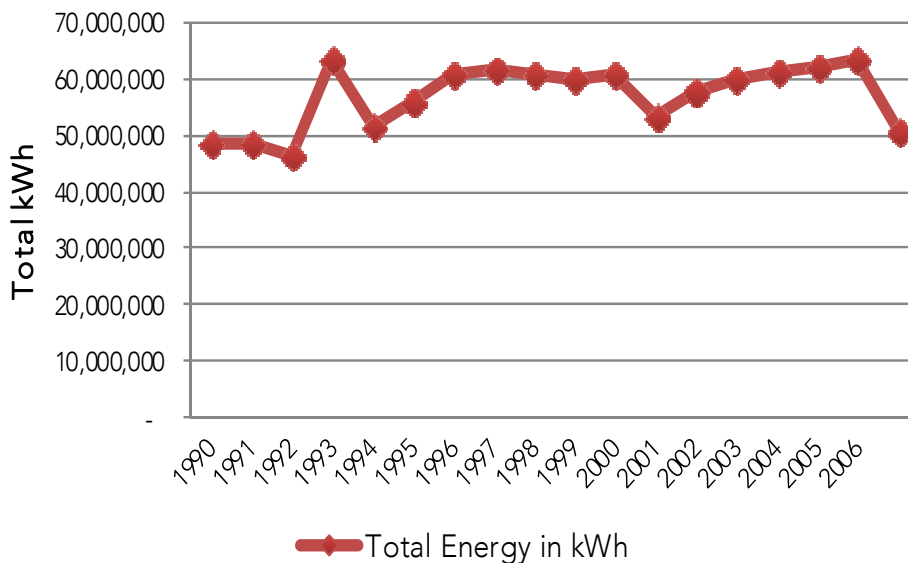


CHART 'B' — GAS USAGE IN THERMS BY YEAR

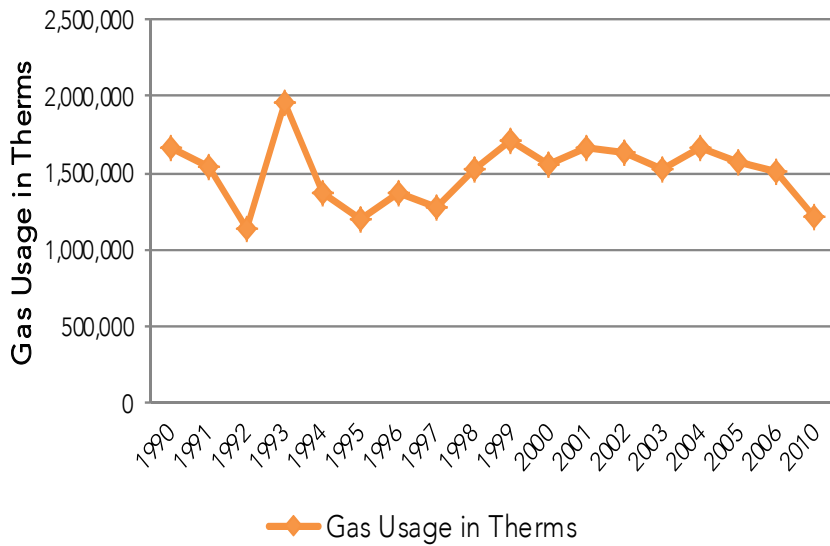


CHART 'C' — 1990, 2003-2004 AND 2009-2010 ELECTRICITY USAGE

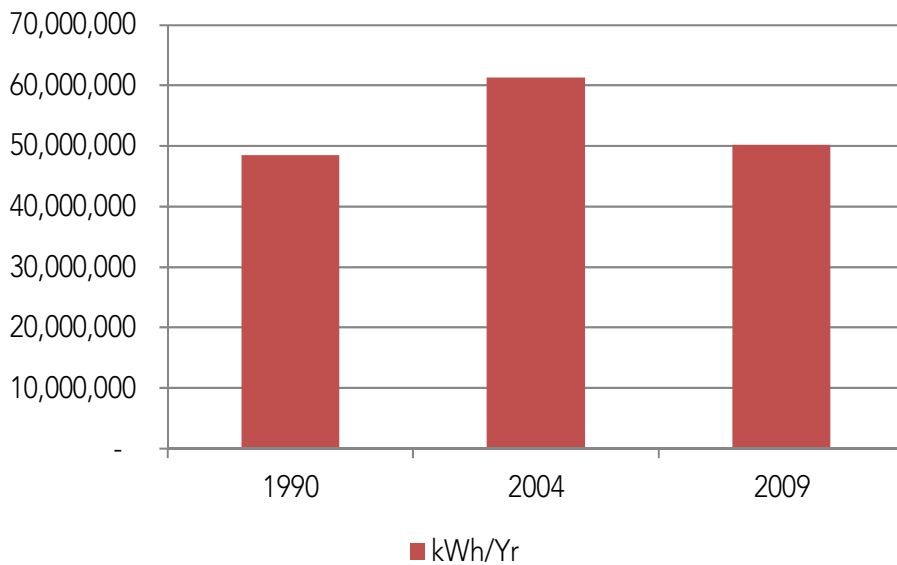


CHART 'D'— 1990, 2003-2004 AND 2009-2010 NATURAL GAS USAGE

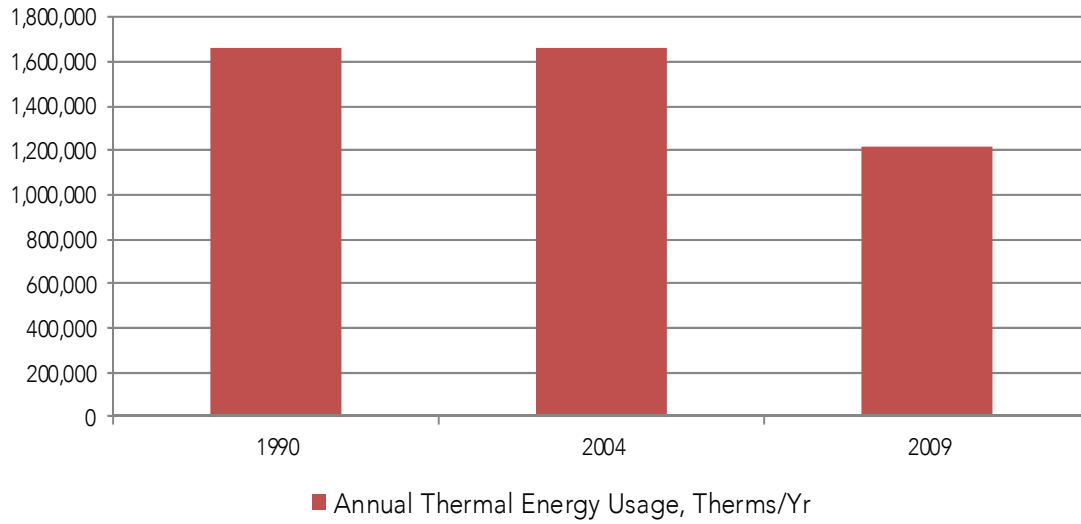


CHART 'E' — 1990, 2003-2004 AND 2009-2010 TOTAL ENERGY USAGE IN KBTUS

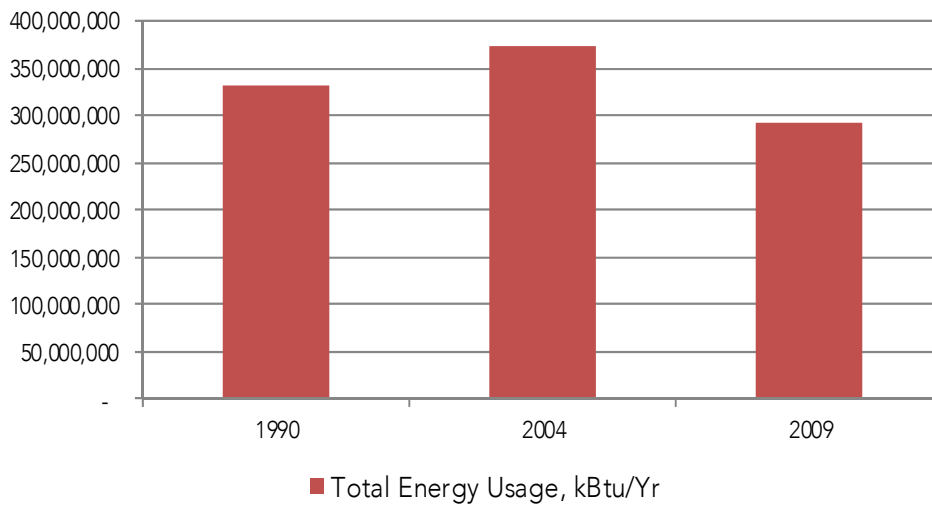
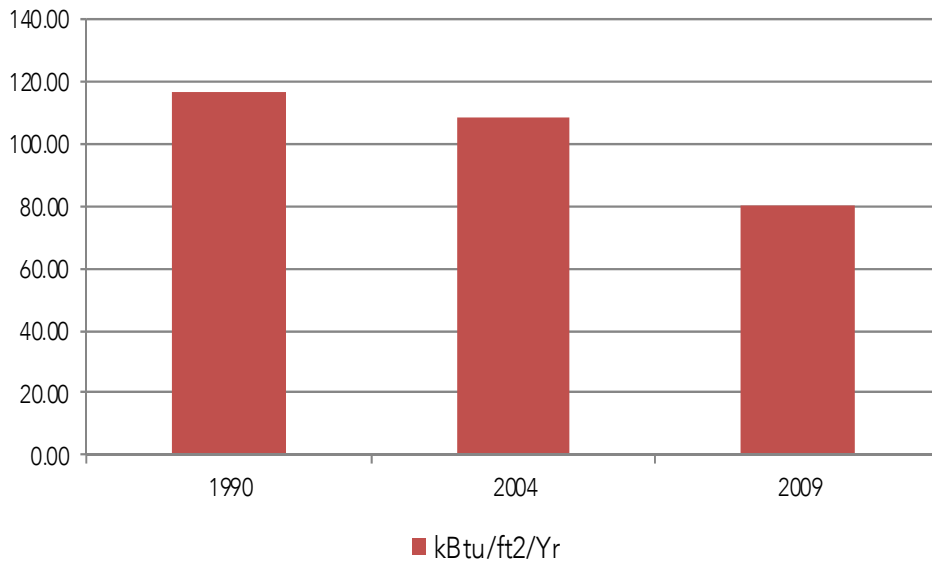


CHART 'F' — 1990, 2003-2004 AND 2009-2010 ENERGY USE INTENSITY IN KBTU/SQFT



# 4

## Historic Building Energy Use

### 4.1 Existing Metering Infrastructure

Three types of metered historical energy use data were requested from the CSULB energy management personnel – total annual, total monthly, and interval data for one summer and one winter week. An effort was made to obtain this data for each of the utilities present on the campus – electric and gas. However, building level meter data was widely available only for electricity consumption. Gas consumption was available for only a handful of buildings. Table 4.1 provides a list of buildings on campus along with their current available meters for each utility. The table also provides percentage of buildings with electrical, gas and hot water sub meters at the campus.

The coverage of electric meters on the campus is relatively good. We recommend that the remaining buildings that lack meters be outfitted with a meter for each utility.

Number	Building	Tag	ASF	El. Sub Meter	TonHr Sub Meter	Gas Sub Meter	Hot Water Sub Meter	SF	Year Built	2005 KWH/Yr	MMBtu/Yr	EUI	Carbon Foot Print MT/Yr
1	Brotman Hall	BH	127,050	Yes	Yes	No	Yes	90,300	1975	2,888,400	3,253.41	145.20	1,056.77
2	Student Health Services	SHS	38,629	Yes	Yes	No	Yes	19,500	1976	187,990	213.14	43.83	68.85
3	Nursing	NUR	17,527	Yes	Yes	No	Yes	13,225	1969	457,864	401.66	148.53	161.81
4	Soroptomist House	SH	2,474						#N/A				-
5	Family & Consumer Sciences	FCS	39,860	Yes	Yes	No	Yes	16,758	1970	345,404	364.12	92.07	125.13
6	University Student Union	USU	161,300	Yes	Yes	No	Yes	129,040	#N/A	2,063,002	3,915.65	84.91	834.38
7	Cafeteria	CAFE	35,305	Yes	No	No	No	33,021	#N/A	1,507,505	-	155.81	466.65
8	University Bookstore	BKS	65,922	Yes	No	No	No	41,915	#N/A	1,204,403	-	98.07	372.82
9	Psychology	PSY	85,147	Yes	Yes	No	No	50,100	1970	934,503	-	63.66	289.28
10	Liberal Arts 5	LA5	63,220	Yes	No	No	No	38,776	1959	832,742	-	73.30	257.78
11	Liberal Arts 4	LA3	14,210						1955				
12	Liberal Arts 3	LA3	15,689						1954				
13	Liberal Arts 2	LA2	13,708						1954				
14	Liberal Arts 1	LA1	40,230	Yes	No	No	Yes	28,275	1962	420,565	742.56	77.03	167.31
15	Faculty Office 3	FO3	33,373	Yes	Yes	Yes	Yes	18,709	1993	549,795	1,007.86	154.17	220.58
16	Faculty Office 2	FO2	11,994	No	No	No	No	8,310	1957	107,442	-	44.13	33.26
17	Lecture Halls 150/151	LH	7,050	No	No	No	No	5,457	1955	-	-	-	-
18	Faculty Office 1	FO1							1954				
19	Library	LIB	206,521	No	No	No	No	180,971	1971	3,144,174	-	59.30	973.28
20	Academic Services	AS	143,085						1959				
21	Multi-Media Center	MMC	6,728	No	No	No	No	4,628	1971	-	-	-	-
22	Education 1	ED1	23,447	Yes	Yes	No	Yes	15,633	1957	87,840	175.28	30.39	35.96
23	Education 2	ED2	24,237	Yes	No	No	Yes	11,830	1961	152,120	181.99	59.27	56.19
24	McIntosh Humanities Bldg	MHB	42,510	Yes	Yes	No	Yes	20,192	1967	478,898	457.93	103.63	171.14
25	Language Arts Building	LAB	27,480	Yes	Yes	No	Yes	14,345	1967	328,973	41.98	81.20	103.93
26	Studio Theatre	ST	61,400	Yes	No	No	No	31,290	1972	451,969	-	49.30	139.91
27	University Theatre	UT	19,598	Yes	No	No	No	12,409	1955	476,096	-	130.95	147.38
28	University Telecommunications	UTC	23,600	No	No	No	No	15,958	1958	-	-	-	-
29	Art Annex	ANNEX							#N/A				
32	Fine Arts 1	FA1	15,504	No	No	No	No	10,246	1954	-	-	-	-
33	Fine Arts 2	FA2	20,074	No	No	No	No	19,785	1954	-	-	-	-
34	Fine Arts 3	FA3	22,910	No	No	No	No	21,073	1958	-	-	-	-
35	Fine Arts 4	FA4	83,844	Yes	Yes	No	Yes	41,194	1962	364,249	0.03	30.18	112.75
36	Faculty Office 4	FO4	13,768						1969				
37	Peterson Hall of Science 1	PH1	65,000						#N/A				
38	Peterson Hall of Science 2	PH2	80,018						1956				
39	Peterson Hall of Science 3	PH3							#N/A				
40	Science Lecture Hall	SLH							#N/A				
41	Microbiology	MIC	47,498	Yes	No	No	No	26,835	1979	1,467,729	-	186.67	454.34

Number	Building	Tag	ASF	El. Sub Meter	TonHr Sub Meter	Gas Sub Meter	Hot Water Sub Meter	SF	Year Built	2005 KWH/Yr	MMBtu/Yr	EUI	Carbon Foot Print MT/Yr
42	Animal House	AH							#N/A				
43	Greenhouse 1&2								#N/A				
44	Electical Substation (North)								#N/A				
45	Faculty Office 5	FO5	12,306						1969				
46	Social Sciences & Pub Affairs	SS/PA	57,951	Yes	Yes	No	Yes	34,594	1976	575,800	585.67	73.74	207.52
47	Physical Education/Gym	PE	167,286	Yes	Yes	No	Yes	129,576	1958	7,213,096	3,233.46	214.95	2,394.49
48	Health & Human Services 1 Classrooms	HHS1	8,200						1965				
49	Health & Human Services 2 Offices	HHS2	13,034	No	No	No	No	8,411	1965	-	-	-	-
50	Vivian Engineering Center	VEC	87,000	Yes	Yes	No	Yes	53,174	1971	1,062,355	330.88	74.41	345.40
51	Engineering 2	EN2	24,378	No	No	No	No	14,886	1962	-	-	-	-
52	Engineering 3	EN3	24,385	No	No	No	No	14,466	1962	0	-	-	-
53	Engineering 4	EN4	16,929						1962				
54	Design	DESN	44,768	Yes	No	No	No	34,603	1960	468,826	-	46.24	145.13
55	Human Services and Design	HSD	24,300	Yes	No	No	No	17,912	1966	170,557	-	32.50	52.80
56	Engineering Technology	ET	67,143	Yes	No	No	Yes	46,338	1977	753,025	580.02	67.98	262.10
57	Facilities Management	FM	9,313	Yes	No	No	No	5,515	1978	653,467	-	404.40	202.28
58	CORPORATION YARD	REC WHSE	51,833	Yes	No	No	No	36,264	1979	61,904	-	5.83	19.16
59	Isabel Patterson Child Development Center	IPCDC	14,544	No	No	No	No	10,754	#N/A	-	-	-	-
60	Los Cerritos	RH2	45,977	Yes	No	No	No	43,500	#N/A	1,203,408	-	94.42	372.51
61	Los Alamitos	RH3	45,399	Yes	No	No	No	25,206	#N/A	1,089,216	-	147.48	337.17
62A	Residence Commons	RH4	4,893	No	No	No	No	2,446	#N/A	-	-	-	-
62B	Parkside Commons	RH5	3,980	No	No	No	No	3,980	#N/A	-	-	-	-
63	Recycling Center	RC	7,482						#N/A				
64	Greenhouse 3								#N/A				
65	Electical Substation (South)								#N/A				
66	University Print Shop (Repographics)	UPS	2,400	No	No	No	No	2,213	1996	-	-	-	-
67	Main Distribution Facility A		1,700	No	No	No	No	1,700	2002	-	-	-	-
68	Restroom/Storage								#N/A				
69	Softball Field Restroom								#N/A				
70	Main Distribution Facility C								2002				
71	University Music Center	UMC	66,476	No	No	No	No	41,019	1959	2,966,118	-	246.80	918.16
72	Carpenter Performing Arts Center-Dance Center	CPAC	143,897	Yes	No	No	No	87,316	1993	1,102,940	-	43.11	341.42
73	Pyramid	PYR	157,335	Yes	Yes	No	No	74,344	1994	1,702,688	-	78.17	527.07
74	Parking and Transportation Svc	PTS	3,627	No	No	No	No	1,813	#N/A	-	-	-	-
75	International House	RH1	14,179						#N/A				
76	Earl Burns Miller Japanese Garden	MJG							#N/A				

Number	Building	Tag	ASF	El. Sub Meter	TonHr Sub Meter	Gas Sub Meter	Hot Water Sub Meter	SF	Year Built	2005 KWH/Yr	MMBtu/Yr	EUI	Carbon Foot Print MT/Yr
77	Sports, Athletics and Recreation	SAR							#N/A				
78	Visitor Information Center	VIC							#N/A				
79	Main Distribution Facility B		1,200	No	No	No	No	1,200	2002	-	-	-	-
80	University Police	UP	6,000	No	No	No	No	3,579	#N/A	-	-	-	-
81	Pyramid Annex	PA	19,150	No	Yes	No	Yes	19,510	#N/A	-	220.63	11.31	11.03
82	Foundation	FND	67,500	No	No	No	No	63,464	#N/A	1,312,677	659.00	80.98	439.29
83	Engineering/Computer Sciences	ECS	101,607					65,542	1989	1,079,043		56.19	334.02
84	Horn Center	HC/UAM	49,686						1993				
85	College of Business Administration	CBA	87,531	Yes	No	No	No	56,178	1993	2,141,976	-	130.13	663.05
86	Central Plant	CP	41,999	No	No	No	No	-	1997	-	-	-	-
88	Parking Building 1								#N/A				
89	Housing & Residential Life	HRL	3,814	No	No	No	No	2,364	#N/A	-	-	-	-
91	Parking Building 2								#N/A				
94	Molecular & Life Sciences Center	MLSC	93,159						2003				
100	Maintenance Shop		900						#N/A				
101	Shipping/Receiving			No	No	No	No	-	#N/A	-	-	-	-
102	Miller House		5,150						1992				
103	Outpost		8,800						#N/A				
104	Residence Commons Dining Hall		9,473	No	No	No	No	4,736	#N/A	-	-	-	-
105	Residence Hall A		19,121	No	No	No	No	9,560	#N/A	-	-	-	-
106	Residence Hall B		19,121	No	No	No	No	9,560	#N/A	-	-	-	-
107	Residence Hall D		19,121	No	No	No	No	9,560	#N/A	-	-	-	-
108	Residence Hall E		19,121	No	No	No	No	9,560	#N/A	-	-	-	-
109	Residence Hall F		9,820	No	No	No	No	4,910	#N/A	-	-	-	-
110	Residence Hall C		9,820	No	No	No	No	4,910	#N/A	-	-	-	-
111	Residence Hall G		19,102	No	No	No	No	9,551	#N/A	-	-	-	-
112	Residence Hall H		19,102						#N/A				
113	Residence Hall J		19,102						#N/A				
114	Residence Hall K		19,102						#N/A				
115	Residence Hall L		19,102						#N/A				
116	Residence Hall M		19,102						#N/A				
117	Residence Hall N		19,102						#N/A				
118	Residence Hall P		19,102						#N/A				
119	Residence Hall Q		19,102						#N/A				
120	Parkside Dining Hall		13,358	No	No	No	No	6,679	#N/A	-	-	-	-
				<b>30%</b>	<b>15%</b>	<b>1%</b>	<b>16%</b>						



# 5

## Utility Providers

California State University, Long Beach procures its gas and electric utility services from DGS General Services through City of Long Beach and SCE respectively. City of Long Beach charges transportation charges to DGS natural gas services. The campus currently has seven gas meters. Table 5.1 provides the numbers and the areas each meter serves on the campus.

**TABLE 5.1—GAS METERS**

Meter Name	Meter No.	Load (CFH)
International House	2939-7574	188
Housing-Residence	3823-3250	1,152
Housing-Parkside	2939-3210	2,112
Housing-LAH, LCH	2939-3220	960
PAC-Pyramid	3823-3258	7,261
Main Campus	7032-5990	102,686
Pool	7070-1010	2,837
<b>Total</b>	<b>-</b>	<b>117,196</b>

Electricity is purchased from SCE primarily under TOU-8B tariff at 66 kV (high voltage). Majority of the consumption at the campus occurs through this meter. There are other electric meters under General Service tariff that supply electricity to the campus but the consumption is minor. The campus currently has eleven electrical meters. Table 5.2 provides the numbers and the areas each meter serves on the campus.

**TABLE 5.2—ELECTRIC METERS**

Location	Meter Number	UDC Account	ESP Account	Tariff
Main Campus	X345P-006153	3001360974	N/A	TOU-8B
	X345P-006152	3005076889	N/A	
SCE Sub-Station	8-897575	3004076888	N/A	GS-1
SCE Sub-Station	8-897576	3000001835	N/A	GS-1
CDC	349-015354	3017140504	N/A	GS-2
KKJZ	349-001324	3000001837	N/A	GS-2
Gate, Lot 7	8-099504	3008548821	N/A	GS-1
CDC	0717-004050	3000001840	N/A	GS-2
FO-4	349-015779	3000001839	N/A	GS-2
FO-5	349-016488	3000978453	N/A	GS-2
Housing	Y717-023006	3000001843	N/A	TOU-GS3-CPP
Housing	V349N-002595	3001360974	N/A	GS-2

Domestic Water is purchased from City of Long Beach. Water and Sewer charges appear on the same bill.

## 5.1 Natural Gas

Natural gas consumption at CSULB is summarized in Table-1 and figure-1 respectively.

TABLE 1—ANNUAL GAS USAGE SUMMARY FOR CSULB

Month #	Therms	Monthly Bill
1	150,867	\$33,636
2	145,543	\$23,711
3	140,957	\$32,275
4	112,164	\$53,154
5	86,963	\$107,326
6	30,957	\$146,625
7	18,970	\$143,271
8	26,686	\$132,886
9	48,766	\$133,365
10	117,275	\$124,016
11	173,962	\$97,725
12	165,873	\$75,428
$\Sigma$ Therms	1218983	1103417.19
\$/Therm		0.91

For fiscal year 2010, the average cost of Therm of natural gas is \$0.91.

FIGURE 1—ANNUAL GAS USAGE SUMMARY

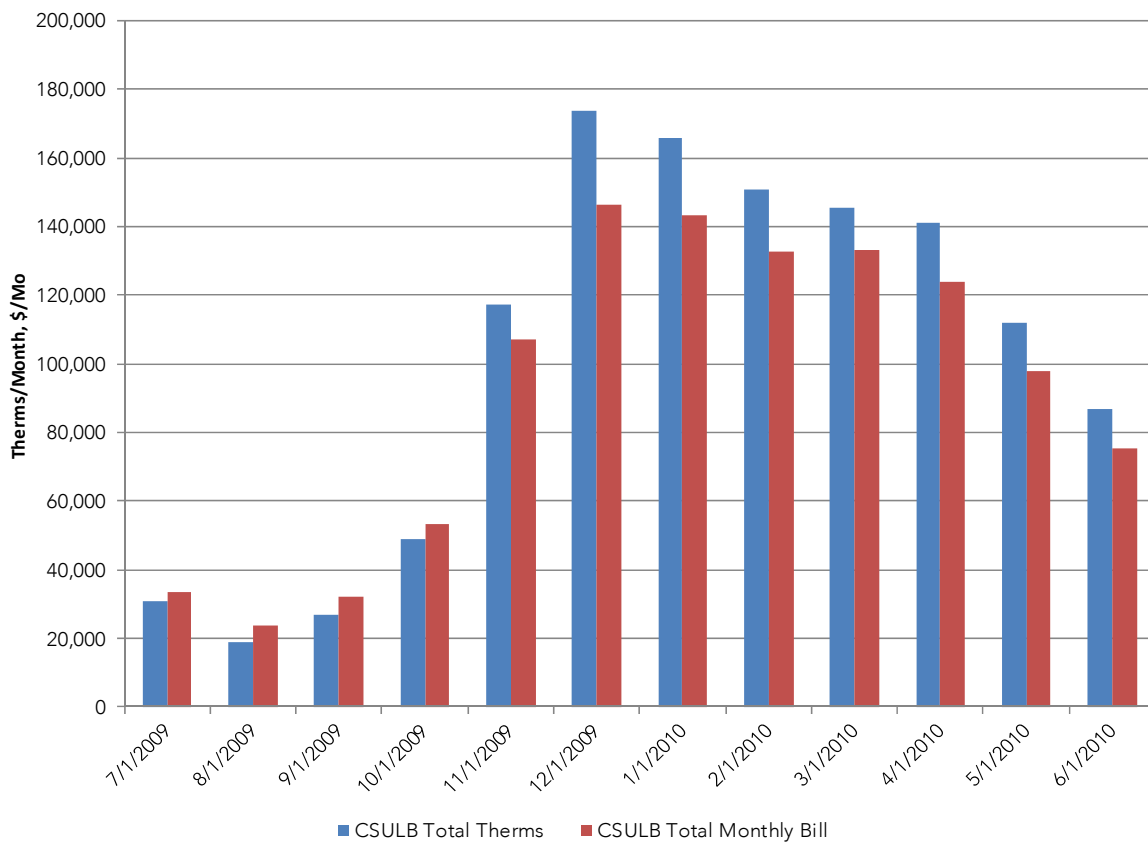


Table-1 and Figure-1 summarizes the natural gas used at the CSULB. Gas used per unit area is approximately 0.33 Therms/ft<sup>2</sup>. Natural gas is used for hydronic boilers in central plant and for domestic hot water heating in some of the buildings. Part of gas is also used for engines at cogeneration rate.

## 5.2 Electricity

Electricity is purchased at CSULB from SCE (Southern California Edison) for major accounts summarized in Table 3.

Monthly Billing demands are summarized graphically in Figure-2. Statistics of peak demands for different times of use at summarized in Table-2. CSULB uses 9982 kW of net import of electricity from SCE.

CSULB has three sites where PV (Photo Voltaic) electricity is generated and used.

Brotman Hall	200kW
FM Canopy	100kW
Vivian Engineering Center	50kW

Approximately 521,480 kWh/Yr is generated from PV panels and is used by campus.

Minimum billing demand is 6336 kW. So the 350 kW of PV generated during peak duration is always being used on campus to meet its demand.

FIGURE 2—DEMANDS FOR PAST TWELVE MONTHS

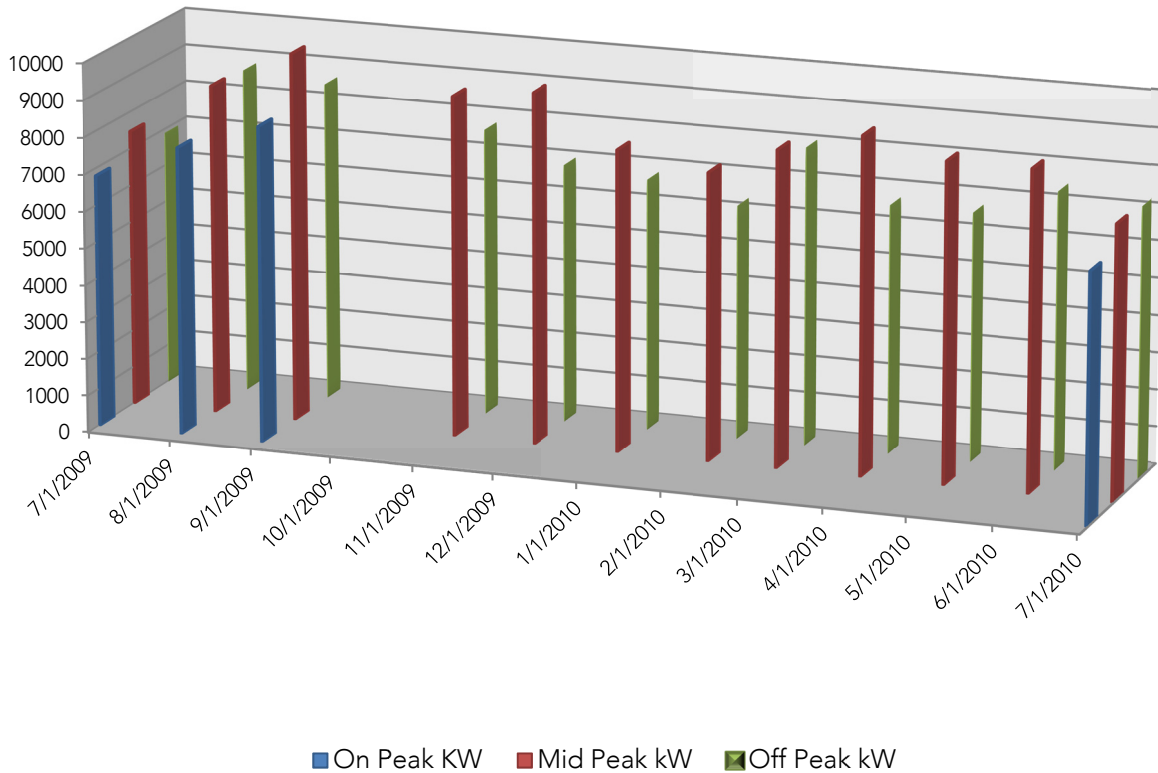


TABLE 2—SUMMARY OF PEAK DEMANDS

Demands	On Peak KW	Mid Peak kW	Off Peak kW
Max	8,544	9,984	8,832
Min	6,720	7,392	6,336
Mean	7,464	8,616	7,384
Median	7,296	8,640	7,152

TABLE 3—ELECTRIC USAGE SUMMARY FOR CSULB

Service Connection: 3-001-3609-74											3-000-0018-43		3-008-5488-21		3-017-1405-04		3-034-9202-35	
Start Date	End Date	Charges	On Peak kWh	Mid Peak kWh	Off Peak kWh	Total kWh	On Peak kW	Mid Peak kW	Off Peak kW	\$/kWh	Total kWh	Charges	Total kWh	Charges	Total kWh	Charges	Total kWh	Charges
6/1/2009	7/1/2009	\$462,998	813,888	1,185,768	1,930,872	3,930,528	6816	7488	6912	\$0.12	79,229	\$15,246	3,015	\$1,190	27,720	\$4,204		
7/1/2009	8/1/2009	\$529,253	925,680	1,356,408	2,164,344	4,446,432	7776	8928	8832	\$0.12	88,325	\$16,999	2,916	\$1,172	29,640	\$4,543		
8/1/2009	9/1/2009	\$459,402	872,400	1,221,408	2,275,536	4,369,344	8544	9984	8640	\$0.11					29,840	\$3,995		
10/1/2009	11/1/2009	\$337,805		2,088,408	2,464,008	4,552,416		9216	7776	\$0.07	149,564	\$14,862	3,339	\$676	29,240	\$2,825		
11/1/2009	12/1/2009	\$302,483		1,700,592	2,353,800	4,054,392		9504	7008	\$0.07	148,615	\$14,457	3,213	\$666	32,200	\$3,024		
12/1/2009	1/1/2010	\$292,021		1,738,728	2,219,016	3,957,744		8160	6816	\$0.07	104,884	\$11,066	2,952	\$644	27,720	\$2,688		
1/6/2010	2/4/2010	\$276,478		1,516,296	2,227,872	3,744,168		7776	6336	\$0.07	98,633	\$10,172	3,060	\$638	30,320	\$2,715	3,320	\$462
2/1/2010	3/1/2010	\$263,994		1,717,656	2,121,216	3,838,872		8,544	8,064	\$0.07	144,947	\$13,423	3,069	\$541	29,240	\$2,652	11140	\$1,558
3/1/2010	4/1/2010	\$292,130		1,984,080	1,945,820	3,929,900		9120	6720	\$0.07	118,453	\$12,332	2,817	\$570	28,440	\$2,777	4780	\$1,070
4/1/2010	5/1/2010	\$285,237		1,948,080	1,879,560	3,827,640		8640	6720	\$0.07	133,707	\$13,527	2,871	\$614	28,680	\$2,816	7000	\$1,068
5/1/2010	6/1/2010	\$289,173		1,794,096	2,136,120	3,930,216		8640	7488	\$0.07	109,179	\$11,940	2,952	\$667	31,960	\$3,076	8880	\$1,380
6/1/2010	7/1/2010	\$467,189	798,864	1,180,392	1,882,824	3,862,080	6720	7392	7295	\$0.12					28,360	\$4,070		
<b>Totals</b>		<b>\$4,258,163</b>	<b>3,410,832</b>	<b>19,431,912</b>	<b>25,600,988</b>	<b>48,443,732</b>				<b>\$0.09</b>	<b>1,356,280</b>	<b>\$159,818</b>	<b>34,578</b>	<b>\$8,613</b>	<b>353,360</b>	<b>\$39,385</b>	<b>35120</b>	<b>\$5,538</b>

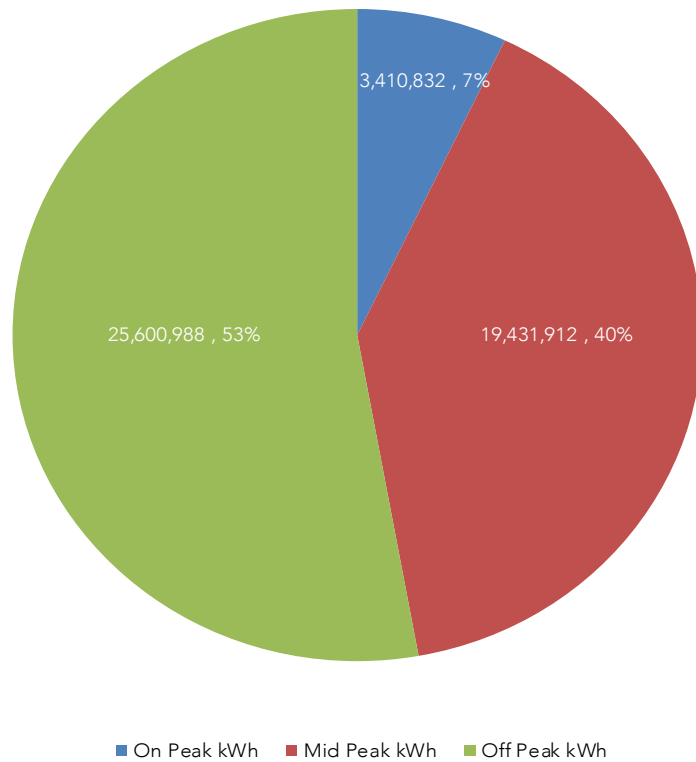
TABLE 4—BLENDED COSTS OF ELECTRICITY

Total kWh	50,223,070
Total \$/Yr	\$4,471,516
Blended \$/kWh	\$0.0890

TABLE 5—EUI (ENERGY UTILIZATION INDEX)

Total Conditioned Space of Existing Buildings	3,682,423 ft <sup>2</sup>
Annual Electric consumption	50,744,550 kWh/Yr
	173,191,149 kBtu/Yr
Annual Gas Consumption	1,218,983 Therms/Yr
	121,898,300 kBtu/Yr
Total Energy Consumption of Campus	295,089,449 kBtu/Yr
Electric Consumption	13.78 kWh/Yr-ft <sup>2</sup>
Gas Consumption	0.33 Therms/Yr-ft <sup>2</sup>
<b>EUI (Energy Utilization Index)</b>	<b>80.13 KBtu/yr-ft<sup>2</sup></b>

FIGURE 3—TOU BREAK DOWN OF ELECTRICAL CONSUMPTION (KWH/YR)



Blended cost of purchased electricity from SCE is estimated at 0.089 \$/kWh, including demand charges. Approximately 50.23 Million kWh/Yr of electricity is purchased from SCE. Electrical consumption per unit area of campus is approximated at 13.78 kWh/ft<sup>2</sup>.

EUI (Energy Utilization Index) of the campus is estimated at 80.13 kBtu/ft<sup>2</sup>/Yr.

A review of the total time of use pattern for energy consumption revealed that only 7% of energy is purchased during peak conditions, 40% is used during part peak conditions and the remaining 53% is purchased during off peak rate. 7% on peak consumption justifies the ice-making chillers in central plant (TES: Thermal Energy Storage).

## 5.3 Procurement Options

### 5.3.1 Electricity

A review of the electricity rates for the campus revealed that the campus is procuring electricity at an average rate of \$0.089/kWh by metering the same at 66kV and maintaining the existing 66-12kV transformers. The rates are extremely aggressive and we recommend that the campus continue to procure electricity with this arrangement.

The campus has a total of 11 meters installed for various areas. An effort should be made to consolidate these meters to receive the main campus rate of \$0.089/kWh. Majority of these meters are on a GS-1/GS-2 rate. The total kWh currently recorded by all these meters is approximately 2,000,000kWh. Almost 75% of this energy is consumed by the Foundation building at the campus. A saving of approximately \$0.07/kWh can be achieved by transferring the Foundation building to the campus owned 12kV infrastructure system. This equates to approximately \$100,000 per year. An internal meter can be used to meter the existing electrical consumption at the building.

### 5.3.2 Gas

A review of the gas rates for the campus revealed that the campus is procuring gas at an average rate of \$0.91/therm and the same will be on a sliding scale and will fall to approximately \$0.65-\$0.70/therm by Jun 2011 due to elimination of transportation charges. The rates are extremely aggressive and we recommend that the campus continue to procure gas with this arrangement.

The campus has a total of 11 meters installed for various areas. Consolidation of these meters will not result in any reduction in the rates since the gas is supplied by DGS.

# 6

## Campus Electrical & Gas Infrastructure

### 6.1 Electrical Infrastructure

California State University, Long Beach is currently served from a 66kV transmission service originating from an outdoor switchyard located in the Corporation yard on the north east side of the campus. The campus derives its power from Southern California Edison and purchases its electricity directly from SCE. The 66kV service is transformed to a 12kV service with the help of (2) 10/12 5 MVA 66-12kV transformers located in the outdoor switchyard. The two circuits originate from Clark and Alamitos respectively. Both of the transformers are served by the same high voltage breaker on the primary side. The secondary side of these transformers serves the main campus 12.47 kV switchgear with the main-tie-main arrangement. The switchgear is located on the northeast side of the campus. The North substation is equipped with two 15kV feeds, a metering sections and 15kV main switchgear comprising of a 2000A main breaker and 1200A feeder breakers. Eight 12kV feeders originating from this switchgear form multiple loops through 15kV selector switches and serve power to various buildings and facilities on campus. The south switchgear comprises of a 2000A main breaker and 4 1200A feeder breakers. Four feeders originating from these substations form loops through 15kV selector switches and serve each building on the south side of campus. Radial feeders originating from 15kV selector switches serve substation(s) in each building on campus that meet the power demands of the building. The University owns and maintains the 66kV-12kV transformers, 15kV substations, 15kV distribution network, and the substations located in each building.

Electricity is purchased from SCE primarily under TOU-8B tariff at 66 kV (high voltage). Majority of the consumption at the campus occurs through this meter. There are other electric meters under General Service tariff that supply electricity to the campus but the consumption is minor. The campus currently has eleven electrical meters. Chapter 5 provides the numbers and the areas each meter serves on the campus.

Although the term “power quality” can be used to describe a variety of electrical generation and distribution system attributes, for the purposes of this study, issues that could result in additional energy charges from the utility were the focus. Primarily, these are conditions that cause a differential between campus and/or facility kW and kVA usage. When this differential is large enough, the utility will apply an additional charge, commonly referred to as a VAR charge. A review of the campus utility charges confirms that there are no power quality issues of this type on campus.



## 6.2 Gas Infrastructure

Natural gas is supplied to the University by the City of Long Beach with a long term transportation agreement with the Department of General Services (DGS), which was implemented in 2002. There are seven different natural gas meters on campus with four meters serving the residential buildings, one for the main campus, one serving the Carpenter Performing Arts Center (Building 72) and the Pyramid (Building 73), and the last one for the campus pool. Chapter 5 provides a summary of the natural gas meters. An 8-inch high pressure gas (HPG) city main is cross connected between Bellflower Blvd and Palo Verde Ave, which is routed along Beach Drive, crossing through mid-campus, and along State University Drive. There is also a natural gas line along Atherton Street serving two meters at the north side of campus, one on the northwest side and one on the northeast side. The northwest meter serves Residence Hall (Building 62B) and the northeast meter serves the Carpenter Performing Arts Center and the Pyramid. An 8-inch natural gas line is branched from the HPG city main to the main campus natural gas meter. The HPG is reduced to medium pressure gas (MPG) at approximately 5 psig and then is distributed to the campus buildings through a 6-inch main. The residential buildings are also served with MPG with pressure regulators for each building. The Central Plant (Building 86) has a separate 4-inch HPG line because it is the only building that requires HPG at approximately 35 psig. The main campus meter is essentially located in the middle of the University campus near the 8-inch HPG line northeast of the Central Plant. The main campus gas line has three 6-inch branches to serve the entire University campus. The east branch serves the east side of campus, the south branch serves the south side of campus and the west branch splits and serves the west and north side of the campus.

An evaluation of the current rates that the campus will receive in future as part of their agreement revealed that there will be no reduction in gas rates would be achieved by modifying/consolidating the existing gas infrastructure.

## 6.3 Cogeneration (CHP)

Cogeneration systems are becoming extremely attractive in campus environments because of the recent low gas prices and the ability to use waste heat for space heating and cooling. The current campus infrastructure does not include a cogeneration system. The campus is currently in the process of conducting a study to evaluate the provision of a cogeneration system to supply power to the campus as well as utilize the waste heat to meet the space heating and cooling demands of the campus buildings. The Cogeneration system will be sized to meet the minimum load of the campus. Similar studies have been conducted in the past for the same purpose but the considerations and circumstances guiding the earlier studies have changed substantially since they were done. The earlier studies were primarily motivated by the then electricity shortage in the State of California and the call of the then Governor of California to develop cogeneration as a part of the overall solution. The power situation in the state has changed for the better since that time.

## Factors Guiding This Study

The impetus behind the present study is the adoption by the Board of Trustees of the California State University system of an 'energy conservation, sustainable building practices and physical plant management' policy. The trustees have recognized the need to conserve energy by reducing electrical demand, promote sustainable energy solutions and at the same time to reduce energy requirement from the electricity grid.

Clean and ultra-clean cogeneration technologies will be evaluated as part of the study for implementation of the cogeneration plant at the campus.

While earlier, the effort was to become totally self sufficient in electrical energy needs, the dynamics of the present situation do not support a commitment on such a scale. The power situation has vastly improved and the campus has negotiated an extremely attractive rate for electrical energy with the utility. The scope of this study would thus involve supplementing the energy import from the grid and to remain below the threshold of the historical minimum electricity demand of the campus.

The other factor guiding this study is the reduction in carbon emissions that's gaining importance in the various CSU campuses.

# 7

## Alternative Energy Sources

The majority of our nation's electrical energy requirements are currently met by fossil fuels such as coal and natural gas. These fossil fuels are non renewable sources, that is, they draw on finite resources that will eventually dwindle or disappear, become too expensive or too environmentally damaging to retrieve in the future. In contrast, renewable energy resources—such as wind and solar energy—are constantly replenished and will never run out. It is thus important for us to not only conserve energy but also promote the use of these renewable energy sources to deliver clean energy that improves our lives and minimizes our impact on the environment.

The State of California has committed to reduce its global warming emissions to 2000 levels by 2010 (11% below business as usual), to 1990 levels by 2020 (25% below business as usual), and 80% below 1990 levels by 2050. California passed the AB 32 that requires that the state's global warming emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012. The CSU Chancellor's office policy, currently in a draft form, has revised this goal to be even more aggressive and requires the emissions be reduced by 80% below 1990 levels by 2040.

The State of California predicts that electrical rates will continue to escalate at approximately 2.5% per year. Carbon costs will also be added to future energy production costs once AB32 becomes effective in 2012.

There are a variety of renewable power technologies that have been developed to take advantage of solar and wind energy. These include concentrating solar power systems, solar water heating, photovoltaic systems, wind mills and turbines. These renewable power technologies help in:

- Minimizing the use of natural resources,
- Provide a constant electrical energy price for renewable supplied energy that will hedge against fuel price increases, carbon pricing/trading and rising electrical rates
- Reduce peak demand and thus operating costs at each of the campuses;
- Provide environmental benefits by reducing greenhouse gas emissions consistent with current AB 32 and help reduce the District's exposure to future carbon emission charges;
- Viewed as environmentally responsible in community.

The following sections include a description of each of the alternative power sources considered and our recommendations for each of the systems.

## 7.1 Technologies

### Fuel Cells

Fuel cells can deliver electrical conversion efficiencies in the range of 40 to 60%. Even higher total energy conversion efficiencies (approaching 60 to 70%) are possible when used in co-generation applications, where both electricity and the heat of reaction are effectively utilized. Another promising feature of fuel cells is low emissions. Since they produce electricity without combustion, the usual products of combustion are not present. Fuel cells also operate quietly and reliably.

The legacy fuel cell technologies like polymer exchange membranes (PEMs), phosphoric acid fuel cells (PAFCs), and molten carbonate fuel cells (MCFCs), have all required expensive precious metals, corrosive acids, or hard to contain molten materials. Combined with performance that has been only marginally better than alternatives, they have not been able to deliver a product that offers attractive economics.

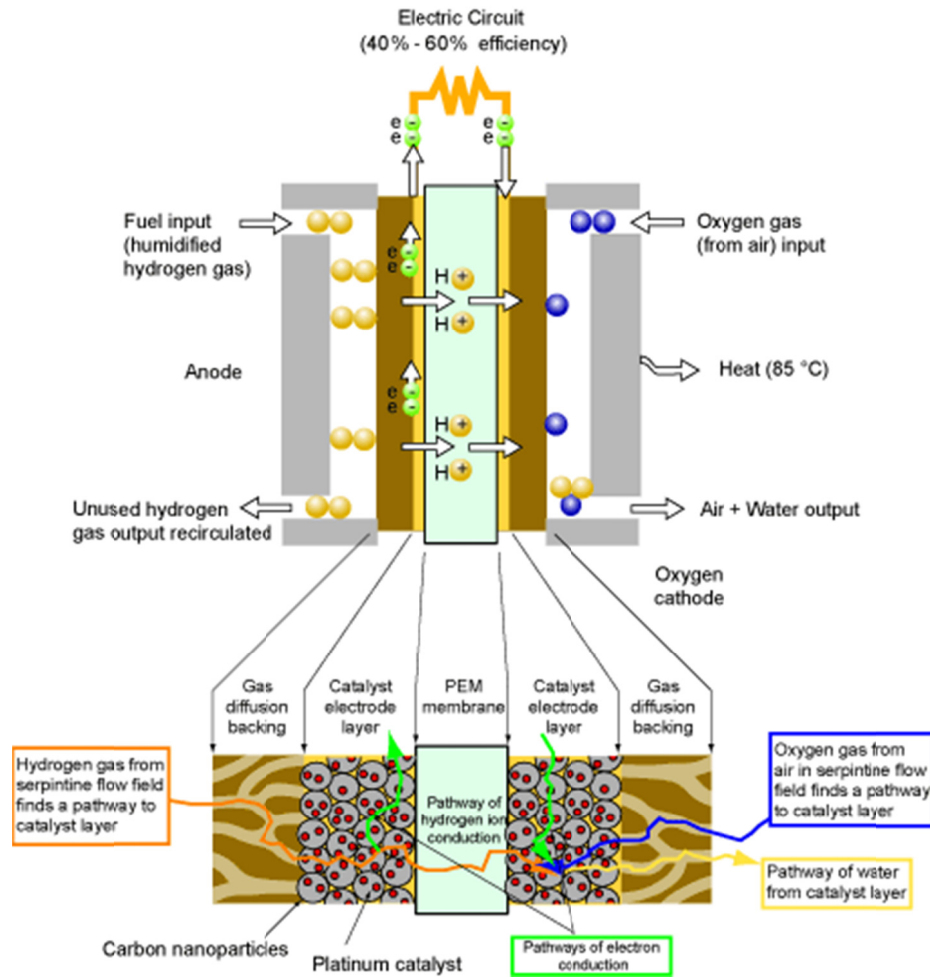
Some makers of these legacy fuel cell technologies have tried to overcome these limitations by offering combined heat and power (CHP) schemes to take advantage of their wasted heat. While CHP does improve the overall economics, it only really does so in environments with exactly the right ratios of heat and power requirements on a 24/7/365 basis. Everywhere else the cost, complexity, and customization of CHP tends to outweigh the benefits. Our experience has shown it to be extremely difficult to utilize enough waste heat in Southern California Universities.

Fuel cells are being developed in the size range of a few kilowatts up to a few megawatts. The costs of fuel cells currently vary between \$5500 and \$6500 per kW. Like most new technologies, as more units are installed and new manufacturers join the market, prices are likely to fall. At the current price, units are only used in high value, "niche" markets where reliability is premium, and in areas where electricity prices are very high and natural gas prices are low.

While this technology can reduce overall greenhouse gas emissions when the waste heat can be utilized, this is not a renewable energy technology. This would be considered a clean energy technology.

Maintenance costs of the legacy fuel cells are extremely high due to replacement of stacks every 3-4 years. The costs of stacks are roughly 40-50% of the total fuel cell costs and thus do not render this technology economically feasible for the district.

Various manufacturers over the years have been looking at reducing the overall costs and increasing the efficiency of the fuel cell system. One such promising manufacturer is Bloom Energy that is currently manufacturing fuel cells from solid oxide. With low cost ceramic materials, and extremely high electrical efficiencies, Solid Oxide Fuel Cells (SOFC) can deliver attractive economics. Bloom Energy currently offers a 100 kW unit and has trial installations currently at few of the Silicon Valley companies. The product is promising and needs to stand the test of time to confirm the product can meet their objectives. We recommend the University evaluate similar technologies in the future once the same stand the test of time and become cost effective.



## Microturbines

Microturbines are small combustion turbines that produce between 25 kW and 500 kW of power. Most microturbines are single-stage, radial flow devices with high rotating speeds of 90,000 to 120,000 revolutions per minute (RPM). However, a few manufacturers have developed alternative systems with multiple stages and/or lower rotation speeds.

## MICROTURBINE OVERVIEW

Size Range	25 – 500 kW
Fuel	Natural gas, hydrogen, propane, diesel
Efficiency	20 – 30% (Recuperated)
Environmental	Low (< 9 – 50 ppm) NOx
Other Features	Cogeneration (50 – 80°C water)

Microturbines capital costs range from \$2,000/kW for larger units to approximately \$1,500/kW for smaller ones. These costs include all hardware, associated manuals, software, and initial training. The addition of a heat recovery system adds between \$150 - \$350/kW. Site preparation and installation costs vary significantly from location-to-location but generally add 30-70% to the total capital cost.

With fewer moving parts, microturbines can provide higher reliability and require less maintenance than conventional reciprocating engine generators. Typical maintenance intervals for Microturbines are in the range of 5,000-8,000 hours. Estimated maintenance forecasts range from \$0.015-\$0.025 per kWh, which would be comparable to costs for small reciprocating engine systems.

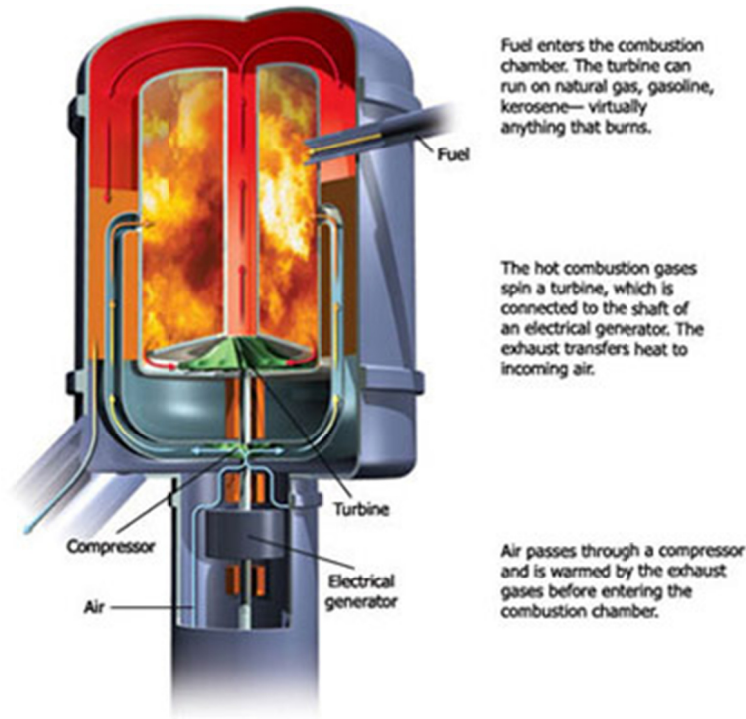
## MICROTURBINE COST

Capital Cost	\$1500-\$2000 per kW
O&M Cost	\$0.015-0.025 per kW
Maintenance Interval	5,000-8,000 hrs

While this technology can reduce overall greenhouse gas emissions when the waste heat can be utilized, this is not a renewable energy technology. This would be considered a clean energy technology.

The primary challenge with microturbines is to utilize enough of the waste heat throughout the year to provide adequate return on the investment. This technology would provide a payback beyond 20 years based on current utility rates.

Microturbines also require periodic maintenance to keep them functional. Since these systems are difficult to maintain and require expertise that is not readily available, we currently do not recommend microturbines for the campuses. Since the base load of the campus is greater than 4MW, a larger combined cycle or gas turbine CHP is recommended.



## Solar Photovoltaic Systems

Solar photovoltaic systems use solar energy to produce electricity. The term photovoltaic is composed of “photo”, the Greek root for “light”, and “volt”, a common measurement of electricity named after Alessandro Volta, a scientist renowned for his research on electricity. Together, these terms literally mean “light electricity”. Photovoltaic technology can be referred to in short as photovoltaic or PV.

Photovoltaic technology relies on the electrical properties of certain materials known as semiconductors. When hit by sunlight, a semiconductor material responds by creating an electrical charge which can then be transferred to anything that uses electricity.

In connecting a photovoltaic system to an end use, several additional structures and technologies are needed. While photovoltaic panels can be mounted on roofs, it is important to consider the angle at which they face the sun. To transfer electricity to its end use, photovoltaic panels are connected through intermediary technologies that condition and modify the electricity they produce. These considerations are known as balance of system components, as they maximize the system's efficiency and allow higher amounts of electricity to reach its end use.

Some photovoltaic systems are called "stand-alone" or "off-grid" systems, which mean they are the sole source of power to a, water pump or other load. Stand-alone systems can be designed to run with or without battery backup. Remote water pumps are often designed to run without battery backup, since water pumped out of the ground during daylight hours can be stored in a holding tank for use any time. In contrast, stand-alone home power systems store energy generated during the day in a battery bank for use at night. Stand-alone systems are often cost-effective when compared to alternatives, such as lengthy utility line extensions. Other PV systems are called "grid-connected" systems. These work to supplement existing electric service from a utility company. When the amount of energy generated by a grid-connected PV system exceeds the customer's loads, excess energy is exported to the utility, crediting the customer's electric meter. Conversely, the customer can draw needed power from the utility when energy from the PV system is insufficient to power.

All of the power ratings of the PV arrays are presented in direct-current (DC) kW at Standard Test Conditions (STC). These test conditions are defined as 1,000W/m<sup>2</sup> irradiance, 25°C cell temperature, and spectral distribution of Air Mass 1.5. Estimated electrical energy harvest is calculated with PV Watts software and estimates the annual net expected AC output of the system after overall power conversion efficiency and local weather data is taken into account. Since these Standard Test Conditions are not usually typical of how PV modules and arrays operate in the field, actual performance is usually 85 to 90 percent of the STC rating.

It is standard practice to size the photovoltaic array DC power rating to be larger than the AC output power rating of the inverter that is specified for the array. This is done because it is uncommon that PV modules will operate at the standard test conditions described above. The typical environmental conditions are often less than this ideal. In particular, as the modules increase in temperature, their power output decreases. This is most pronounced during the summer months when ambient temperatures are highest and the strongest sun is available. This sizing approach also compensates for the small amount of power that is lost when the DC electricity from the array is converted to AC electricity.

On University campuses, these systems are typically installed on roof of buildings or parking structures or on top of carports provided on parking lots.

Rooftop deployment of PV modules is one of the most common and cost-effective methods for adding solar electrical generating capabilities to a campus building.

Following is a description of two major types of photovoltaic systems:



## Types of Photovoltaic Systems

Following is a description of two major types of photovoltaic systems:

### Stand-Alone Systems

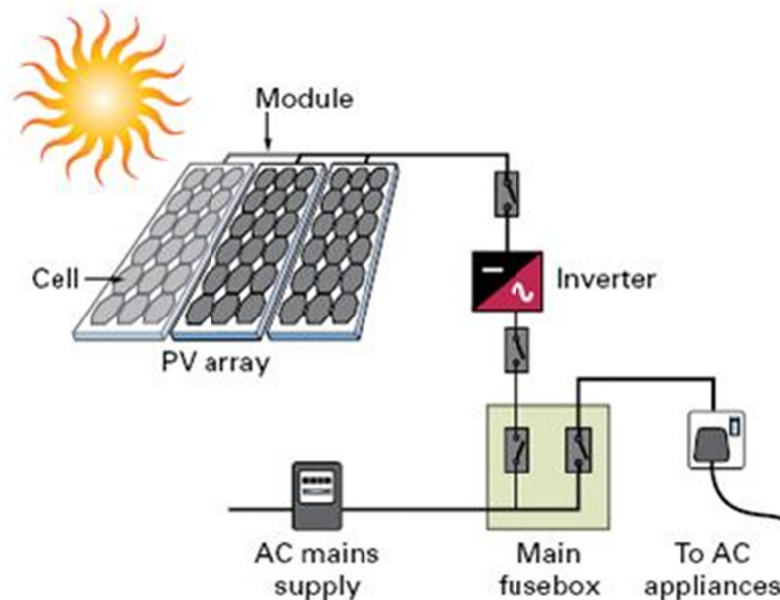
Stand-alone systems are not connected to the electrical grid and generally include storage batteries that store energy to provide power when solar energy is not available. Stand-alone systems are particularly suited for remote locations for powering a single piece of equipment where normal power is either difficult to distribute or is not available.

### Grid-Connected Systems

Grid connected systems are the most preferred method for installing photovoltaic power generation on University/College campuses. Grid connected systems put the power they make onto the electrical grid. The serving electric utility company provides the balance of electric power when the campus uses more power than the PV system is generating. If the campus demand is below the amount made by the PV system the excess power credits the electric meter. The electric utility company will not buy power from the campus, but the electric bill will be reduced by the amount created by the PV system. This scheme is known as "Net Metering".

A grid connected system has few major components, requires very little maintenance, and has a long life span. The solar panels are available with a 25-year performance warranty and the inverters have warranties up to 10-years long or longer. The support structure, wiring, and other electrical components will last much longer than the PV panels. It is conceivable that a system could be built so that once the first 25-years was up it could be fitted with new panels and continue to operate for another 25-years.

A grid-connected photovoltaic system is also eligible for utility incentives. In the case of University or Colleges, this would be through their local utility company. There are no self-generation penalties for making electricity with photovoltaic systems.



## Photovoltaic Panel Types

Although photovoltaic panels are based on a similar structure of cells and enabling components, there are many variations on the standard solar panel, differing primarily in the types of photovoltaic cell that they use. Each panel type is manufactured in a different way and has its own advantages and disadvantages.

The vast majority of solar panels produced today depend on the use of crystalline silicon as the material in their cells. It is used in monocrystalline (or single-crystalline), polycrystalline (or multicrystalline), and ribbon (or thin-layer) silicon panels.

Other panels, like thin-film technologies, depend on amorphous silicon, and still others use completely different semiconductors known as Group III-IV materials. Panels can also be enhanced in a number of ways to increase their efficiency or improve their versatility through the use of multi junction devices, concentrator systems, or building integrated systems.

The following is a description of each of the following panel types available in the market today with their advantages and disadvantages.

### Monocrystalline Silicon Panels

15-18% efficiency

Monocrystalline panels use crystalline silicon produced in large sheets which can be cut to the size of a panel and integrated into the panel as a single large cell. Conducting metal strips are laid over the entire cell to capture electrons in an electrical current.

These panels are more expensive to produce than other crystalline panels but have higher efficiency levels and, as a result, are sometimes more cost-effective in the long run.

### Polycrystalline Silicon Panels

12-14% efficiency

Polycrystalline, or multicrystalline, photovoltaics use a series of cells instead of one large cell. These panels are one of the most inexpensive forms of photovoltaics available today, though the costs of sawing and producing wafers can be high. At the same time, they have lower conversion efficiencies than monocrystalline panels.

For this technology, several techniques are used:

**Polysilicon**—In this process, molten silicon is first cast in a large block which, when cooled, is in the form of crystalline silicon and can be sawn across its width to create thin wafers to be used in photovoltaic cells. These cells are then assembled in a panel. Conducting metal strips are then laid over the cells, connecting them to each other and forming a continuous electrical current throughout the panel.

**String Ribbon Silicon**—String ribbon photovoltaics use a variation on the polycrystalline production process, using the same molten silicon but slowly drawing a thin strip of crystalline silicon out of the molten form. These strips of photovoltaic material are then assembled in a panel with the same metal conductor strips attaching each strip to the electrical current. This technology saves on costs over standard polycrystalline panels as it eliminates the sawing process for producing wafers. Some string ribbon technologies also have higher efficiency levels than other polycrystalline technologies.

### Amorphous Silicon or Thin Film Panels

5-6% efficiency

Thin-film panels are produced very differently from crystalline panels. Instead of molding, drawing or slicing crystalline silicon, the silicon material in these panels has no crystalline structure and can be applied as a film directly on different materials. Variations on this technology use other semiconductor materials like copper indium diselenide (CIS) and cadmium telluride (CdTe). These materials are then connected to the same metal conductor strips used in other technologies, but do not necessarily use the other components typical in photovoltaic panels as they do not require the same level of protection needed for more fragile crystalline cells.

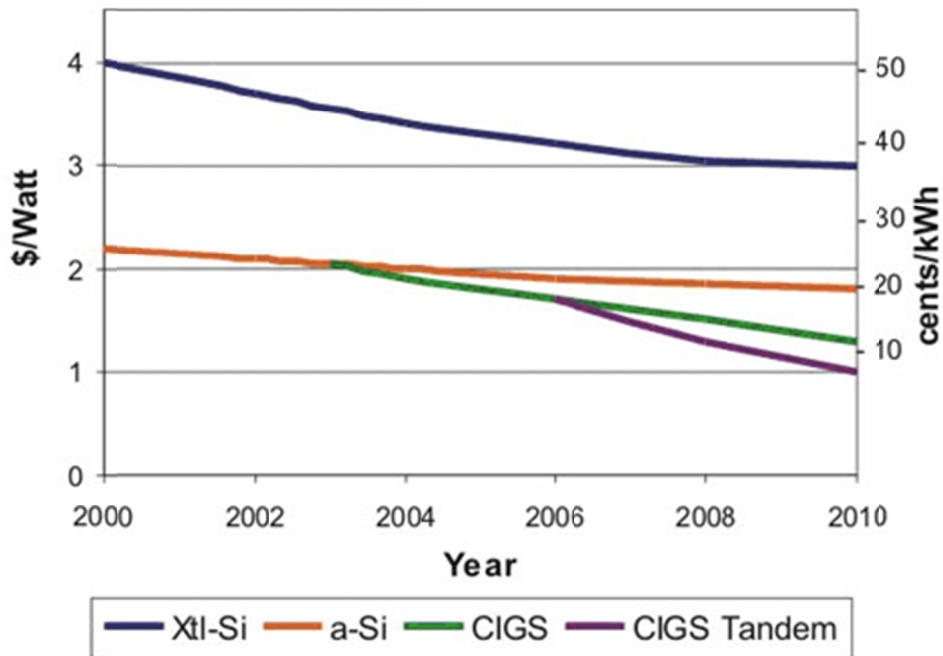
The primary advantages of thin-film panels lie in their low manufacturing costs and versatility. Because amorphous silicon and similar semiconductors do not depend on the long, expensive process of creating silicon crystals, they can be produced much more quickly and efficiently. As they do not need the additional components used in crystalline cells, costs can be reduced further. Because they can be applied in thin layers to different materials, it is also possible to make flexible solar cells.

However, thin-film panels have several significant drawbacks. What they gain in cost savings, they lose in efficiency, resulting in the lowest efficiency of any current photovoltaic technology. Thin-film technologies also depend on silicon with high levels of impurities. This can cause a drop in efficiency within a short period of use.

Thin-film panels have the potential to grow in use, and already figure in some of the most exciting enhanced photovoltaic systems, including high-efficiency multi-junction devices and building integrated photovoltaics.

Below is a graph showing the \$/watt and production costs in cents/kWh of various thin film panel types (Xtl-Si: crystalline silicon, a-Si = amorphous silicon thin film, CIGS = copper indium gallium diselenide thin film, CIGS tandem = tandem a-Si/CIGS thin film). Presently, thin-film PV modules are one-third the cost of crystalline PV modules.

FIGURE 5—COST EVOLUTION IN \$/WATT FOR DIFFERENT PV MODULES



### Group III-V Technologies

25% efficiency

These technologies use a variety of materials with very high conversion efficiencies. These materials are categorized as Group III and Group V elements in the Periodic Table. A typical material used in this technology is gallium arsenide, which can be combined with other materials to create semiconductors that can respond to different types of solar energy.

Though these technologies are very effective, their current use is limited due to their costs. They are currently employed in space applications and continue to be researched for new applications.

### Enhanced Systems

#### Building-Integrated Photovoltaics (BIPV)

BIPV technologies are designed to serve the dual purpose of producing electricity and acting as a construction material. There are many forms that this technology can take. One common structure is the integration of a semi-translucent layer of amorphous silicon into glass, which can then be used as window panes that let controlled amounts of light into a building while producing electricity. Another common structure is the use of shingle-sized panel of amorphous silicon as a roofing material.

Currently, BIPV technologies have very low efficiency levels due to their use of amorphous silicon, but present the advantage of replacing other construction materials and offering a wide variety of aesthetic choices for the integration of photovoltaics into buildings.

### Concentrator Systems

Concentrating photovoltaic systems use lenses or mirrors to concentrate sunlight onto high-efficiency solar cells. These solar cells are typically more expensive than conventional cells used for flat-plate photovoltaic systems. However, the concentration decreases the required cell area while also increasing the cell efficiency.

Their main disadvantage for this technology is that it requires available land to install these cells. Since the campus is densely populated, installation of these ground based collector arrays would be difficult.



### High-Efficiency Multi-junction Devices

Multi-junction devices receive their name from their use of multiple layers of cells, each layer acting as a junction where certain amounts of solar energy are absorbed. Each layer in a multi-junction device is made from a different material with its own receptivity to certain types of solar energy.

In a typical device, the top photovoltaic layer responds to solar waves that travel in short wavelengths and carry the highest energy, absorbing this energy and creating an electrical charge. As other solar waves pass through this layer, they are absorbed and translated into electricity by the lower layers. Typical materials used in this device include gallium arsenide and amorphous silicon.

Though some two-junction devices have successfully been built, these devices are still largely in the research and development stage, with most research focused on three- and four-junction devices.

### Installation Considerations

Of the various technologies discussed above, PV panels should be selected based on various factors for each specific project. These factors include overall efficiency, available space for installation and installed \$/watt. In addition, consideration of the panel's output over their lifetime is also critical. The cells made from mono-crystalline silicon have the highest performance in terms of efficiency, and lifespan. These cells are available with performance warranties as long as 25-years, and are made by manufactures that are well established in the solar industry.

To work its best, a complete photovoltaic system depends on several considerations and intermediary technologies to efficiently generate electricity and transfer it to an end use. These elements include mounting structures that help an array gain the best tilt towards the sun, and technologies that both condition the electricity produced and connect it in a variety of ways to one or more end uses. In the photovoltaic industry, these elements are called balance of system components because they help in matching a photovoltaic panel or array to its site and use.

Following are areas of consideration in installing photovoltaics.

### **Installing an Array to Maximize Efficiency**

A primary consideration in installing a photovoltaic array on a building is the availability of solar energy in the space where the system will be mounted. As solar cells are connected within panels and as panels are connected to each other in the array, any shade from a tree, building or other structure that falls on a cell or panel can reduce the efficiency of the entire system. For this reason the majority of arrays are installed on roofs where they can receive unimpeded solar energy throughout the day.

A second consideration is the angle at which the array is mounted. Solar energy does not reach the earth at the same angle throughout the day and year or in different parts of the country. In the Northern Hemisphere, the summer sun is almost directly overhead, but, as the earth tilts away from the sun in the winter, the sun follows a path lower in the sky and towards the south, causing solar energy to reach the earth's surface at a much more acute angle.

While the sun's angle changes throughout the year, our need for electricity does not change very much. To allow for the breadth of angles of solar energy, photovoltaic systems are typically mounted at an angle that accommodates both the high summer sun and the low winter sun, maximizing its efficiency at all times of year.

As a rule of thumb, photovoltaic panels that best accommodate the range of solar angles in a particular location are facing south tilted at an angle equal to the latitude of the location.

While a photovoltaic system can operate without directly facing the path of solar energy, the closer it comes to meeting this path, the more efficiently it works. However, this efficiency is often traded off with the additional cost of certain mounting structures and need to be evaluated on a case-by-case basis.

### **Mounting Structures**

The following are various methods utilized to install photovoltaics panels:

**Flat Mounting:** Flat mounting is the simplest way to install photovoltaics on a roof. In this situation, photovoltaic panels are simply arranged in an array and mounted to the roof using direct attachments or a weighted framework to make the system resistant to the wind.

While efficiency is diminished, the system is still relatively effective and can be an attractive choice for buildings that want to install large arrays at minimal cost.

Flat mounted systems can also be installed on slanted roofs, which keep installation costs down while gaining a tilt closer to the region's ideal angle.

**Rack Structures**—Rack mounting systems allow more control over the array’s angle. These systems rely on a simple metal frame that supports the array at the desired angle toward the south. Rack systems are best used on buildings with flat roofs or on the ground, as even a slightly tilted roof can sometimes make installation difficult.

**Pole Mounting**—Pole mounting is used similarly to rack mounting but supports the photovoltaic array on a pole mounted in the ground. These systems are most often used in rural locations or locations where the best sunlight is not near a building.

**Tracking Structures**—Tracking structures literally track the sun’s angle as it changes throughout the day and year. Two types of tracking structures are available: one-axis and two-axis. One-axis trackers follow the sun from east to west as it passes through the sky and still need to be mounted at a 34-degree angle facing the south. Two-axis trackers can track both the sun’s daily course and its changing path throughout the year. While these systems are the most effective in capturing direct sunlight as its angle changes, they also require more expensive, high-maintenance components than other mounting structures. They are typically reserved for technologies like photovoltaic concentrator systems that depend solely on direct sunlight to function.

### **Connecting an Array to a Load**

Because photovoltaic technologies rely on the sun, their energy production changes with the availability of solar energy. To ensure that a photovoltaic system can provide electricity when it is needed, additional components are needed to either temporarily store electricity for later use, or to connect the array to a building that has an alternate power source, like the local utility, available when electricity from the array is not.

Another factor complicating connection of an array to a building is that buildings use electricity in a different form than the electricity provided by a photovoltaic array. The electricity from photovoltaic arrays travels in a direct current (DC current) while buildings are structured to rely on alternating current (AC current). To make photovoltaic electricity usable, it needs to be transformed from direct current to alternating current and its flow needs to be controlled as it joins the currents used in different buildings.

There are several different ways to structure a photovoltaic array in relation to its load. The most straightforward is a direct connection, or direct-coupled system which connects the direct current to an end use. These systems are useful for small-scale daytime applications like water pumps and ventilation fans, but because of the complicating factors mentioned above, most applications require several additional components.

### **Balance of System Components**

All PV modules generate direct-current (DC) electricity and will require additional equipment beyond the PV array to interface with the building’s electrical distribution system. This equipment is often referred to as the ‘balance-of-system’ (BOS) equipment. The components consist of structures, enclosures, wiring, switchgear, fuses, ground fault detectors, charge controllers, and inverters.

## Inverter Technology

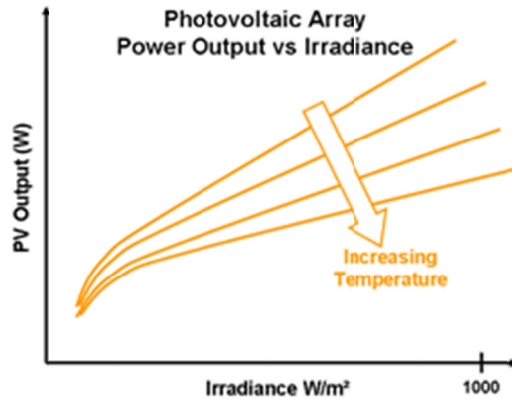
Inverters are used to convert DC power, which is not compatible with the AC power used on the grid into AC power. The power and voltage output of the panels changes with the intensity of the sunlight striking them. The inverters convert the power to AC, and keep the output voltage constant. The inverter will match its output power to the frequency, phasing, and voltage of the grid power. Inverter technology is based on insulated-gate bipolar transistors (IGBT).



## PV Panels Installation

The solar cells convert sunlight into DC electricity. Groups of 5-12 panels are wired in series arrays. This develops the desired output voltage of approximately 400VDC. The actual number of PV panels in an array is dependent on the actual installation, since the output voltage will vary between models, and brands of panels.





The arrays are wired in parallel to develop the desired system capacity (kW). A typical system will use a large number of panels. As an example a 225kW system will use approximately 1700 each of 175W panels. The overall system capacity equates typically to a 300kW system, since it is common to install 30% or more in panel rated capacity than the system size. There are two main reasons to do this. First the panel rating is based on ideal conditions; the actual operating conditions will differ. Secondly, the panels do not produce full power most of the day (power is a function of the position of the sun).

The power from the arrays is collected in junction boxes. The junction boxes are located outside with the PV panels. Inside these boxes the arrays are tied together in parallel connections. The feeders from the junction boxes are routed to the inverter, which is typically located in an electrical room near the grid connection point.

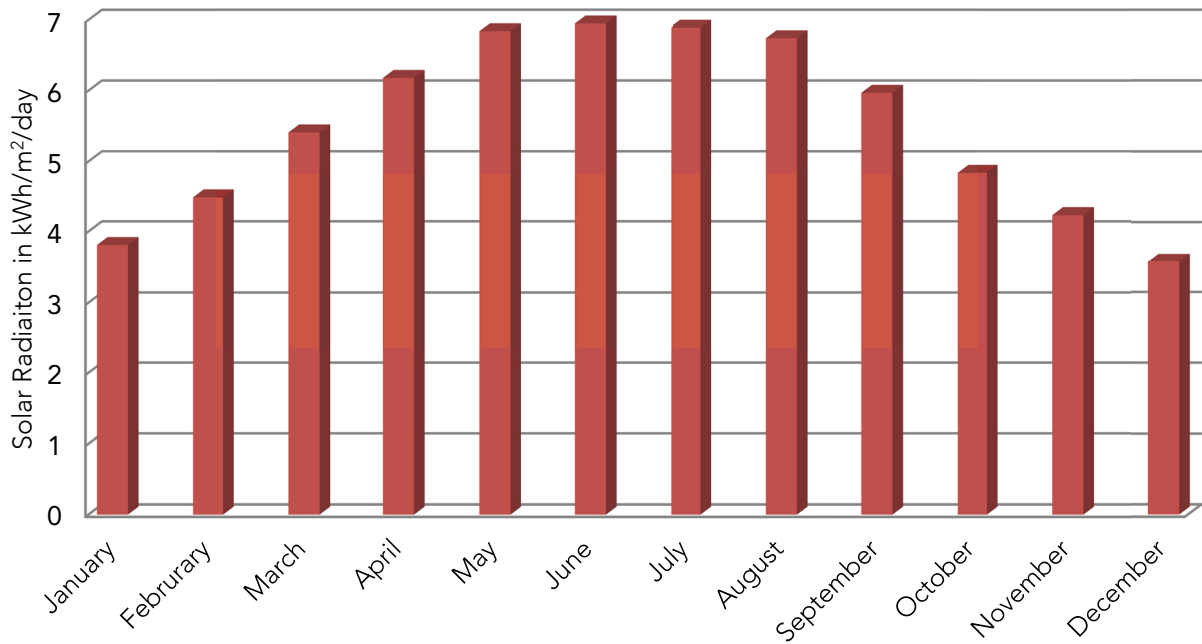
The DC current from the cells is connected to an inverter. The inverter converts the DC power into 480VAC or 208V and matches the incoming phase, voltage and frequency of the grid power. The inverters for grid connected PV plants are pre-approved by the utilities for this purpose. The inverter has disconnect switches on both PV and utility sides.

The electricity leaving the inverter travels through a meter section and switch-gear before entering the power grid. A specialized meter and switch-gear design is required for a PV system. During the day when the PV system is creating power the unusual situation exist of having live power on both sides of the meter, and the design has to allow for this.

Weather conditions play an important role in determining the amount of power generated from a PV plant. Obviously cloud cover will greatly degrade performance. The outside air temperature also plays an important role in generated output. The solar panels output is also reduced with an increase of temperature of the cell. Figure below represents the decrease in the cell's performance with the increased temperature of the cell. This is not the ambient temperature, but the actual cell's temperature. It is not advisable to put a PV panel right against another surface, such as a roof. It is a better design that allows for airflow all round the cell. Most roof top systems have an air gap on the underside to allow natural convection to take place. The carport style of construction also does not have this problem.

The figure below provides the solar radiation in kWh/m<sup>2</sup>/day at the campus.

FIGURE 10—LONG BEACH AVAILABLE AVERAGE SOLAR RADIATION IN KWH/M<sup>2</sup>/DAY



### Incentives

The California Public Utilities Commission, through its California Solar Initiative, provides incentives for existing and new commercial properties that install photovoltaic systems.

The California Solar Initiative provides two types of incentives to solar customers:

- Performance-based incentives (PBI), As of January 1, 2010, all systems over 30 kW must take the PBI. Any sized system can elect to take PBI. The PBI pays out an incentive, based on actual kWh production, over a period of five years. PBI payments are provided on a \$ per kilowatt-hour basis.
- Expected performance-based buy down (EPBB) As of January 2010, systems smaller than 30 kW in capacity will receive a one-time, up-front incentive based on expected performance, and calculated by equipment ratings and installation factors (geographic location, tilt and shading). EPBB payments are provided on a \$ per watt basis. Systems eligible for EPBB can choose to opt-in to the PBI system described below.

Incentives for both types are provided below for reference.

TABLE 1—INCENTIVE PAYMENT AMOUNTS

Step	MW in Step	EPBB Payments (per Watt)			PBI Payments (per kWh)		
		Residential	Non-Residential		Residential	Non-Residential	
			Commercial	Governmental / Non-Profit		Commercial	Governmental / Non-Profit
1-6	190	n/a	n/a	n/a	n/a	n/a	n/a
7	215	\$0.65	\$0.65	\$1.40	\$0.09	\$0.09	\$0.19
8	250	\$0.35	\$0.35	\$1.10	\$0.05	\$0.05	\$0.15
9	285	\$0.25	\$0.25	\$0.90	\$0.03	\$0.03	\$0.12
10	350	\$0.20	\$0.20	\$0.70	\$0.03	\$0.03	\$0.10

The first two columns represent the amount of megawatts that have approved applications submitted. As of April 2011, the non-residential program had reached Step 8.

The EPBB column represents the single payment amount the owner will receive once the PV system is completed. The PBI is a monthly payment that will be provided to the owner for a period of 5-years. The amount of each month’s payment will be based on the PV system’s meter reading. Once the application is accepted the rate of payment is locked in for the 5-years. Currently the rate is at \$0.15/kWh.

Assembly Bills Affecting PV Generation Capacity

The following two bills have recently been passed by the state and affect the proposed generation capacities of PV systems at the campus:

Assembly Bill 2466

Assembly Bill 2466 was passed by the State last year allowing a facility to apply excess renewable power produced from a customer account as energy credits against charges for power delivered to one or more of its other accounts provided:

- a) The net power delivered to the grid from a generating facility consists of generators whose nameplate ratings do not collectively exceed 1 MW.
- b) The generating facility is located within the geographical boundary of, and is owned, operated, or on property under the control of, the customer.
- c) The generating facility is sized to offset all or part of the electrical load of the Benefiting Account(s).
- d) The generating facility is an eligible renewable resource under the Renewables Portfolio Standard Program

Although this bill became effective last year, the same is still being discussed with the PUC and the utility companies and no formal arrangement or agreement of sharing the additional energy generated among the various sits of the customer has been reached.

#### Assembly Bill 920

Assembly Bill was passed by the state this year and requires the ratemaking authority by January 1, 2011, to compensate a net surplus eligible customer-generator for delivering electricity to grid that is in excess of the amount of electricity delivered from the grid to the eligible customer-generator. The bill requires the electric utility to offer a standard contract or tariff to eligible customer-generators that includes compensation for the value of net surplus electricity. The bill would require the electric utility, upon an affirmative election by the eligible customer-generator to receive service pursuant to this contract or tariff, to either:

- a) Provide net surplus electricity compensation for any net surplus electricity generated in the 12-month period, or
- b) Allow the eligible customer-generator to apply the net surplus electricity as a credit for kilowatt hours subsequently supplied by the electric utility to the surplus customer-generator.

Again, although this bill became effective this year, the same is still being discussed with the PUC and the utility companies and no formal arrangement or agreement of rates that would be offered to the eligible customer generators has been reached.

## Solar Water Heating

Solar water heating systems for pools can provide an efficient and cost-effective means of heating pools if pools are heated throughout the year. The most common collector used in solar hot water systems is the flat plate collector.

Solar water heaters use the sun to heat the pool water in the collector.

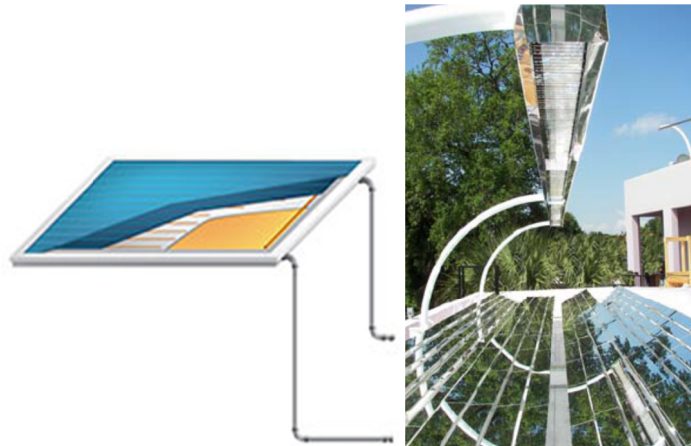
### Types of Solar Collectors

Two types of solar collectors currently exist in the market: : flat plate collectors and evacuated tube collectors.

#### Flat Plate Collectors

Flat plate collectors typically consist of copper tubes fitted to flat absorber plates. The most common configuration is a series of parallel tubes connected at each end by two pipes (the inlet and outlet manifolds). The flat plate assembly is contained within an insulated box and covered with tempered glass.

FIGURE 1—FLAT PLATE AND COMPOUNDED PARABOLIC COLLECTORS



Passive Solar

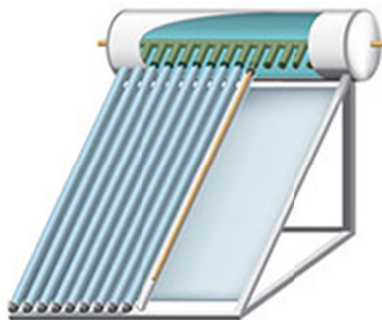
Passive solar water heaters rely on gravity and the tendency for water to naturally circulate as it is heated. Because they contain no electrical components, passive systems are generally more reliable, easier to maintain, and possibly have a longer work life than active systems.

No incentives are currently offered by the state for this technology. The building solar water heating system costs are high and the technology is not cost effective due to the intermittent service water heating loads. This technology is currently not recommended.

Evacuated Tube Collectors

Evacuated tube collectors are the most efficient collectors available and similar to a thermos in principle. A glass or metal tube containing the water or heat transfer fluid is surrounded by a larger glass tube. The space between them is a vacuum, so very little heat is lost from the circulating fluid. These collectors also work well in overcast conditions and operate in temperatures as low as -40°F. Individual tubes have a life expectancy of 25-30 years and can be replaced as needed.

FIGURE 2—EVACUATED TUBE TYPE COLLECTORS

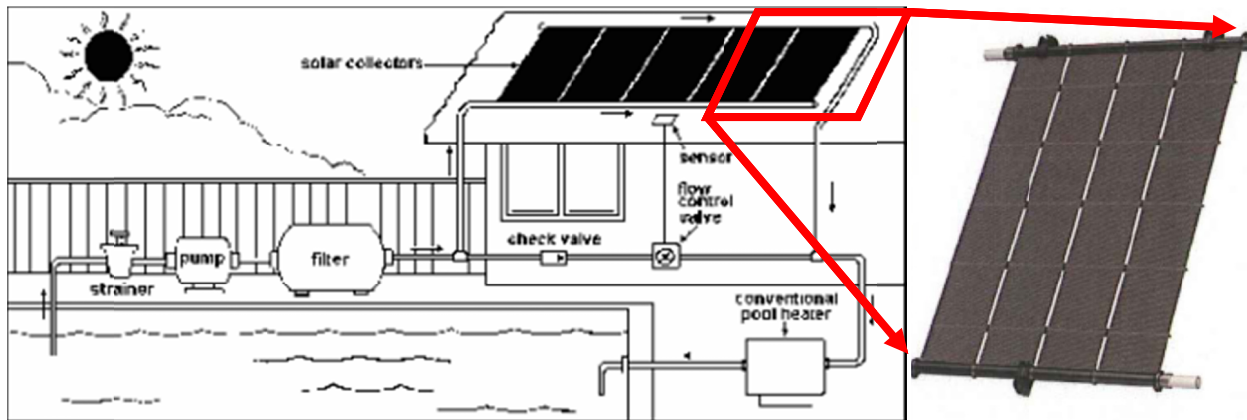


## Circulation Systems

### Direct Circulation Systems

Direct systems circulate water through solar collectors where it is heated by the sun. The heated water is then used directly in the pool. These systems are preferable in climates where it rarely freezes. Freeze protection is necessary in cold climates. Scaling can be an issue due to water hardness and can add a performance barrier to the heat transfer over time. A typical direct solar collector is depicted in figure below.

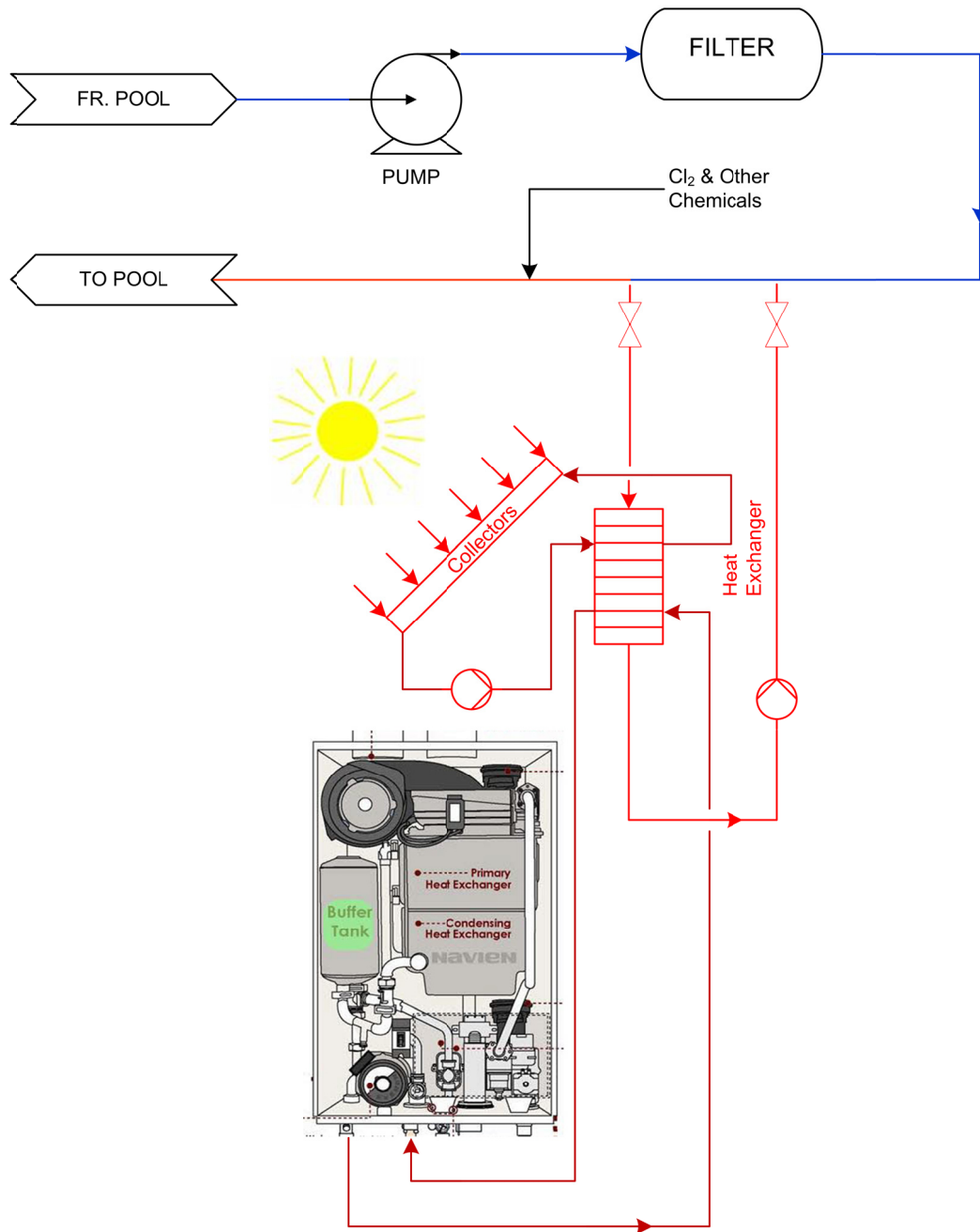
FIGURE 3—DIRECT SWIMMING POOL WATER HEATING DESIGN



### Indirect Circulation Systems

Closed-loop, or indirect, systems use a non-freezing liquid to transfer heat from the sun to water in a storage tank. The sun's thermal energy heats the fluid in the solar collectors. Then this fluid passes through a heat exchanger in the storage tank, transferring the heat to the water. The non-freezing fluid then cycles back to the collectors. Glycol is typically the fluid of choice, but brings with it special handling and disposal requirements due to its classification. Good alternatives to glycol, especially in non-freezing climates, are deionized water and the use of biodegradable water softeners. These systems are appropriate where high hardness of domestic water is encountered. The clean design of the indirect system (i.e. not circulating the pool water through the collectors) results in a very low degradation rate for the fluid. An example of an indirect system with high-efficiency tankless water heaters is shown in figure below.

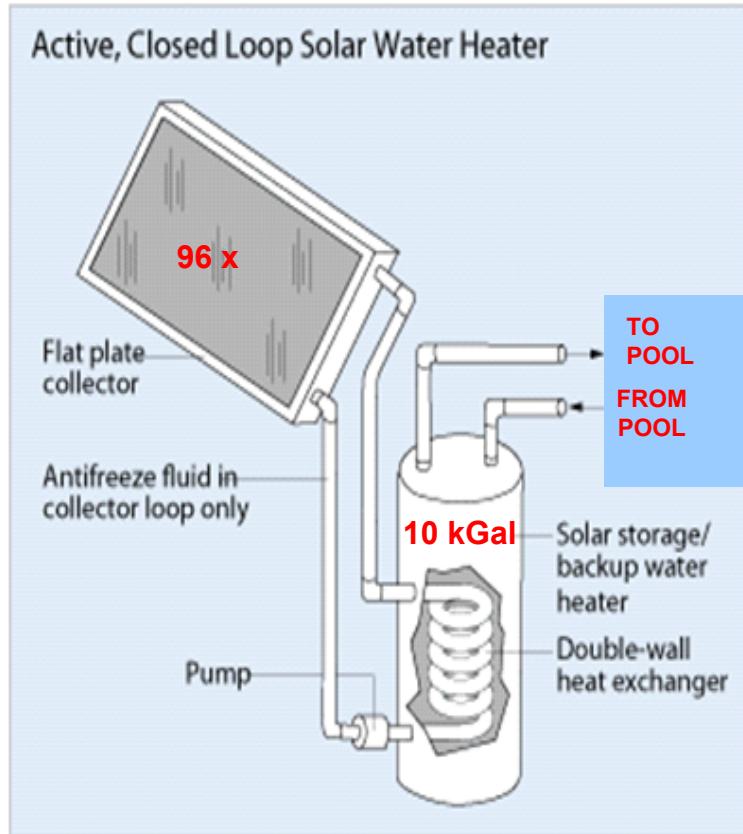
FIGURE 4—INDIRECT SWIMMING POOL WATER HEATING DESIGN



Active (Forced-Circulation) Systems

Active—or forced-circulation—systems use electric pumps, valves and controllers to move water from the collectors to the storage tank. This type of system is needed for storing solar thermal energy to be supplied during off sun hours of pool use. An example of an active system is shown in Figure below.

FIGURE 5—ACTIVE SWIMMING POOL WATER HEATING DESIGN



A review of the costs, paybacks and savings resulting from the various solar thermal technologies revealed that these systems will not pay for themselves unless the costs of these systems reduce over a period of time. We therefore recommend that these systems be reevaluated again in the coming years once the costs become attractive for providing domestic water heating in the existing PE building. No incentives are currently offered by the state for this technology.



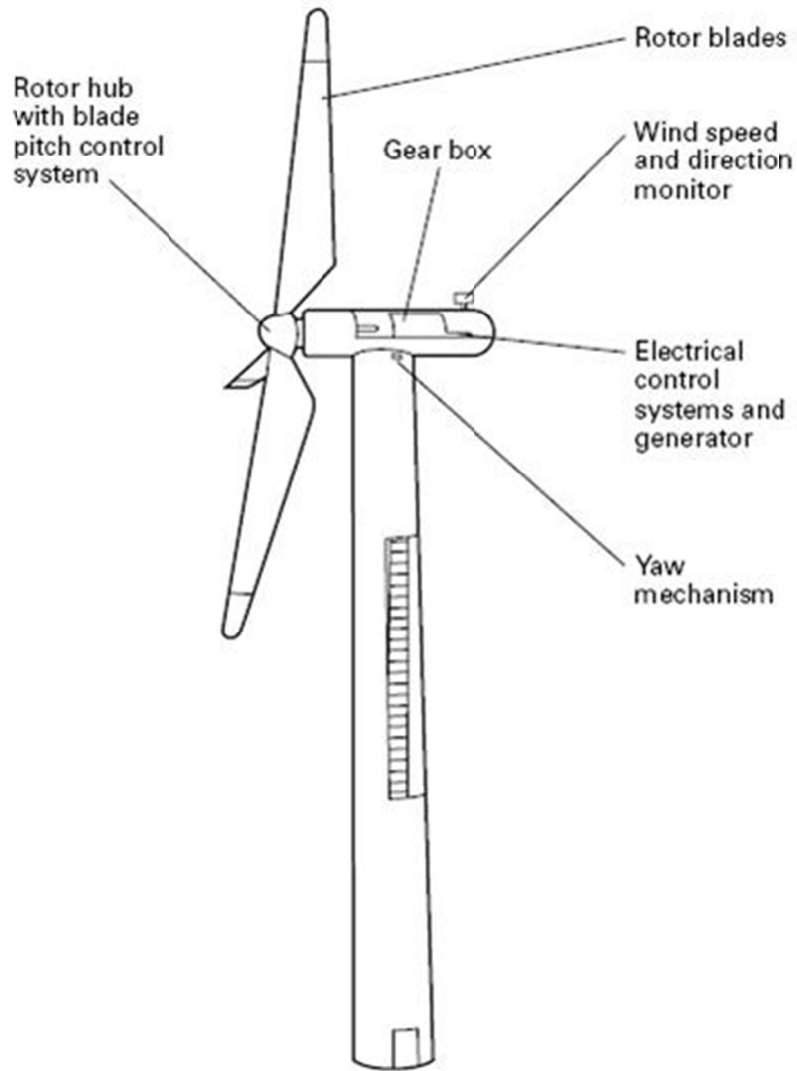
## Wind Power

Wind power is a viable energy source with wide-ranging applications for distributed generation. Wind farms can be sized for small- or large-scale power generation. Wind power is becoming popular due to the fast and simple installation and low maintenance requirements once installed.

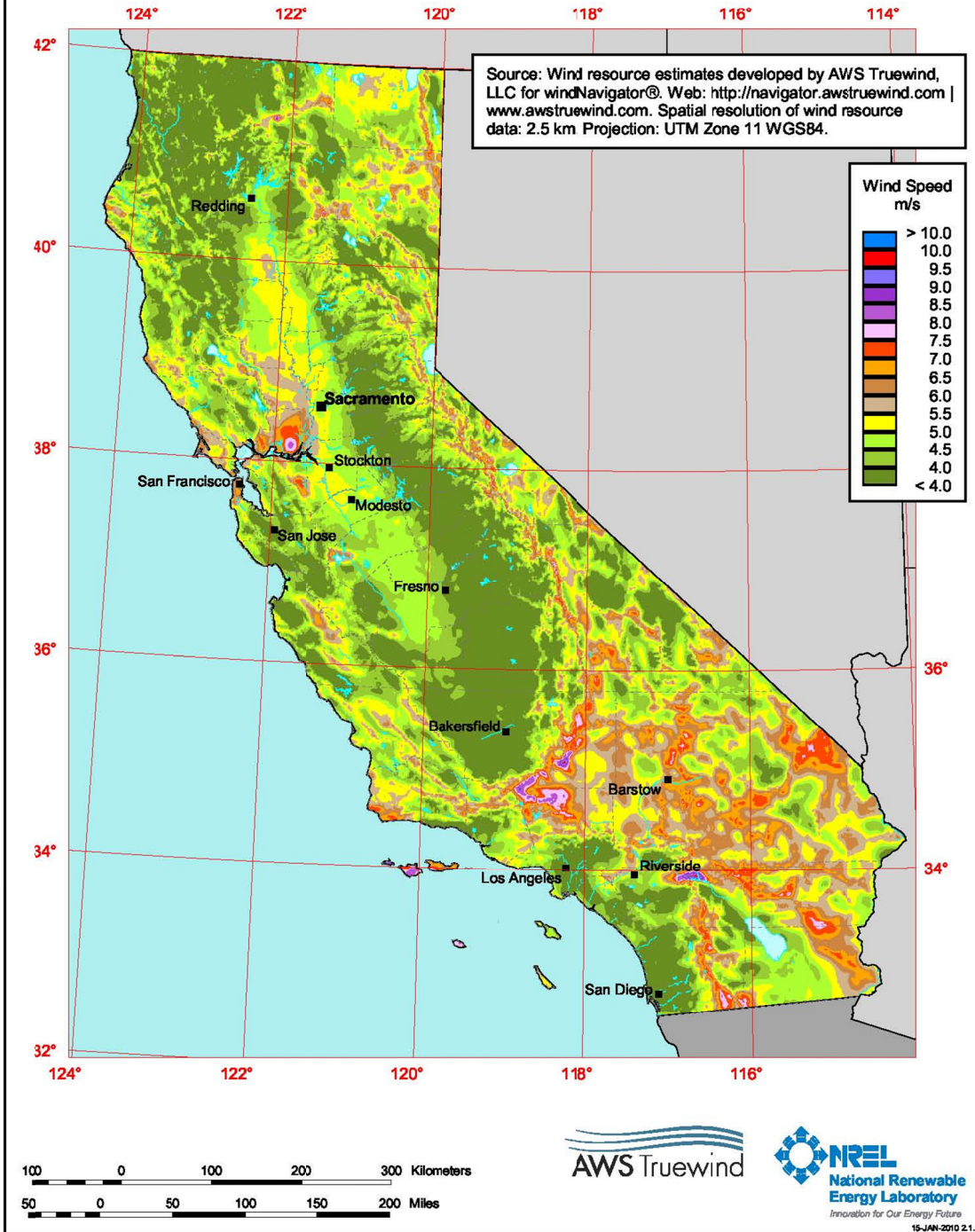
Generally, wind farms are located in areas with good winds and typically have annual capacity factors ranging from 20% to over 40%. A typical life of a wind turbine is 20 years. Maintenance is required at 6-month intervals.

Large-scale wind farms can be installed for about \$3,000-\$3,500/kW. The cost of electricity produced from wind farms depends on the annual capacity factor, location/wind quality, maintenance costs, and installation costs; but typically ranges from 5 to 8 cents/kWh. The cost for small-scale wind turbines is higher. Wind turbines do not produce any harmful emissions or require any fuel product for operation. Minimal space is required for a turbine farm.

The class of winds required to provide adequate power where it becomes economically attractive are Class 3 (6meters/sec) and above (Class 1 is Poor and Class 7 is Superb). A review of the Long Beach campus wind map below indicates that the wind speeds at the campus location fall below the required wind class required for generating power and falls in the poor class having 1% out of 100% wind potential. Thus a wind turbine in a poor wind speed (Class 2 and below) will produce 25-30% less power than in a class 3 and above winds. In addition, the capacity factor of the system will be reduced by the same factor and thus increase the cost of production. Based on a comparison of costs of this technology versus the PV technology at the campus, this technology would cost approximately 2-3 cents/kWh more compared to the PV technology. Thus based on the availability of class of wind at the campus, this technology proves to be expensive and is not recommended for the campus.



# California - Annual Average Wind Speed at 80 m



## 7.2 Recommendations and Costs

The total electrical consumption of the campus currently stands at approximately 50 million kWh per year with a peak demand of 9 MW.

A review of the various technologies revealed that PV systems would be the most techno economical solutions for the campus.

### Photo Voltaic Systems

A review of the campus existing renewable energy sources portfolio revealed that a total PV capacity of approximately 350kW is currently installed at the campus. This capacity is spread across the roof of the following buildings:

Brotman Hall	200kW
FM Canopy	100kW
Vivian Engineering Center	50kW

These systems combined produce a total of 510,000 kWh generation in a year which helps the campus offset approximately 16tons of carbon emissions on an annual basis.





A review of the campus landscape reveals that the campus has a number of open areas available to provide ground mount PV systems at the campus. In addition, proposed parking structures and existing buildings provide sufficient roof areas to install PV systems. Based on a review of the various PV technologies, we recommend that the campus install photovoltaic power systems on the roofs of buildings and parking structures/parking lots to limit dependence on non-renewable power sources, reduce greenhouse gas emissions and eliminate the impact of fluctuation of energy prices in the future. Since the incentives cap off at 1MW and the export rates to utility grid are yet to be finalized, we would recommend limiting the size of the proposed PV system to under 1MW per meter until an agreement is reached on the above assembly bills AB2466 and AB920.

A photovoltaic system requires approximately 90 -115 ft<sup>2</sup> of footprint area per installed kW DC. In addition, this area should be free from solar shading from other buildings, trees, light poles, or other structures. Thus rooftops and parking lots are the preferred PV locations.

Maintenance typically involves replacing DC-AC power inverters every 10 years. Current inverter replacement cost is approximately \$0.50 per watt (DC). Replacement costs are projected to be \$0.20-0.30 per watt (DC) in the future.

These PV systems could either be purchased and owned by the University or be procured using a 3rd party under the Power Purchase Agreement (PPA). Using a PPA, the owner of the PV system will own the renewable energy credits and will offer the same to the District at a specified rate/kWh. The cost of these REC's currently vary from \$0.01-\$0.015 per kWh. The cost for electricity under these agreements are typically structured to ensure the owner of the PV system will recover their investment with profit by providing escalation rates (typically 2.5% per year) to the power purchase costs. The University should consider the possible rewards and risks of both options during the early phases of implementation.

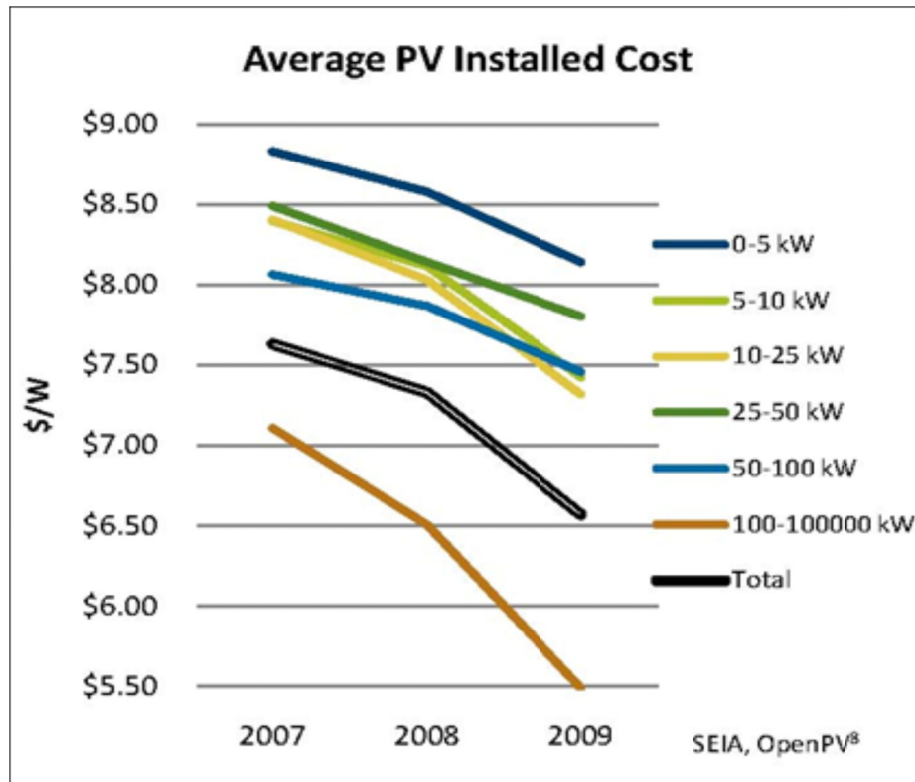
## Costs

The solar energy industry typically uses price per watt as its primary unit of measurement.

As a rule of thumb, the solar module represents 40-50% of the total installed cost of a Solar System. This percentage will vary according to the nature of the application. A complete solar system includes all the other components (called the balance of systems) required to create a functioning system, whether it be to feed energy in to the grid or to be used in stand-alone off-grid applications.

Last year saw a second year of major price declines for PV modules. Prices have fallen to \$1.85-\$2.25 per watt from \$3.50-\$4.00 per watt in mid-2008, a drop of over 40 percent. With module prices accounting for up to half of the installed cost of a PV system, these prices are beginning to put downward pressure on system prices. Average installed cost fell roughly 10 percent from 2008 to 2009. This is despite the large shift to the more labor-intensive (and expensive) residential installations. With new innovations in the installation process, increasing economies of scale and innovative equipment increasing energy yields, the cost reductions are expected to continue.

The graph below shows PV installed costs for various kW capacities. These costs continue to decline this year thus making PV's more attractive in the commercial market.



The cost of a rooftop PV installation is currently projected to be about \$5/watt. A payback analysis of this system revealed a positive cash flow after 27 years.

Costs of car port structures on parking lots and on parking structures are currently projected to be approximately \$7/watt due to the costs of additional steel structure required to elevate and support the panels. A payback analysis of this system revealed a positive cash flow after 42 years

An electricity escalation rate of 2.5% and inverter replacement costs every 10years were taken into account in our payback calculations. A Power Purchase Agreement (PPA) with an outside entity can produce different results since they can take advantage of the 30% renewable energy federal tax credits.

Based on our above projected costs/watt and escalation/maintenance costs, below are costs/paybacks projected for the various sites at the campus that are recommended in our report.

TABLE 7-1—SOLAR PV SITING SURVEY

No.	Building Name	GSF	No. of Floors	Roof Type	Approx. Roof SF	Roof Warranty (Yrs)	Year Installed	Roof Equipment	Shading	Roof Access	Main Electrical Rm.	PV Site Potential	PV Size KW	kWh Generation	System Cost*	Incentives	Annual Savings**	Simple Payback (Years)	GHG Emissions Reduction MT/yr	Comment
<b>Rooftop SYSTEMS</b>																				
1	ET	67,143	2	BUR/Flat	46,700	15	2000	None	Some	Second Floor	1st Floor	Excellent	234	367,763	\$1,167,500	\$275,822	\$32,731	27	121	
2	Design	44,768	1	BUR/Flat	44,768	15	2010	Mechanical	Some	Ext. Stairwell	1st Floor	Excellent	224	352,548	\$1,119,200	\$264,411	\$31,377	27	116	
3	SSPA	57,951	4	BUR/Flat	16,600	15	1990	None	None	3rd Floor Mech	Basement	Excellent	83	130,725	\$415,000	\$98,044	\$11,635	27	43	
4	HSD	24,300	1	BUR/Flat	24,300	15	2004	None	Some	Ext. Ladder	1st Floor	Excellent	122	191,363	\$607,500	\$143,522	\$17,031	27	63	
5	LA2	13,708	2	Flat Ballasted 1 Ply	7,945	n/a	1971	Satellite Dishes	Moderate	N/A	LA3	Fair	40	62,567	\$198,625	\$46,925	\$5,568	27	21	Small net footprint
6	LA3	15,689	2	Flat Ballasted 1 Ply	7,945	n/a	1955	None	None	N/A	Basement	Fair	40	62,567	\$198,625	\$46,925	\$5,568	27	21	Small net footprint
7	LA4	14,210	2	Flat Ballasted 1 Ply	7,945	n/a	1955	None	Some	N/A	LA3	Fair	40	62,567	\$198,625	\$46,925	\$5,568	27	21	Small net footprint
8	LA5	63,220	3	BUR/Flat	21,187	15	1990	Mechanical	None	FO3	1st Flr	Good	106	166,848	\$529,675	\$125,136	\$14,849	27	55	
9	FO2	11,994	2	BUR/Flat	6,210	15	1985	None	None	2nd Floor Roof Hatch	LA3	Fair	31	48,904	\$155,250	\$36,678	\$4,352	27	16	Small net footprint
10	Library	206,521	6	BUR/Flat	29,423	15	2005	Mechanical	None	Elev/Stairwell	1st Flr	Good	147	231,706	\$735,575	\$173,780	\$20,622	27	76	
11	CPAC	143,897	4	BUR/Sloped	31,746	15	1993	Mech/Cell	None	Roof Hatch	1st Flr	Fair	159	250,000	\$793,650	\$187,500	\$22,250	27	82	Sloped roof and high parapet walls
12	Studio Theatre	61,400	3	BUR/Flat	19,596	n/a	1972	Mechanical	None	2nd Flr. Mech	Basement	Good	98	154,319	\$489,900	\$115,739	\$13,734	27	51	
13	Student Union	161,300	4	BUR/Flat	37,600	n/a	1972	None	Some	Elev/Stairwell	Basement	Good	188	296,100	\$940,000	\$222,075	\$26,353	27	97	
14	Foundation	62,000	3	BUR/Flat	19,233	15	1994	None	None	Roof Hatch/3rd Flr	1st Flr	Good	96	151,460	\$480,825	\$113,595	\$13,480	27	50	
Student Recreation & Wellness Center																				
<b>Parking Canopy Systems</b>																				
1	Parking Structure 1	829,065	6		92,400		1995		None	Elevator	Ground Level	Good	462	727,650	\$3,234,000	\$545,738	\$64,761	42	239	Structural design must be considered
2	Parking Structure 2	415,915	3		56,000		2008		None	Elevator	Ground Level	Good	280	441,000	\$1,960,000	\$330,750	\$39,249	42	145	Structural design must be considered
3	Parking Structure 3	430,360	3		56,000		2009		None	Elevator	Ground Level	Good	280	441,000	\$1,960,000	\$330,750	\$39,249	42	145	Structural design must be considered
4	Lot 14	902,547	N/A		902,547				Some		Ground Level	Good	4513	7,107,558	\$31,589,145	\$5,330,668	\$632,573	42	2339	In need of complete re-surfacing
5	Lot 17	134,937	N/A		134,937		2009		Moderate		Ground Level	Good	675	1,062,629	\$4,722,795	\$796,972	\$94,574	42	350	
6	Lot 18	86,013	N/A		86,013				Moderate		Ground Level	Good	430	677,352	\$3,010,455	\$508,014	\$60,284	42	223	In need of new slurry seal
7	Foundation Parking	36,600	N/A		36,600		1994		None		1st Floor/Bldg	Good	183	288,225	\$1,281,000	\$216,169	\$25,652	42	95	

Notes:

\* System cost based on average installed cost per KW of current PV systems recently installed in the market place. (Rooftop Systems = \$7,000/KW, Canopy Systems = \$7,000/KW, Building Rooftops - \$5,000/kW))

\*\* Annual Savings is based on projected annual electricity generation of PV systems using industry guidelines and average cost of CSULB electricity per KWH.

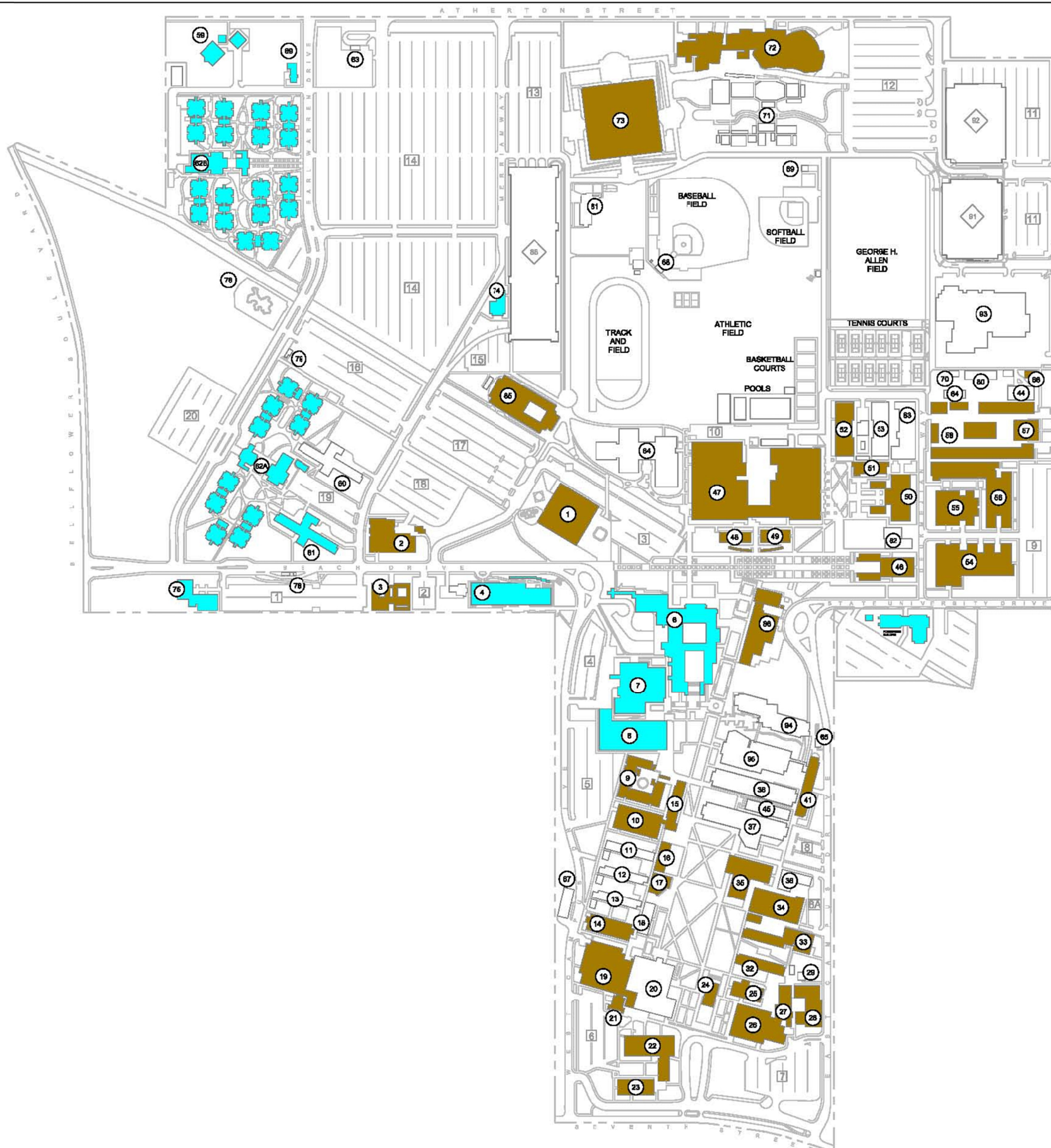


The California Solar Initiative incentives were calculated based on the Step 8 EPBB incentive available today.

Refer to map showing locations of the proposed PV installations at the end of the chapter.

TABLE 7.2

# of Bldgs	Technology	Approx. Roof SF	PV Size KW	kWh Generation	System Cost*	Incentives	Annual Savings**	Simple Payback (Years)	GHG Emissions Reduction MT/yr
14	Roof Mounted PV	321,198	1,606	2,529,434	\$8,029,950	\$1,897,076	\$225,120	27	832
7	Canopy Mounted PV	1,364,497	6,822	10,745,414	\$47,757,395	\$8,059,060	\$956,342	42	3,536
21	Totals	1,685,695	8,428	13,274,848	\$55,787,345	\$9,956,136	\$1,181,461	39	4,369



### FACILITY LEGEND

ACADEMIC SERVICES AS	20	LIBERAL ARTS 4 LA4	11
ANIMAL HOUSE AH	42	LIBERAL ARTS 5 LA5	10
ART ANNEX	29	LIBRARY LIB	19
BROTMAN HALL BH	1	LOST AND FOUND	58
CAFETERIA CAFE	7	MAILROOM	58
CARPENTER PERFORMING ARTS CENTER CPAC	72	MAIN DISTRIBUTION FACILITY A	67
CENTRAL PLANT CP	96	MAIN DISTRIBUTION FACILITY B	79
CMS BUILDING	80	MAIN DISTRIBUTION FACILITY C	70
COLLEGE OF BUSINESS COB	85	MCINTOSH HUMANITIES BUILDING MHB	24
CORPORATION YARD	58	MICROBIOLOGY MIC	41
DANCE CENTER DC	72	MOLECULAR AND LIFE SCIENCE CENTER MLSC	94
DESIGN DESN	54	MULTI-MEDIA CENTER MMC	21
EARL BURNS MILLER JAPANESE GARDEN JG	76	NURSING NUR	3
EDUCATION 1 ED1	22	OUTPOST FOOD SERVICE	82
EDUCATION 2 ED2	23	PARKING ADMINISTRATION BUILDING PA	74
ELECTRICAL SUBSTATION (NORTH)	44	PETERSON HALL 1 PH1	37
ELECTRICAL SUBSTATION (SOUTH)	65	PETERSON HALL 2 PH2	38
ENGINEERING 2 EN2	51	PETERSON HALL 3 PH3	39
ENGINEERING 3 EN3	52	PROPERTY OFFICE	58
ENGINEERING 4 EN4	53	PSYCHOLOGY PSY	9
ENGINEERING / COMPUTER SCIENCE ECS	83	PYRAMID PYR	73
ENGINEERING TECHNOLOGY ET	56	RECEIVING	58
FACILITIES MANAGEMENT FM	57	RECYCLING CENTER RC	83
FACULTY OFFICE 1 FO1	18	RESIDENCE HOUSING RH	
FACULTY OFFICE 2 FO2	18	INTERNATIONAL HOUSE IH	75
FACULTY OFFICE 3 FO3	15	LOS ALAMITOS HALL	80
FACULTY OFFICE 4 FO4	36	LOS CERRITOS HALL	81
FACULTY OFFICE 5 FO5	45	PARKSIDE COMMONS	62B
FAMILY AND CONSUMER SCIENCES FCS	5	RESIDENCE COMMONS	62A
FINE ARTS 1 FA1	32	RESTROOMS/STORAGE	88
FINE ARTS 2 FA2	33	SCIENCE LECTURE HALL SCL	40
FINE ARTS 3 FA3	34	SOCIAL SCIENCES / PUBLIC AFFAIRS SS/PA	46
FINE ARTS 4 FA4	35	SOFTBALL FIELD RESTROOM	69
GREENHOUSE 1 & 2	43	SOROPTIMIST HOUSE SOR	4
GREENHOUSE 3	64	SPORTS, ATHLETICS AND RECREATION OFFICES SAR	77
HEALTH AND HUMAN SERVICES		STEVE AND NINI HORN CENTER HC	84
OFFICES HHS1	48	STUDENT HEALTH SERVICES SHS	2
HEALTH AND HUMAN SERVICES		STUDIO THEATRE ST	26
CLASSROOMS HHS2	49	TEMPORARY OFFICE BUILDING	77
HORN CENTER HC	84	UNIVERSITY ART MUSEUM NCC	84
HOUSING ADMINISTRATION OFFICE HAO	89	UNIVERSITY BOOKSTORE BKS	8
HUMAN SERVICES AND DESIGN HSD	55	UNIVERSITY GYMNASIUMS GYM	47
INTERNATIONAL HOUSE IH	75	UNIVERSITY MUSIC CENTER UMC	71
ISABEL PATTERSON CHILD DEVELOPMENT CENTER CDC	59	UNIVERSITY POLICE UP	57
KKJZ	18	UNIVERSITY PRINT SHOP UPS	86
LANGUAGE ARTS BUILDING LAB	25	UNIVERSITY STUDENT UNION USU	8
LECTURE HALLS LH 150 / 151	17	UNIVERSITY TELECOMMUNICATIONS CENTER UTC	28
LIBERAL ARTS 1 LA1	14	UNIVERSITY THEATER UT	27
LIBERAL ARTS 2 LA2	13	VISITOR INFORMATION CENTER VIC	78
LIBERAL ARTS 3 LA3	12	VIVIAN ENGINEERING CENTER VEC	50

- CSULB - State Buildings
- CSULB - Non-State Buildings





### FACILITY LEGEND

ACADEMIC SERVICES AS	20	LIBERAL ARTS 4 LA4	11
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ENGINEERING 4 EN4	53	PSYCHOLOGY PSY	9
ENGINEERING / COMPUTER SCIENCE ECS	83	PYRAMID PYR	73
ENGINEERING TECHNOLOGY ET	56	RECEIVING	58
FACILITIES MANAGEMENT FM	57	RECYCLING CENTER RC	83
FACULTY OFFICE 1 FO1	18	RESIDENCE HOUSING RH	
FACULTY OFFICE 2 FO2	18	INTERNATIONAL HOUSE IH	75
FACULTY OFFICE 3 FO3	15	LOS ALAMITOS HALL	60
FACULTY OFFICE 4 FO4	36	LOS CERRITOS HALL	61
FACULTY OFFICE 5 FO5	45	PARKSIDE COMMONS	62B
FAMILY AND CONSUMER SCIENCES FCS	5	RESIDENCE COMMONS	62A
FINE ARTS 1 FA1	32	RESTROOMS/STORAGE	68
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FINE ARTS 3 FA3	34	SOCIAL SCIENCES / PUBLIC AFFAIRS SS/PA	46
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HEALTH AND HUMAN SERVICES		STEVE AND NINI HORN CENTER HC	84
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LANGUAGE ARTS BUILDING LAB	25	UNIVERSITY STUDENT UNION USU	6
LECTURE HALLS LH 150 / 151	17	UNIVERSITY TELECOMMUNICATIONS CENTER UTC	28
LIBERAL ARTS 1 LA1	14	UNIVERSITY THEATER UT	27
LIBERAL ARTS 2 LA2	13	VISITOR INFORMATION CENTER VIC	78
LIBERAL ARTS 3 LA3	12	VIVIAN ENGINEERING CENTER VEC	50

CSULB - Potential PV Site



## 8

# Recommended Energy Efficiency Project Descriptions

The projects identified in this SEP are described below, and the project titles are referenced for each applicable project on the individual Project Summary pages later in this report. While there are often alternative technologies or approaches to projects that can be considered for a given retrofit, this report focuses on projects that can be implemented cost effectively with available technologies and methods.

For ease of reference, all SEP projects have been assigned an ECM (Energy Conservation Measure) Number. The ECM's are identified by numbers and will help easily locate projects. The ECM number has been included on the Building Overview pages later in this report, and the Project Summary section of this report is organized by ECM number to allow easy location of a project.

## Energy Conservation Projects

TABLE 1—LIST OF ECMS BY THEIR TYPES

ECM #	ECM Description	Incl	Type
1	Tankless DHW	√	HVAC, Campuswide
2	Insulate Pipes	√	HVAC
3	CRAC-Upgrades	√	HVAC
4	Low flush Urinals	√	Water Conservation
5	Static Pressure Reset	√	HVAC, Commissioning
6	Demand Ventilation	√	HVAC, Commissioning
7	Energystar Appliances	√	Other Projects, Plug Load
8	Compressed Air Dryer	√	Other Projects
9	Premium Efficiency Motors	√	HVAC
10	VFDs	√	HVAC
11	Lighting Upgrades	√	HVAC, Commissioning
12	High SEER Units	√	HVAC
13	PV for Coolroof equivalent	√	HVAC, Alternative Energy
14	Plug Load Reduction	√	Plug Load
15	Direct Drive Fans		HVAC
16	CHP with Microturbine	√	Self-Generation
17	Exhaust fan set-backs	√	HVAC, Commissioning
18	Fan Efficiency Improvements	√	HVAC
19	Shift Power Provider (Foundation Bldg)	√	Misc
20	Pyramid - Behavioral based Usage	√	Other Projects, Behavior Based
21	Commissioning	√	Commissioning
22	Skylights Analysis	√	Envelope Modifications
23	Filter Upgrades	√	HVAC
24	Windows Upgrades	√	HVAC

## EEM 01—Tankless DHW Heaters

This EEM recommends the conversion of existing electric and gas water heaters to high efficiency tankless water heaters in various buildings at the University. Domestic hot water needs are currently met by electric and gas heaters and are an expensive way of providing domestic water heating in facilities as compared to the tankless water heaters. Tankless water heaters are cheaper to operate and their service life is more than twice that of a tank-based system. On an operational basis, tankless water heaters heat water much more efficiently than the traditional tank-based water heaters. The standard measure of energy efficiency for water heaters is a metric called the Energy Factor or “EF”. EFs for tank-based natural gas water heaters are usually in the low 60s, while EFs for natural gas fueled tankless water heaters are usually in the mid-80s. Therefore, when doing the basic job of heating cold water to hot water, tankless water heaters are about 20 to 25 percent more efficient than tank-based systems. In addition, traditional tank-based systems consume energy in their “stand-by” mode, i.e. when they are maintaining the temperature of an already heated but idle tank of hot water. Energy used during stand-by mode can range from 15 to 30 percent of the total energy that a tank-based system uses. Taken together, these two sources of operational efficiency result in tankless water heaters being 20 to 40 percent more economical to operate.

A list of buildings recommended for this Energy Efficiency Measure along with associated construction costs and payback is included in Appendix B.

This project is recommended campus wide for all buildings that needs DHW (Domestic Hot Water).

## EEM 02—Pipe Insulation

This EEM evaluates the opportunity to reduce heat loss from un-insulated piping found at the campus. The two areas found were in multiple buildings.

Heat losses through un-insulated surfaces are significant, especially when the hot/cold surfaces are operating continuously (24/7 basis). Although the analysis in this measure is representative of pipe insulation around the heating hot water pipe, there may be additional surfaces on the campus outside the ten buildings surveyed that could benefit from this EEM. A rigorous inventory of such surfaces needs to be prepared for insulation requirements. Generous rebates are also available from The Gas Company.

## EEM 03—CRAC Upgrades

This measure calculates savings of replacing CRAC unit with energy efficient heating and cooling options using central plant cooling.

Existing plant for chilled water are less efficient then central plant in generating chilled water.

Also analyzed in this EEM as option B are the savings of converting the existing air cooled condensers to water cooled condensers, by using the fountain in front of Brotman Hall.

Details of savings, Cost estimate and rebates calculations are appended in Appendix B.

## EEM 04—Low Flush Urinals

CSULB has opportunity to retrofit multiple male urinals in multiple Buildings. This EEM includes the replacement of urinals on the campus. This EEM analyzes and reports costs, savings and paybacks for both “no flush” and “low flush” technologies available in market for water conservation.

The existing urinals use 1.5 gpf. Low flow models use 0.125 gpf while “no flush” urinals use no water.

Water costs are expected to continue to increase in Southern California.

Appendix B summarizes the costs, savings and paybacks for the Low flush Urinals.

## EEM 05—Static Pressure Reset

There are few buildings with multi-zone systems for air distribution. When some spaces of multi-zone are used, others are not. The VAV systems only respond to meet the demand of the ventilation at higher static pressure. Reducing the static pressure at lower flows of zones that are occupied can result in reduced energy consumption. Savings from static pressure resets are hard to compute under energy modeling software, because it involves assumptions. A PIER paper has reported savings of 42% on ventilation kWh/yr by using static pressure reset for multi-zone systems.

## EEM 06—Demand Control Ventilation

CSULB has many buildings that have excessive ventilation resulting in indoor air CO<sub>2</sub> concentrations measured at multiple buildings ranging from 400-750 ppm. More outside air requires more heating and cooling loads and also more ventilation kWhr/Yr. CO<sub>2</sub> concentrations up to 1100 ppm are acceptable and supplying outside air at reduced rates and still meet the California Title-24 requirements can save energy consumption.

This measure identifies buildings that are having large spaces and higher outside air supply as potential candidates that can have DCV (demand control ventilation) with savings calculated per ASHRAE 90.1.

A Honeywell calculator was used to generate estimate of savings for demand control ventilation. Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 07—Energy Star Appliances

This measure identifies refrigerators, laundry washers, water fountains, and dish washers that were identified in the buildings during the field visits. Using energy star appliances will reduce energy consumption and provide reliable and low maintenance replacements. This measure helps to reduce the plug loads.

Many office appliances were identified with energy star logo on them in some buildings and it is encouraged to embrace energy star as purchasing policy.

It is beyond the scope of this audit, but it is recommended that CSULB takes full advantage of energy star partners. The Gas Company can help to identify the appliances used in kitchen to be replaced with energy efficient appliances.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 08—Compressed Air Dryer

Central plant compressors have cycling desiccant air-dryers. Compressed air is currently used only on cooling tower water treatment skid and it does not need class-6 dry air. A cycling refrigerated air-dryer provides dry air with dew point of -30°F, which is sufficient for serving the cooling tower chemical injection skid. Cycling air-dryer uses refrigeration only when it is needed and offers lower pressure drop compared to desiccant style of air-dryer. Cycling desiccant dryers have timers and they blow down the compressed air to dry the desiccant using compressed air.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 09—Premium Efficiency Motors

This EEM evaluates the feasibility of rewinding and replacing the standard efficiency motors to premium efficiency motors.

CSULB has over 1000 motors in buildings being analyzed. It is recommended that CSULB maintain the inventory of motors with the appropriate data, using a DOE (Department of Energy) tool called MotorMaster+. We observed that many building with large motors (HP>3) had been retrofitted with premium efficiency motors. Premium efficiency motors are a right replacement for any motor that operates more than 1000 hours/yr. CSULB should mandate the use of premium efficiency motors for all future retrofits and new buildings. It is recommended that the replacement be coordinated with the OEM (Original Equipment Manufacturer).

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 10—VFDs

This EEM evaluates the feasibility of installing variable speed drives on the motors identified to operate the equipment at lower capacity and take advantage of electric energy savings. The Variable Frequency drives allows better control of flow, temperature, pressure with reduced noise levels and more importantly with energy savings.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 11—Lighting

The Strategic Energy Plan includes a projection of the magnitude of lighting energy efficiency projects in each SEP building. The plan addresses primarily fluorescent building lighting with exception of few buildings where potential energy savings in interior HID lighting have also been identified.

### **EEM 11-1—Interior Lighting Retrofit**

This EEM evaluates the opportunity of retrofitting existing fluorescent light fixtures with state of the art lamp and ballast combination to limit each pair of fluorescent lamps and ballast to approximately 47 watts. This can be achieved through the use of 25W T8 lamps with and programmed start ballast combinations with a ballast factor of 0.88. The resulting fixtures will operate at slightly lower light levels relative to the existing levels, but their improved color rendition will increase or maintain the perceived light level. Factors like color temperature, lamp life, lamp standardization, ballast standardization and a number of issues can be incorporated into the design.

### **EEM 11-2—Interior Lighting Controls**

This EEM evaluates the installation of occupancy control in rooms that do not currently have occupancy control. Majority of spaces including offices and classrooms already have occupancy sensors in the buildings evaluated as part of the SEP. Newer “dual technology” occupancy sensors, which detect both motion and heat, are recommended in spaces currently controlled by manual switches. Occupancy sensors are recommended for all classrooms, offices, meeting rooms, restrooms, lecture halls, auditoriums, storage areas, some library spaces, and a portion of residential areas. They are not recommended food service areas.. On average, occupancy sensors are assumed to reduce lighting energy use by 25%-30%, per utility incentive standards.

The EEM also includes daylight harvesting. Daylight harvesting should be applied to fixtures near skylights or windows, in areas that are overlit when sunlight is entering the building. Daylighting controls are assumed to apply to 10% of the fluorescent fixtures in classrooms, lecture halls, libraries, athletic areas, and common spaces, and 5% of fixtures in offices. For those fixtures, the daylighting controls are assumed to reduce energy use by 75% after occupancy sensor control.

### **EEM 11-3—Stairwell Lighting**

This EEM evaluates the provision of bi-level fluorescent lighting in stairwells. There is a significant energy savings potential from this lighting in stairwells. Bi-level fixtures are controlled by occupancy sensors that reduce lighting levels to a low standby mode when the space is unoccupied. The fixtures are specifically designed to meet fire code requirements for stairwells. It is recommended that this measure be implemented in every stairwell on campus.

### **EEM 11-4—Interior High Bay Lighting**

This EEM evaluates the conversion of Interior high intensity discharge (HID) fixtures to fluorescent sources, generally T8 or T5 lamps, with occupancy sensor control. These are typically located in gymnasiums, sports facilities, swimming pools, and other high ceiling areas. Fluorescent has become the standard design for efficient lighting in high bay applications because of the relatively efficient output of the fluorescent sources, the higher output capacity of the T5 lamps, better color rendition, and the instant on capability that permits occupancy control.



## EEM 11-5—Exterior Lighting

This EEM evaluates the conversion of exterior high intensity discharge (HID) fixtures to LED fixtures with bi-level controls. These are located in parking lots, walkways and parking structures. LED lamps provide a higher perceived brightness compared to HID (Sodium vapor lamps) lamps and this lower wattage lamps can provide the same or higher perceived brightness compared to Sodium vapor lamps, thus saving energy. LED lamps also last over twice as long as high pressure sodium vapor lamps thus saving the campus maintenance costs.

Details for savings, costs and paybacks are summarized in Appendix B.

Appendix C documents details of conservation measures narrated above, building by building at fixture level.

## EEM 12—High SEER Split Condensing Units

This EEM evaluates the feasibility of replacing small split system condensing units and window AC units in multiple buildings.

CSULB has multiple condensing units with EER ratings in range of 8 to 13 within the buildings being analyzed for energy efficiency improvements. Cooling capacities of these condensing units vary from 9,000 Btu/h (0.75 Ton) to 24,000 Btu/h (2 Tons). Some of the units are relatively new. For smaller capacities the newer technology allows 21 SEER condensing units that generate room for energy conservation by energy efficient retrofit. Using Energy Star rated condensing units when choosing a retrofit will provide rebates and reliable energy efficiency. This EEM targets split system condensing units and window AC units only.

Implementation of this EEM will also allow CSULB to eliminate CFC based refrigerants from the subject buildings.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 13—Cool Roof Equivalent PV

This EEM recognizes that it is more expensive to retrofit cool roofs on existing buildings. However, it does attempt to provide same relief, equivalent to cool roof, by installing PV panels. A 10,000 ft<sup>2</sup> building in Long Beach would have electric savings of 7388 kWh/Yr and would have gas consumption increased by 562 Therms/Yr. To achieve equivalent reduction in electricity for summer months, a smaller PV system is proposed on roofs of the identified building, where it is possible. The net effect would be reduced carbon foot print, obtaining PV electric generation equivalent to cool roof at similar investment \$ and not reduce the gas consumption significantly either for winter months.

All new buildings and future retrofits should have cool roof with SRI in excess of 70%.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 14—Plug Load Reduction

This EEM evaluates the opportunity to reduce plug load across the campus.

Single largest plug load observed during site visits was all the computers not being turned off. Currently CSULB does not have any uniform campus wide Watt-stoppers or Power management system to turn the computers off at night and during weekends. CSULB relies on instructors and custodians to turn the plug loads off.

It is recommended that all the computers have Power Management Software, which turns the computer off or on sleep mode when it is inactive for more predetermined time. CSULB has over 1000 computers and some of them are turned off at night while some stay on all the times. Settings of Power Management cannot be changed by users and can be changed by network administrators.

CSULB has 6336 kW of minimum billing demand, which mostly occurs at nights and week-ends. It is recommended that computers be scheduled to be turned off during weekends to take further advantage of energy savings. A significant fraction of this demand is attributable to plug loads.

Details for savings, costs and paybacks are summarized in Appendix B.

## **EEM 15—Direct Drive Fans**

All the air handing units at the campus are belt driven. Driven drive fans can save 2-5% efficiency on drive depending on fan selected and time of use for belt in its lifecycle. More efficient fans can save even more energy, but they are analyzed under fan efficiency conservation measure. Belt drives also incur repetitive costs in replacing belts and belts loose efficiency towards the end of their useful life.

This EEM recommends replacement of belt driven fans with more efficient fans and direct drive fans by end of useful life of each of fans in air handing units. It is not possible to economically replace the fans with 2-5% efficiency improvements.

Details for savings, costs and paybacks are summarized in Appendix B.

## **EEM 16—CHP (Combined Heat and Power) with Micro turbine**

Cost of purchased electricity is very low for most buildings at campus. However there are few buildings like foundation building which have their own power connection with expensive CPP (Critical Peak Pricing) program. Also the heating and cooling equipment in the foundation building is nearing its useful life.

This EEM analyzes the costs of operations for the foundation building to have CHP option, with possibility of selling excessive production back to campus at times when cost of purchased electricity is more than produced electricity.

Micro turbines produce electrical output with hot flue gases which can be cooled down to produce hot water for heating and chilled water in summer times with absorption chiller.

Details for savings, costs and paybacks are summarized in Appendix B.

## **EEM 17—Exhaust Fan Set-backs**

Exhaust fans from rest-rooms were found operational around the clock for many of buildings. Most of the restrooms have conditioned air supply.

Turning off the exhaust fans when campus is not in session (During week end and night) hours would save electrical energy and thermal energy (gas).

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 18—Fan Efficiency Improvements

This EEM evaluates the opportunity to increase the operating efficiency of fans in air handling units by replacing existing fan wheels with more efficient fan wheels or by replacing the entire fan.

Fan efficiency is important because the inefficiency of fan causes more cooling load on central plant.

Efficiencies of fans have increased significantly over the years. Currently fans are available with efficiencies in range of 75-85% efficiencies.

Many small fans are also found to have forward curve impellers, which are grossly inefficient.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 19—Shift Power Provider (Foundation Building)

This EEM evaluates the opportunity to conserve the costs of electrical energy by connecting the building to the campus electrical grid.

Currently, the campus enjoys \$ 0.09/kWh rate of electricity for its 66 kV connection. Foundation building purchases 480 VAC electricity at average price of \$ 0.15/kWh based on SCE bills. Foundation building uses 1.4 Million kWh/Yr of electricity.

It is proposed that foundation building be sub-metered and be connected to campus. The electrical manhole for campus distribution is only 30' away from the foundation building. Doing so will provide valuable cash conservation to foundation building.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 20—Behavior based energy conservation

Behavior based energy efficiency programs focus on energy savings resulting from changes in individual or organizational behavior and decision-making. Examples of behavior based energy efficiency programs include:

- Providing residential end-users with information on their energy use, comparisons with usage by others, goal setting, rewards and additional tactics that encourage efficient energy use.
- Assisting commercial end-users to benchmark their building(s) energy use and improve operating performance through building or equipment tune-ups and changes to O&M routines.

CSULB has pyramid that has business needs for 60 evenings in a year, based on schedules published online on its website. However the building consumes energy for 365 days/Yr. It is analyzed to motivate the users of Pyramid to use Building 47, Physical Education for campus needs and use Pyramid only for events. Similar opportunity of smaller quantity exists for Carpenter Performing Arts Center.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 21—Commissioning

This EEM evaluates the opportunity to reduce the energy consumption by commissioning the buildings to ensure that mechanical and lighting systems are performing efficiently during business hours and are turned off during unoccupied durations, nights and week-ends.

Retro-commissioning is the application of the commissioning process to existing buildings. Retro-commissioning is a process that seeks to improve how building equipment and systems function together. Depending on the age of the building, retro-commissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life. In all, retro-commissioning improves a building's operations and maintenance (O&M) procedures to enhance overall building performance.

Additional advantages of true VAV and demand control ventilation can be achieved using the commissioning process, to reduce the energy consumption and carbon footprint of the buildings. Static Pressure Reset, Exhaust Fan setbacks are also typically implemented under MBCx/Retro Commissioning type of projects, but they are documented more precisely in this report.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 22—Skylights

Daylight harvesting using sun in California Climate Zone-6 will have great benefits including reduced electric consumption and higher motivation of building users. Installation of skylights is relatively easy and cost effective solution compared to concrete slabs as roof materials. Use of Low-E glazing from energy star partners is recommended. Along with curb mounted skylights, the ballasts of existing light fixtures will have to be replaced with dimming ballasts to maximize the daylight harvesting.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 23—Air Filters Static Pressure Reduction

This EEM evaluates the opportunity to conserve the energy consumption of fans by having alarms to replace dirty filters.

During the survey many dirty filters were found operational in several buildings, despite CSULB's policy of replacing the filters on annual basis.

Despite having good intensions, due to large number of filters on a vast campus, things are falling through cracks. By having a sensor that is tied into EMS, the control room is notified about dirty filters right away to prioritize the replacement. Filters with pressure drop in excess of 1.5" were found operational in Engineering, Physical education and other buildings.

Details for savings, costs and paybacks are summarized in Appendix B.

## EEM 24—Windows Upgrades - DM

This EEM evaluates the opportunity to conserve the energy consumption by upgrading the old operable windows with fixed double pane Low-E glazing. Only south and west façades of the building needs Low-E glazing.

Currently most buildings at CSULB have single pane glazing with Plexiglass. Some buildings have tinted plexiglass, while older buildings have untinted and operable single pane glazing. Extensive modeling was performed to evaluate savings for LA-5 and Foundation buildings respectively. Most buildings have shades, awnings, canopies or building structures that provide shade on the glazing. Capital Cost to replace the glazing with insulation breaks and framing is extensive for existing buildings to be retrofitted, preventing good paybacks when cost of electricity is below \$ 0.09/kWh.

It is recommended to replace inventory of damaged glazing on DM-Deferred Maintenance.

Details for savings, costs and paybacks are summarized in Appendix B.

TABLE 2—SUMMARY OF ECMS

ECM #	ECM Description	Electric (kWh/Yr)	Peak Demand (kW)	Gas (Therm s/Yr)	Chilled Water (Ton-Hrs/Yr)	Water Savings (kGal/Yr)	Total Cost Savings \$/Yr	Project Cost	Incentive	Net Cost	Simple Payback (Years)
1	Tankless DHW	222,931	25	4,751			\$36,054	\$235,850	\$38,492	\$197,358	5.47
2	Insulate Pipes	5,839	1	1,764			\$2,059	\$6,731	\$883	\$5,848	2.84
3	CRAC-Upgrades	65,525	7		-176,201		\$5,897	\$60,000	\$15,726	\$44,274	8.57
4	Low flush Urinals		0			2424	\$10,180	\$39,000	\$-	\$39,000	3.83
5	Static Pressure Reset	165,065	19				\$14,856	\$31,231	\$20,946	\$10,285	0.69
6	Demand Control Ventilation	425,327	49	6,053			\$27,981	\$84,749	\$43,052	\$41,697	1.49
7	Energystar Appliances	103,451	12	5640		4,104	\$2,306	\$2,472	0	\$2,472	1.07
8	Compressed Air Dryer	5,601	19				\$504	\$7,500	\$1,344	\$6,156	12.21
9	Premium Efficiency Motors (Rewound)	122,380	31				\$11,083	\$50,051	\$29,556	\$20,495	1.85
10	VFDs	527,365	132				\$47,463	\$273,500	\$110,904	\$162,596	3.43
11	Lighting Upgrades	2,183,501	663				\$240,185	\$484,734	\$524,040	\$2,014,730	8.39
12	High SEER Units	177,053	177				\$15,935	\$225,924	\$42,493	\$183,432	11.51
13	PV for Coolroof equivalent	1,179,141	0				\$110,732	\$3,351,600	\$282,994	\$3,068,606	27.71
14	Plug Load Reduction	536,112	61				\$48,250	\$360,000	\$128,667	\$231,333	4.79
15	Direct Drive Fans										
16	CHP with Microturbine	5,256,000	600				\$162,126	\$1,781,250	\$147,663	\$1,633,587	10.08
17	Exhaust fan set-backs	306,058	35	46,069			\$160,446	\$160,446	\$46,442	\$114,004	0.71
18	Fan Efficiency Improvements	669,955	167				\$60,296	\$560,030	\$160,789	\$399,241	6.62
19	Shift Power Provider (Foundation Bldg)						\$88,595	\$91,500	\$-	\$91,500	1.03
20	Behavioral based Usage	2,143,804	357				\$190,869	\$-	\$-	\$-	0.00
21	Commissioning	3,632,156	415				\$326,894	\$1,374,240	\$819,236	\$555,004	1.70
22	Skylights Analysis	915,708	366				\$73,014	\$473,750	\$182,697	\$291,053	3.99
23	Filter Upgrades in AHUs	115,203	29				\$10,368	\$81,173	\$27,649	\$53,524	5.16
24	Windows Upgrades - DM	356,629	89				\$32,097	\$1,608,600	\$85,591	\$1,523,009	47.45
<b>Totals</b>		<b>19,114,803</b>	<b>3,254</b>	<b>64,277</b>	<b>-176,201</b>	<b>6,528</b>	<b>\$1,678,190</b>	<b>\$11,344,332</b>	<b>\$2,709,164</b>	<b>\$10,689,204</b>	<b>6.37</b>
Without CHP		13,858,803	2,654	64,277	-176,201	6,528	\$1,516,065	\$9,563,082	\$2,561,501	\$21,181,049	13.97

# 9

## Building Overview & Projects

The following pages provide an overview of the recommended projects and summary of information for the associated buildings. The section is organized sequentially according to the Building Key, and each contains the following information for each SEP Building.

- Basic information about the building is contained in the header.
- Annual historical energy use by utility for the FY 2010 baseline, whether metered or extrapolated.
- Monthly historical energy use by utility, where data is available.
- Hourly load profiles by utility for one summer week and one winter week, where data is available.
- Benchmarking information, calculating the baseline and projected energy uses after implementation of currently planned energy projects and after implementation of the projects identified in this SEP.
- Currently planned energy projects being implemented as part of the 2009-11 cycle.
- UC/CSU/IOU Partnership cycle, and their associated savings as approved for the incentive application.
- Projects identified by the Strategic Energy Plan, and the projected savings and economics. The SEP ID Number is a key reference to find the applicable Project Summary.
- Renewable energy projects associated with the building. Since the generated power will most likely serve the campus grid, not the specific building, the generated energy has not been subtracted from the building use.



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Brotman Hall SURVEY JP/JD  
 BUILDING KEY 1 DATE: \_\_\_\_\_  
 GROSS AREA 17,527 SF  
 ASSIGNED AREA 13,225 SF

BUILDING DESCRIPTION / STATISTICS

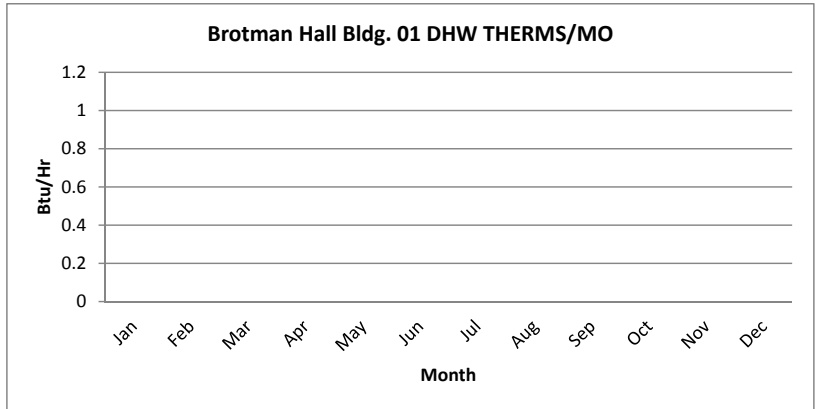
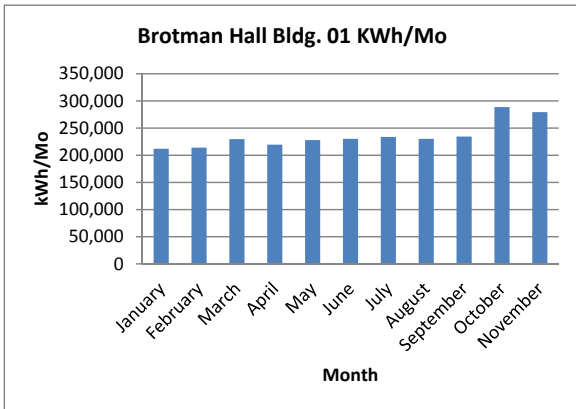
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade

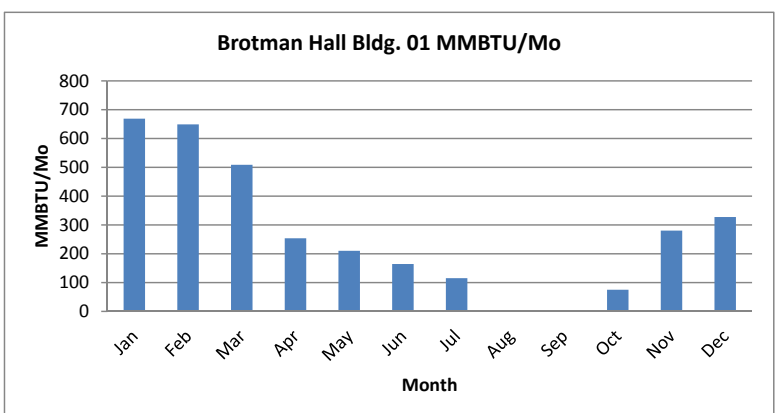
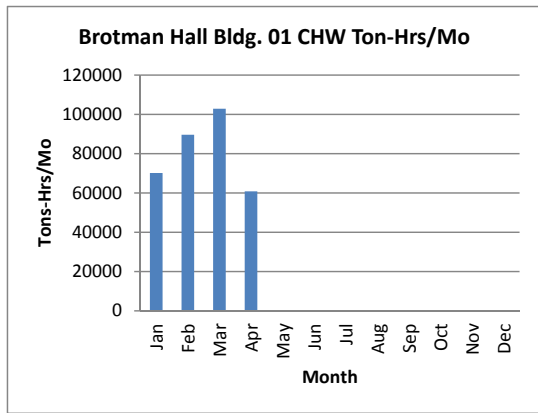
Year Built

Types of Spaces:



Annual Electric Consumption (kWh/Mo) No Gas

Natural Gas Consumption (Therms/Mo) [NOT AVAILABLE]



CHW Tons (Need Ton-Hrs/Month)

HHW (Btu/Mo)





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Brotman Hall SURVEY JP/JD  
 BUILDING KEY 1 DATE: \_\_\_\_\_  
 GROSS AREA 17,527 SF  
 ASSIGNED AREA 13,225 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
1-1	Replace to Tankless Water Heaters	83,082	9.48	0.0	-2,836	0	0	\$ 4,925.37	\$ 8,900.00	\$ 7,120.00	\$ 1,780.00	0.4
1-2	Insulate DHW Pipe	599	0.07	0.0	0	0	0	\$ 53.90	\$ 126.20	\$ 100.96	\$ 25.24	0.5
1-3-1	Replace Data-Air Units to Fan Coils	206,486	23.57	0.0	0	0	0	\$ 5,897.23	\$ 66,250.00	\$ 15,725.95	\$ 50,524.05	8.6
1-3-2	Integrate the Condenser of Data-Air w/Fountain	19,605	2.24	0.0	0	0	0	\$ 1,269.37	\$ 29,750.00	\$ 3,384.98	\$ 26,365.02	7.8
1-4	Low Flush Urinals	0	0.00	0.0	0	0	704	\$ 2,955.02	\$ 9,000.00	\$ -	\$ 9,000.00	3.0
1-6	Demand Control Ventilation	38,310	4.37	0.0	116	0	0	\$ 3,552.43	\$ 19,566.00	\$ 9,194.33	\$ 10,371.67	2.9
1-7	EnergyStar Refrigerators	10,517	1.20	0.0	0	0	0	\$ 124.00	\$ 204.00	\$ -	\$ 204.00	1.6
1-8	Refrigerated Air Dryer for Compressed Air	5,601	0.64	0.0	0	0	0	\$ 504.13	\$ 5,000.00	\$ 1,344.35	\$ 3,655.65	7.3
1-9-1	Prem Eff Mtr - CRAC Condenser Pump, P-1	902	0.10	0.0	0	0	0	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
1-9-2	Prem Eff Mtr - CRAC Condenser Pump, P-2 (Stand-by)	902	0.10	0.0	0	0	0	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
1-9-3	Prem Eff Mtr - CRAC Condenser Pump, P-3	902	0.10	0.0	0	0	0	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
1-9-4	Prem Eff Mtr - CRAC Condenser Pump, P-4 (Stand-by)	902	0.10	0.0	0	0	0	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
1-10-1	VFD for Glycol Pumps, P-1	2,274	0.26	0.0	0	0	0	\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
1-10-2	VFD for Glycol Pumps, P-2 (Stand-by)	2,274	0.26	0.0	0	0	0	\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
1-10-3	VFD for Glycol Pumps, P-3	2,274	0.26	0.0	0	0	0	\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
1-10-4	VFD for Glycol Pumps, P-4 (Stand-by)	2,274	0.26	0.0	0	0	0	\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
1-11	Retrofit Light Fixtures	124,430	14.20	0.0	0	0	0	\$ 13,687.28	\$ 269,165.00	\$ 29,863.15	\$ 239,301.85	17.5
1-16	CHP	1,752,000	200.00	0.0	-199,319	60,782	0	\$ 54,041.86	\$ 593,750.00	\$ 49,220.91	\$ 544,529.09	10.1
1-17-E-1	Exhaust Fan Setback	3,357	0.38	0.0	0	0	0	\$ 302.13	\$ 1,122.00	\$ 805.68	\$ 316.32	1.0
1-17-E-2	Exhaust Fan Setback	3,707	0.42	0.0	700	0	0	\$ 963.85	\$ 1,122.00	\$ 889.71	\$ 232.29	0.2
1-17-E-3	Exhaust Fan Setback	1,679	0.19	0.0	0	0	0	\$ 151.07	\$ 1,122.00	\$ 402.84	\$ 719.16	4.8
1-17-E-4	Exhaust Fan Setback	1,679	0.19	0.0	0	0	0	\$ 151.07	\$ 1,122.00	\$ 402.84	\$ 719.16	4.8
1-17-E-5	Exhaust Fan Setback	2,460	0.28	0.0	444	0	0	\$ 621.15	\$ 1,122.00	\$ 590.42	\$ 531.58	0.9
1-17-E-6	Exhaust Fan Setback	373	0.04	0.0	0	0	0	\$ 33.57	\$ 1,122.00	\$ 89.52	\$ 1,032.48	30.8
1-18-1	Fan Efficiency Improvements	4,831	0.55	0.0	0	1,234	0	\$ 434.82	\$ 3,500.00	\$ 1,159.52	\$ 2,340.48	5.4
1-18-2	Fan Efficiency Improvements	25,767	2.94	0.0	0	6,580	0	\$ 2,319.04	\$ 7,500.00	\$ 6,184.10	\$ 1,315.90	0.6



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Brotman Hall SURVEYOR JP/JD  
 BUILDING KEY 1 DATE: \_\_\_\_\_  
 GROSS AREA 17,527 SF  
 ASSIGNED AREA 13,225 SF

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name		Brotman Hall Bldg. 01										
1-18-3	Fan Efficiency Improvements	25,767	2.94	0.0	0	6,580	0	\$ 2,319.04	\$ 7,500.00	\$ 6,184.10	\$ 1,315.90	0.6
1-18-4	Fan Efficiency Improvements	25,767	2.94	0.0	0	6,580	0	\$ 2,319.04	\$ 7,500.00	\$ 6,184.10	\$ 1,315.90	0.6
1-18-5	Fan Efficiency Improvements	25,767	2.94	0.0	0	6,580	0	\$ 2,319.04	\$ 7,500.00	\$ 6,184.10	\$ 1,315.90	0.6
1-21	Commissioning	721,140	82.32	0.0	0	0	0	\$ 64,902.60	\$ 150,740.37	\$ 120,592.29	\$ 30,148.07	0.5
<b>Totals</b>		<b>3,095,629.07</b>	<b>353.38</b>	<b>-</b>	<b>(200,894.24)</b>	<b>88,337.02</b>	<b>703.58</b>	<b>\$ 164,990.47</b>	<b>\$ 1,206,983.57</b>	<b>\$ 268,673.16</b>	<b>\$ 938,310.41</b>	<b>5.69</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Student Health Service</u>	Surveyor:	<u>JD</u>
Building Key	<u>2</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>38,629 SF</u>		
Assigned Area	<u>19,500 SF</u>		

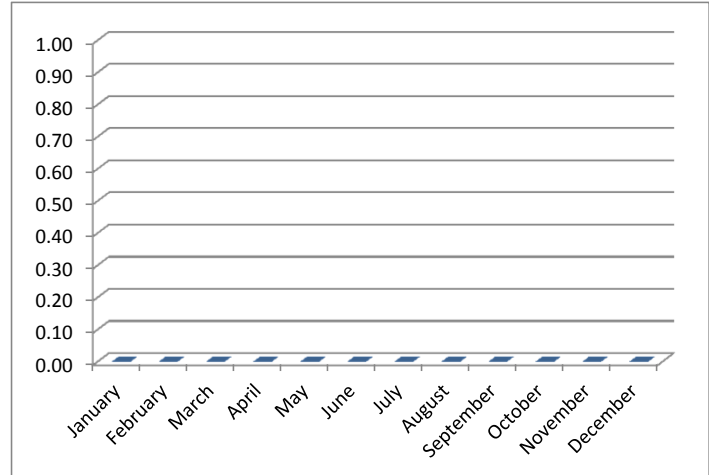
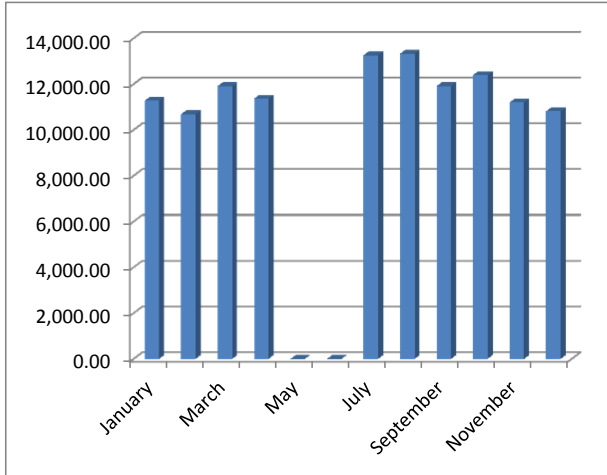


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Student Health Service - Bldg 2

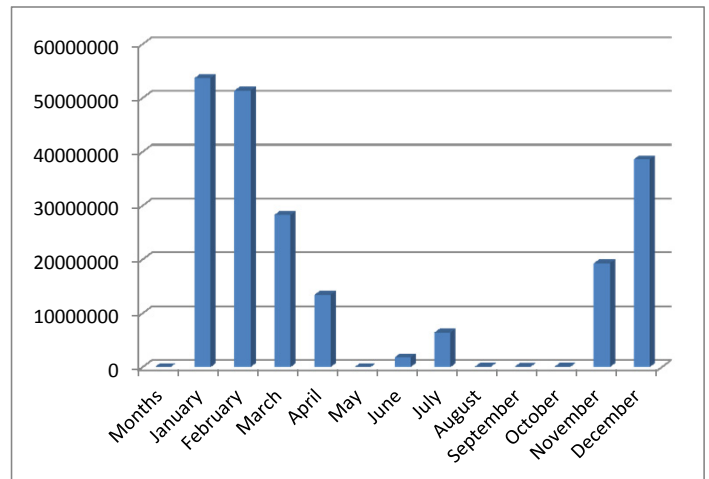
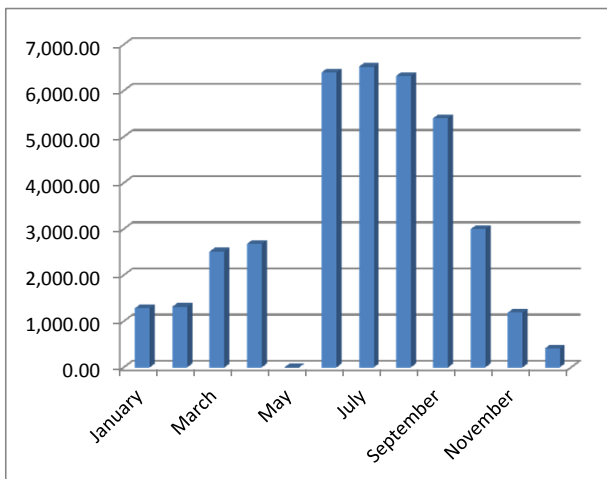
Floors Above/Below Grade: 1 / 1 Year Built: 1976

Types of Spaces: Exam Rooms and Offices



Annual Electrical Consumption (kW-hrs)

Natural Gas Consumption (therms/mo) N/A



CHW (Ton-hrs/mo)

HHW (Btu/mo)

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Student Health Service Surveyor: JD  
 Building Key 2 Date: 10/5/2010  
 Gross Area 38,629 SF  
 Assigned Area 19,500 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Student Health Service - Bldg 2

EUI: 43.83 kBtu/SF-yr

Carbon Footprint: 68.85 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
2-1	Replace to Tankless Water Heaters	0	0		0	0	\$ 246.60	\$ 4,450.00	\$ -	\$ 4,450.00	18.0
2-2	Insulate DHW Pipe	0	0		47	0	\$ 42.65	\$ 126.20	\$ -	\$ 126.20	3.0
2-5-1	Static Pressure Reset	5,013	1		0	0	\$ 451.18	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.6
2-5-2	Static Pressure Reset	3,760	0		0	0	\$ 338.39	\$ 1,419.60	\$ 902.36	\$ 517.24	1.5
2-9-1	Prem Eff Mtr - AH-SE RF Fan	470	0		0	0	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
2-9-1	Prem Eff Mtr - AHU-SE Return Fan	470	0		0	0	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
2-11	Retrofit Light Fixtures	86,846	10		0	0	\$ 9,553.07	\$ 65,422.50	\$ 20,843.06	\$ 44,579.44	4.7
2-12-1	High SEER Upgrades	801	0		0	0	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
2-12-2	High SEER Upgrades	801	0		0	0	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
2-13	Cool Roof Equivalent PV	28,075	3		0	0	\$ 2,636.48	\$ 79,800.00	\$ 6,737.95	\$ 73,062.05	27.7
2-18-1	Fan Efficiency Improvements	5,883	1		0	1,502	\$ 529.46	\$ 5,250.00	\$ 1,411.89	\$ 3,838.11	7.2
2-18-2	Fan Efficiency Improvements	4,412	1		0	1,127	\$ 397.10	\$ 4,500.00	\$ 1,058.92	\$ 3,441.08	8.7
<b>Totals</b>		<b>136,531.17</b>	<b>15.59</b>	<b>-</b>	<b>47.39</b>	<b>2,629.08</b>	<b>\$ 14,423.72</b>	<b>\$ 166,809.40</b>	<b>\$ 32,700.01</b>	<b>\$ 134,109.39</b>	<b>9.3</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Nursing</u>	Surveyor:	<u>JD/AT</u>
Building Key	<u>3</u>	Date:	<u>9/20/2010</u>
Gross Area	<u>17,527 SF</u>		
Assigned Area	<u>13,225 SF</u>		

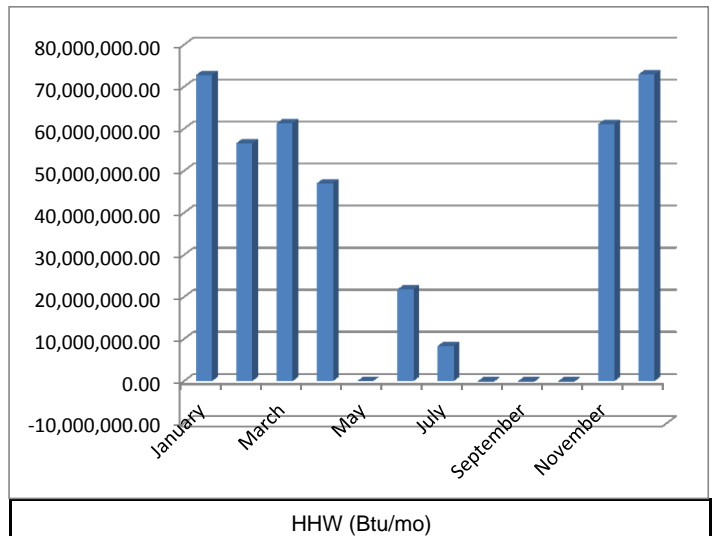
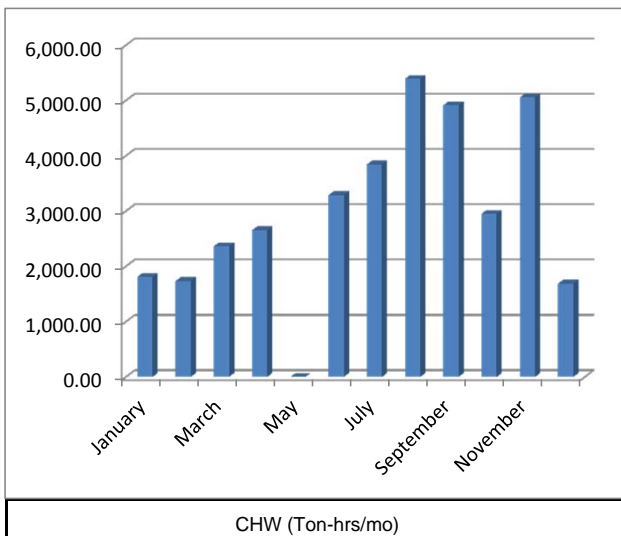
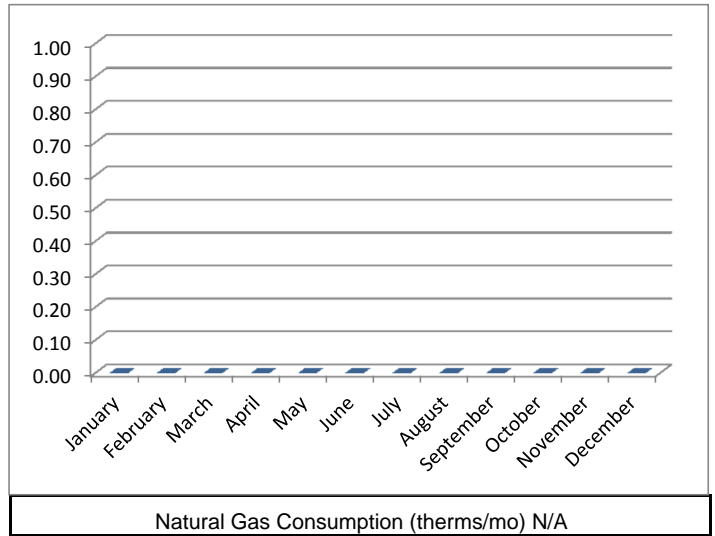
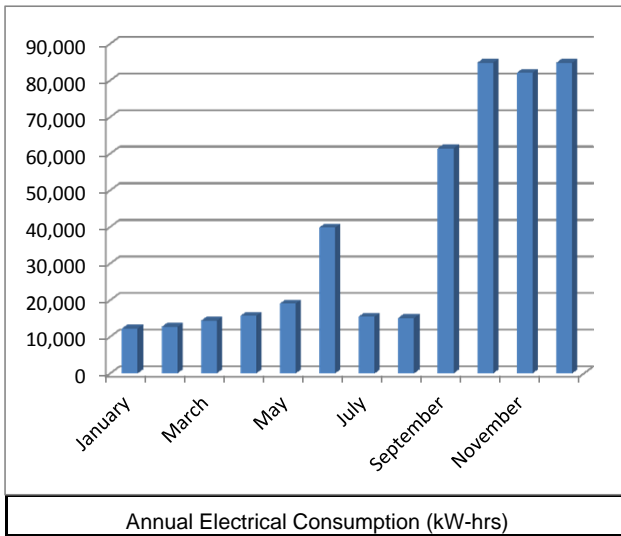


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Nursing - Building 3

Floors Above/Below Grade: 1 / 0 Year Built: 1969

Types of Spaces: Lecture Classroom, Lab Classroom, Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Nursing Surveyor: JD/AT  
 Building Key: 3 Date: 9/20/2010  
 Gross Area: 17,527 SF  
 Assigned Area: 13,225 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Nursing - Building 3

EUI: 148.53 kBtu/SF-yr

Carbon Footprint: 161.81 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
3-5-1	Static Pressure Reset	2,507	0.29	0.00	0.00	0.00	\$ 225.59	\$ 1,420	\$ 602	\$ 818	3.6
3-5-2	Static Pressure Reset	2,507	0.29	0.00	0.00	0.00	\$ 225.59	\$ 1,420	\$ 602	\$ 818	3.6
3-9-1	Prem Eff Mtr - AHU SF Fans	902	0.10	0.00	0.00	0.00	\$ 81.18	\$ 1,000	\$ 216	\$ 784	9.7
3-9-1	Prem Eff Mtr - AHU SF	838	0.10	0.00	0.00	0.00	\$ 75.42	\$ 910	\$ 201	\$ 709	9.4
3-10-1	VFD for AHU Supply Fan	6,065	0.69	0.00	0.00	0.00	\$ 545.85	\$ 5,150	\$ 1,456	\$ 3,694	6.8
3-11	Retrofit Light Fixtures	29,680	3.39	0.00	0.00	0.00	\$ 3,264.82	\$ 25,090	\$ 7,123	\$ 17,967	5.5
3-12-1	High SEER Upgrades	801	0.09	0.00	0.00	0.00	\$ 72.10	\$ 1,469	\$ 192	\$ 1,276	17.7
3-13	Cool Roof Equivalent PV	13,299	1.52	0.00	0.00	0.00	\$ 1,248.86	\$ 37,800	\$ 3,192	\$ 34,608	27.7
3-18-1	Fan Efficiency Improvements	1,471	0.17	0.00	0.00	375.58	\$ 132.37	\$ 3,000	\$ 353	\$ 2,647	20.0
3-18-2	Fan Efficiency Improvements	1,471	0.17	0.00	0.00	375.58	\$ 132.37	\$ 3,000	\$ 353	\$ 2,647	20.0
<b>Totals</b>		<b>59,539.46</b>	<b>6.80</b>	<b>-</b>	<b>-</b>	<b>751.17</b>	<b>\$ 6,004.14</b>	<b>\$ 80,257.95</b>	<b>\$ 14,289.47</b>	<b>\$ 65,968.48</b>	<b>10.99</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Family/Consumer Sciences</u>	Surveyor:	<u>JD</u>
Building Key	<u>5</u>	Date:	<u>9/21/2010</u>
Gross Area	<u>39,860 SF</u>		
Assigned Area	<u>16,758 SF</u>		

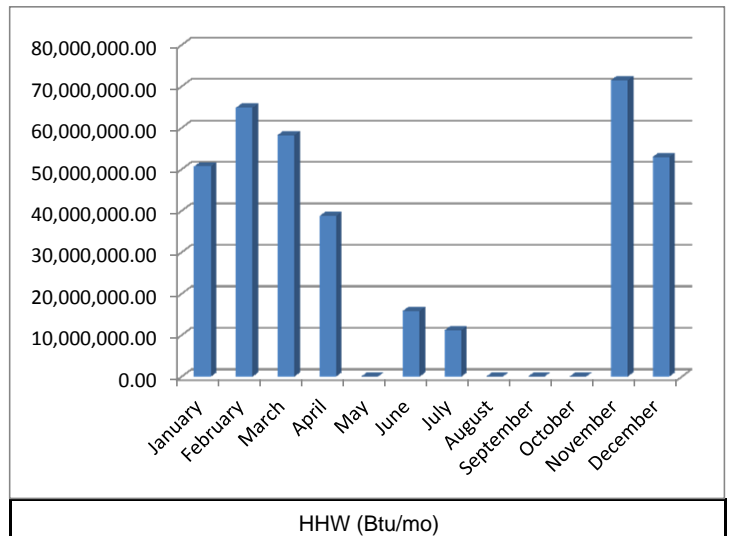
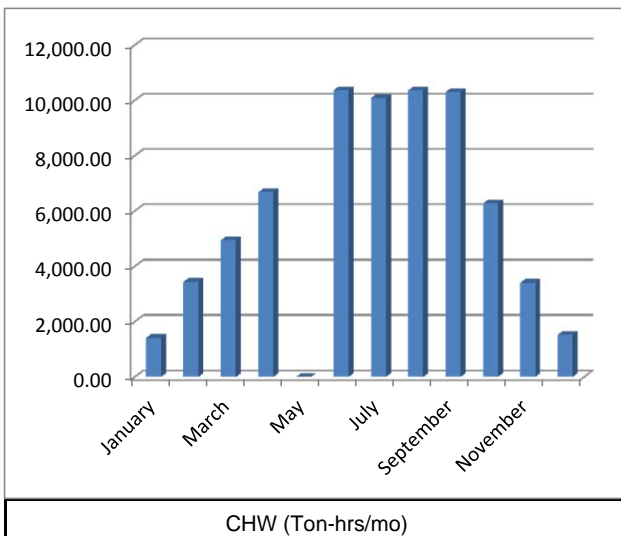
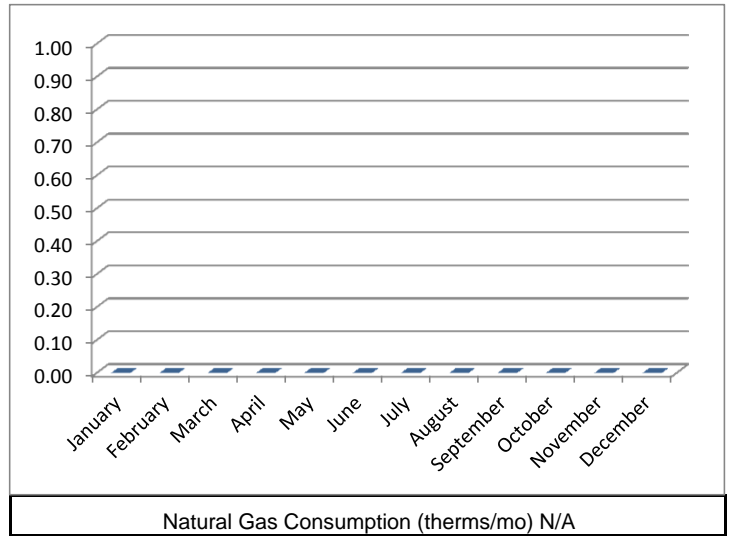
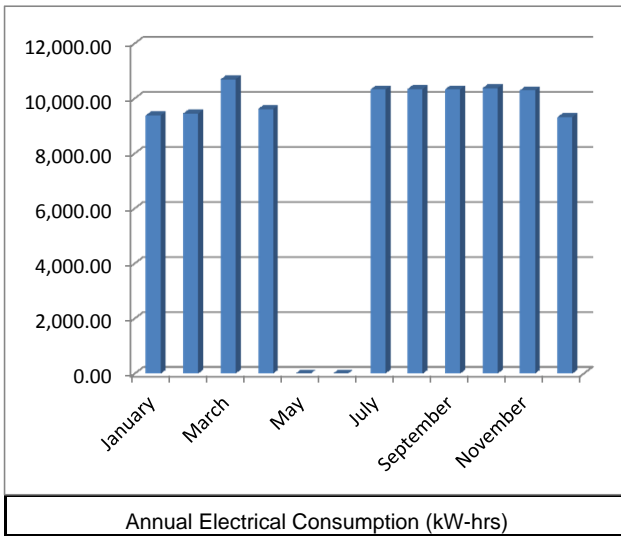


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: FCS - Building 5

Floors Above/Below Grade: 2 / 0 Year Built: 1970

Types of Spaces: Lecture Classroom, Lab Classroom, Offices



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name: Family/Consumer Sciences Surveyor: JD  
 Building Key: 5 Date: 9/21/2010  
 Gross Area: 39,860 SF  
 Assigned Area: 16,758 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: FCS - Building 5

EUI: 92.07 kBtu/SF-yr

Carbon Footprint: 125.13 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
5-1	Replace to Tankless Water Heaters	0	0.00		0	0	\$ 351.05	\$ 4,450.00	\$ -	\$ 4,450.00	12.7
5-2	Insulate DHW Pipe	0	0.00		47	0	\$ 42.65	\$ 126.20	\$ -	\$ 126.20	3.0
5-7	EnergyStar Refrigerators	3,160	0.36		0	0	\$ 36.00	\$ 60.00	\$ -	\$ 60.00	1.7
5-9-1	Prem Eff Mtr - AHU-1 Supply Fan	1,245	0.14		0	0	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
5-9-2	Prem Eff Mtr - Heating Hot Water Pumps	237	0.03		0	0	\$ 21.33	\$ 359.00	\$ 56.88	\$ 302.12	14.2
5-9-3	Prem Eff Mtr - Chilled Water Pumps	336	0.04		0	0	\$ 30.24	\$ 455.00	\$ 80.64	\$ 374.36	12.4
5-11	Retrofit Light Fixtures	15,494	1.77		0	0	\$ 1,704.29	\$ 13,487.50	\$ 3,718.44	\$ 9,769.06	5.7
5-13	Cool Roof Equivalent PV	29,552	3.37		0	0	\$ 2,775.24	\$ 84,000.00	\$ 7,092.58	\$ 76,907.42	27.7
5-17-E-3	Exhaust Fan Setback	1,194	0.14		150	0	\$ 242.44	\$ 1,122.00	\$ 286.56	\$ 835.44	3.4
5-17-E-4	Exhaust Fan Setback	1,194	0.14		150	0	\$ 242.44	\$ 1,122.00	\$ 286.56	\$ 835.44	3.4
5-17-E-5	Exhaust Fan Setback	1,194	0.14		150	0	\$ 242.44	\$ 1,122.00	\$ 286.56	\$ 835.44	3.4
5-17-EF-1	Exhaust Fan Setback	7,121	0.81		815	0	\$ 1,374.03	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
5-17-EF-2	Exhaust Fan Setback	3,549	0.41		384	0	\$ 664.91	\$ 1,122.00	\$ 851.75	\$ 270.25	0.4
5-17-EF-6	Exhaust Fan Setback	40	0.00		17	0	\$ 18.48	\$ 1,122.00	\$ 9.65	\$ 1,112.35	60.2
5-17-EF-7	Exhaust Fan Setback	884	0.10		275	0	\$ 327.20	\$ 1,122.00	\$ 212.06	\$ 909.94	2.8
5-17-EF-8	Exhaust Fan Setback	40	0.00		17	0	\$ 18.48	\$ 1,122.00	\$ 9.65	\$ 1,112.35	60.2
5-18-1	Fan Efficiency Improvements	2,941	0.34		0	751	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
<b>Totals</b>		<b>68,181.93</b>	<b>7.78</b>	<b>-</b>	<b>2,004.01</b>	<b>751.17</b>	<b>\$ 8,468.00</b>	<b>\$ 117,302.70</b>	<b>\$ 14,793.68</b>	<b>\$ 102,509.02</b>	<b>12.1</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Family/Consumer Sciences</u>	Surveyor:	<u>JD</u>
Building Key	<u>5</u>	Date:	<u>9/21/2010</u>
Gross Area	<u>39,860 SF</u>		
Assigned Area	<u>16,758 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name	<u>FCS - Building 5</u>
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CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME	<u>Student Union</u>	SURVEYOR:	<u>PL</u>
BUILDING KEY	<u>6</u>	DATE:	<u>11/17/2010</u>
GROSS AREA	<u>161,300 SF</u>		
ASSIGNED AREA	<u>129,040 SF</u>		



BUILDING DESCRIPTION / STATISTICS

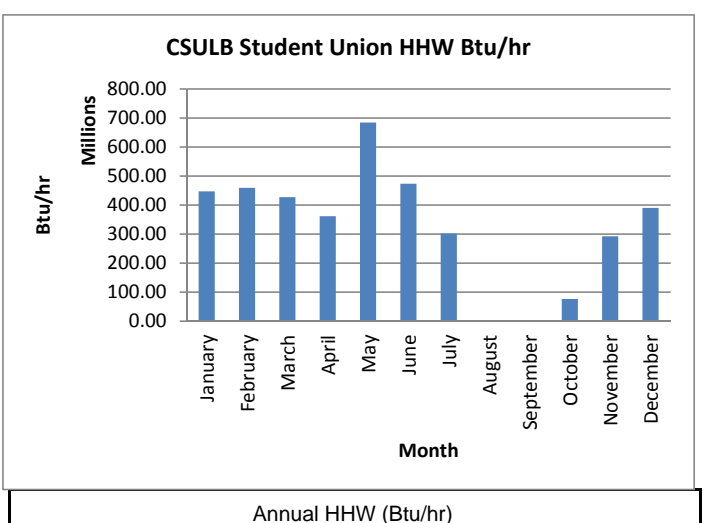
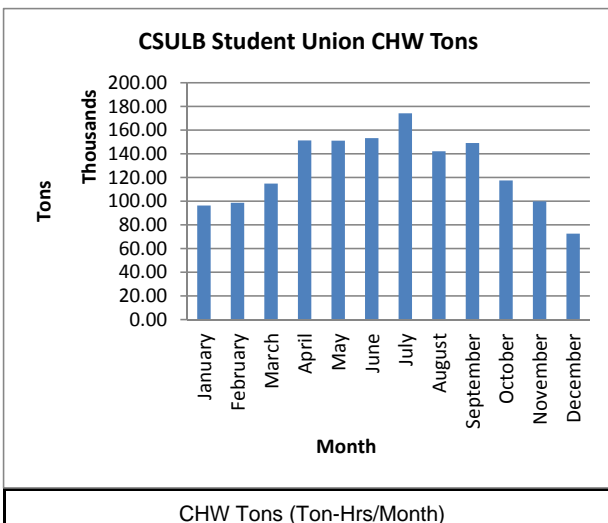
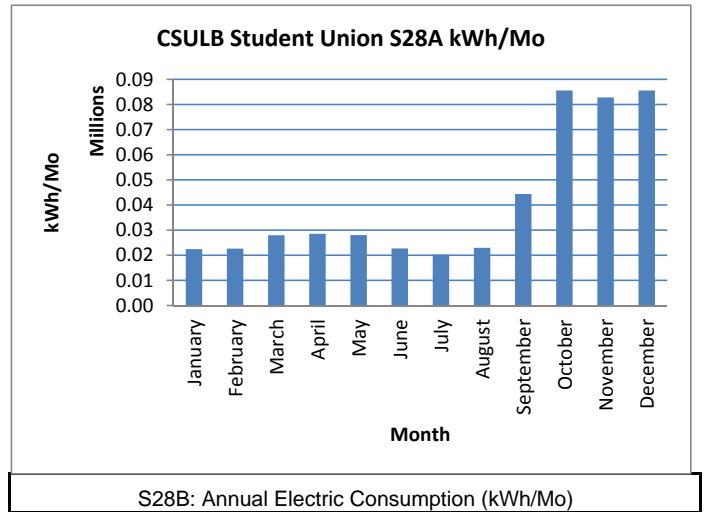
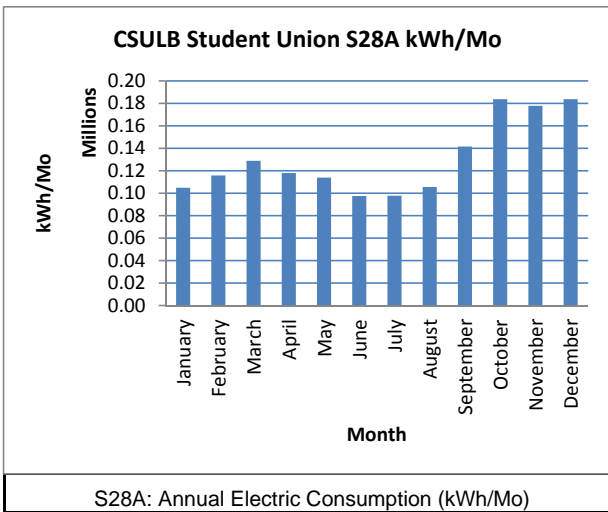
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade

Year Built

Types of Spaces:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Student Union SURVEYOR: PL  
 BUILDING KEY 6 DATE: 11/17/2010  
 GROSS AREA 161,300 SF  
 ASSIGNED AREA 129,040 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
6-1	Replace to Tankless Water Heaters	0	-		0		\$ 1,420.58	\$ 17,800	\$ -	\$ 17,800.00	12.5
6-2	Insulate DHW Pipe	0	-		118		\$ 106.63	\$ 339	\$ -	\$ 338.50	3.2
6-4	Low Flush Urinals	0	-		0		\$ 4,181.63	\$ 16,000	\$ -	\$ 16,000.00	3.8
6-11	Retrofit Light Fixtures	98,003	11.19		0		\$ 10,780.37	\$ 53,203	\$ 23,520.82	\$ 29,681.68	2.8
6-12-1	High SEER Upgrades	2,277	0.26		0		\$ 204.95	\$ 4,563	\$ 546.53	\$ 4,015.97	19.6
6-13	Cool Roof Equivalent PV	14,776	1.69		0		\$ 1,387.62	\$ 42,000	\$ 3,546.29	\$ 38,453.71	27.7
6-17-EF-1	Exhaust Fan Setback	597	0.07		75		\$ 121.22	\$ 1,122	\$ 143.28	\$ 978.72	8.1
6-17-EF-2	Exhaust Fan Setback	884	0.10		275		\$ 327.20	\$ 1,122	\$ 212.06	\$ 909.94	2.8
6-17-EF-3	Exhaust Fan Setback	2,017	0.23		677		\$ 790.81	\$ 1,122	\$ 484.08	\$ 637.92	0.8
6-17-EF-4	Exhaust Fan Setback	2,017	0.23		677		\$ 790.81	\$ 1,122	\$ 484.08	\$ 637.92	0.8
6-17-EF-5	Exhaust Fan Setback	2,006	0.23		655		\$ 770.00	\$ 1,122	\$ 481.44	\$ 640.56	0.8
6-17-EF-6	Exhaust Fan Setback	2,017	0.23		677		\$ 790.81	\$ 1,122	\$ 484.08	\$ 637.92	0.8
6-17-EF-7	Exhaust Fan Setback	1,956	0.22		554		\$ 674.95	\$ 1,122	\$ 469.37	\$ 652.63	1.0
6-17-EF-8	Exhaust Fan Setback	865	0.10		238		\$ 292.09	\$ 1,122	\$ 207.60	\$ 914.40	3.1
6-17-EF-9	Exhaust Fan Setback	462	0.05		179		\$ 202.61	\$ 1,122	\$ 110.99	\$ 1,011.01	5.0
6-17-EF-10	Exhaust Fan Setback	2,431	0.28		385		\$ 565.50	\$ 1,122	\$ 583.35	\$ 538.65	1.0
6-17-EF-11	Exhaust Fan Setback	4,696	0.54		440		\$ 818.93	\$ 1,122	\$ 897.60	\$ 224.40	0.3
6-17-EF-12	Exhaust Fan Setback	782	0.09		72		\$ 134.75	\$ 1,122	\$ 187.63	\$ 934.37	6.9
6-17-EF-13	Exhaust Fan Setback	1,844	0.21		330		\$ 463.13	\$ 1,122	\$ 442.47	\$ 679.53	1.5
6-17-EF-14	Exhaust Fan Setback	209	0.02		45		\$ 59.69	\$ 1,122	\$ 50.21	\$ 1,071.79	18.0
<b>Totals</b>		<b>137,838.87</b>	<b>15.74</b>	<b>-</b>	<b>5,398.60</b>	<b>-</b>	<b>\$ 24,884.27</b>	<b>\$ 149,611.50</b>	<b>\$ 32,851.85</b>	<b>\$ 116,759.65</b>	<b>4.69</b>

Inputs:  
 Electricity:



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME Student Union  
BUILDING KEY 6  
GROSS AREA 161,300 SF  
ASSIGNED AREA 129,040 SF

SURVEYOR: PL  
DATE: 11/17/2010

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name	CSULB Student Union Building 06
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

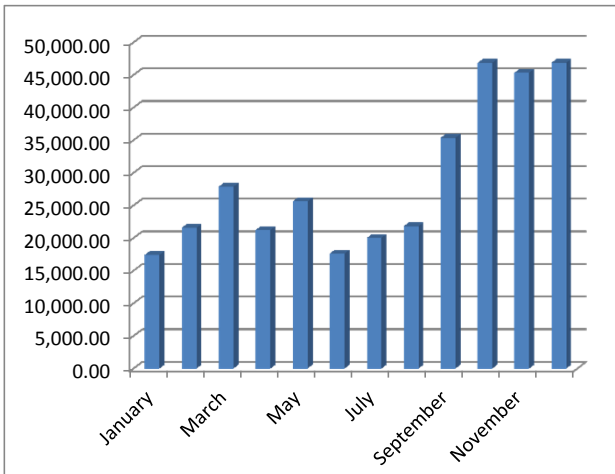
Building Name	<u>49er Cafeteria</u>	Surveyor:	<u>AT</u>
Building Key	<u>7</u>	Date:	<u>11/4/2010</u>
Gross Area	<u>35,305 SF</u>		
Assigned Area	<u>33,021 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

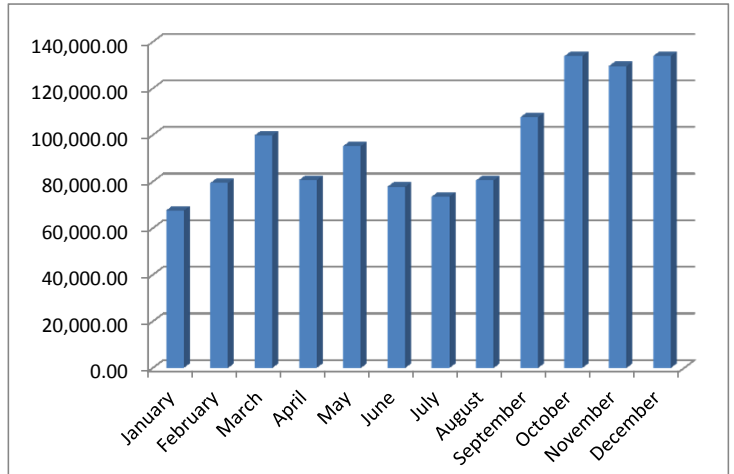
Common Building Name: 49er Cafeteria - Bldg 7

Floors Above/Below Grade: 1 / 0      Year Built: #N/A

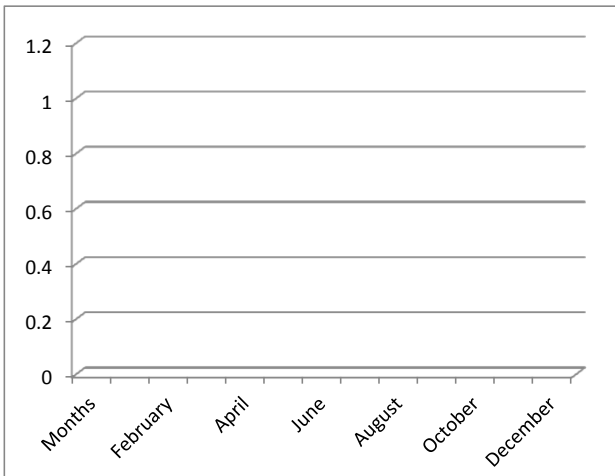
Types of Spaces: Kitchen & Food Service Areas



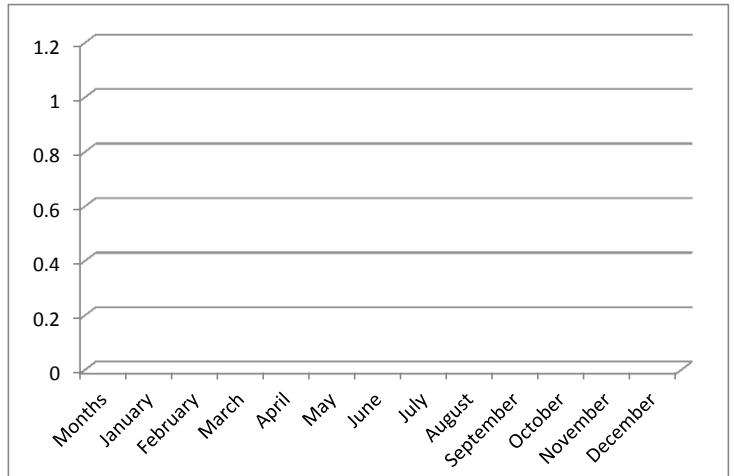
S29A: Annual Electrical Consumption (kW-hrs)



S29B: Annual Electrical Consumption (kW-hrs)



CHW (Ton-hrs/mo) N/A



HHW (therms/hr) N/A

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name 49er Cafeteria Surveyor: AT  
 Building Key 7 Date: 11/4/2010  
 Gross Area 35,305 SF  
 Assigned Area 33,021 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
7-1	Replace to Tankless Water Heaters	0	-		0		\$ 310.93	\$ 4,450	\$ -	\$ 4,450.00	14.3
7-11	Retrofit Light Fixtures	37,359	4.26		0		\$ 4,109.52	\$ 26,423	\$ 8,966.23	\$ 17,456.27	4.2
7-13	Cool Roof Equivalent PV	26,597	3.04		0		\$ 2,497.72	\$ 75,600	\$ 6,383.32	\$ 69,216.68	27.7
<b>Totals</b>		<b>63,956.46</b>	<b>7.30</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 6,918.17</b>	<b>\$ 106,472.50</b>	<b>\$ 15,349.55</b>	<b>\$ 91,122.95</b>	<b>13.17</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>49er Bookstore</u>	Surveyor:	<u>AT</u>
Building Key	<u>8</u>	Date:	<u>11/4/2010</u>
Gross Area	<u>65,922 SF</u>		
Assigned Area	<u>41,915 SF</u>		

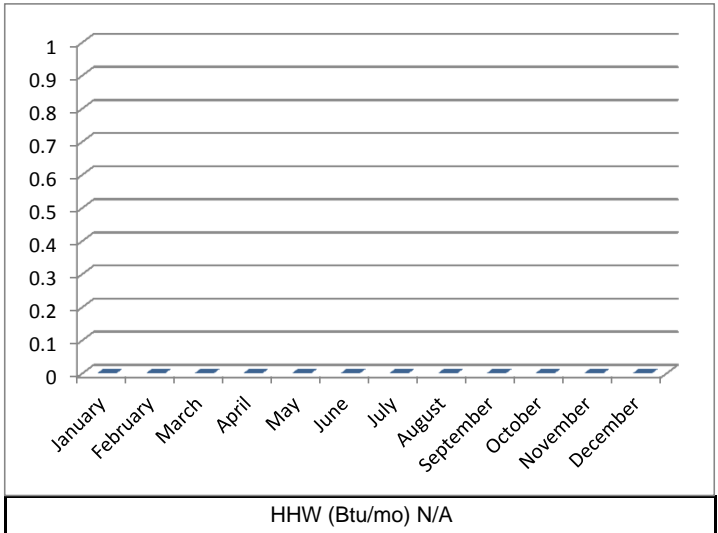
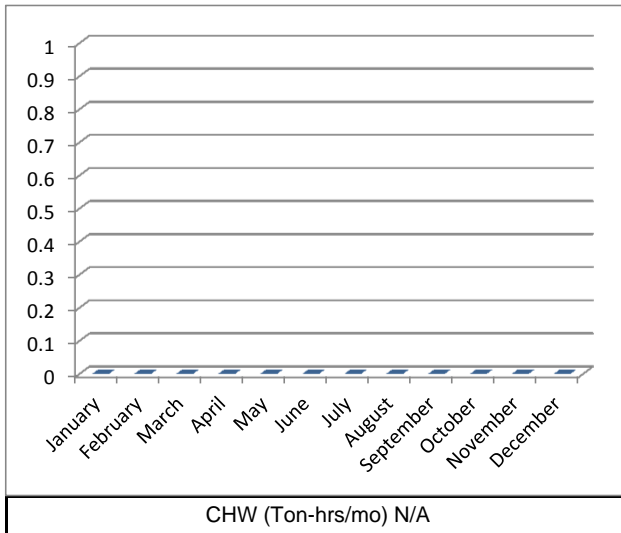
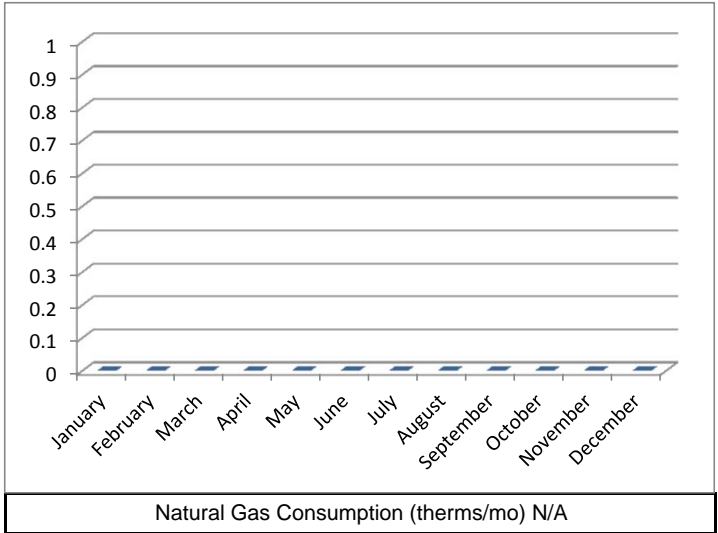
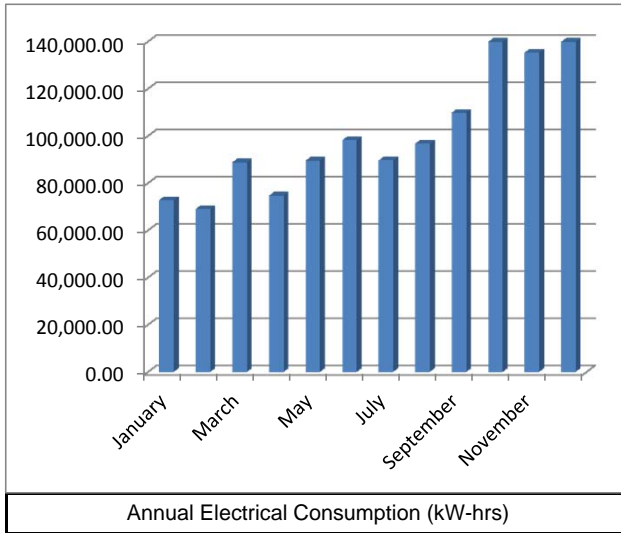


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: 49er Bookstore - Bldg 8

Floors Above/Below Grade: 2 / 0 Year Built: #N/A

Types of Spaces: Bookstore



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name 49er Bookstore Surveyor: AT  
 Building Key 8 Date: 11/4/2010  
 Gross Area 65,922 SF  
 Assigned Area 41,915 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
8-1	Replace to Tankless Water Heaters	2,148	0.25		(73)		\$ 127.33	\$ 4,450	\$ 515.48	\$ 3,934.52	30.9
8-11	Retrofit Light Fixtures	25,658	2.93		0		\$ 2,822.33	\$ 35,523	\$ 6,157.80	\$29,364.70	10.4
8-12-1	High SEER Upgrades	500	0.06		0		\$ 45.00	\$ 563	\$ 120.00	\$ 442.50	9.8
8-13	Cool Roof Equivalent PV	25,120	2.87		0		\$ 2,358.95	\$ 71,400	\$ 6,028.69	\$65,371.31	27.7
<b>Totals</b>		<b>53,424.86</b>	<b>6.10</b>	<b>-</b>	<b>(73.31)</b>	<b>-</b>	<b>\$ 5,353.61</b>	<b>\$ 111,935.00</b>	<b>\$ 12,821.97</b>	<b>\$99,113.03</b>	<b>18.51</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

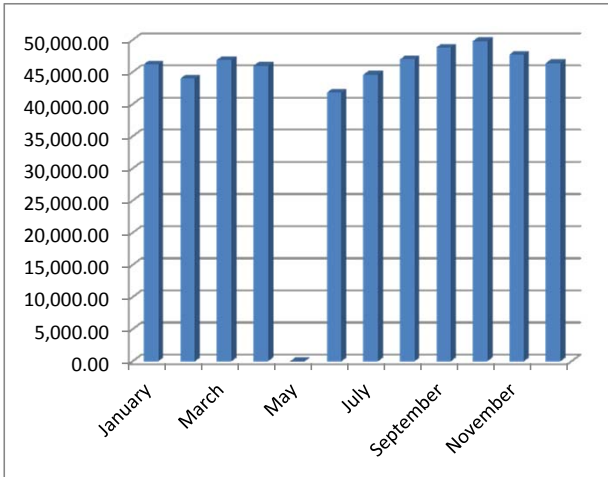
Building Name	<u>Psychology</u>	Surveyor:	<u>AT</u>
Building Key	<u>9</u>	Date:	<u>9/21/2010</u>
Gross Area	<u>85,147 SF</u>		
Assigned Area	<u>50,100 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

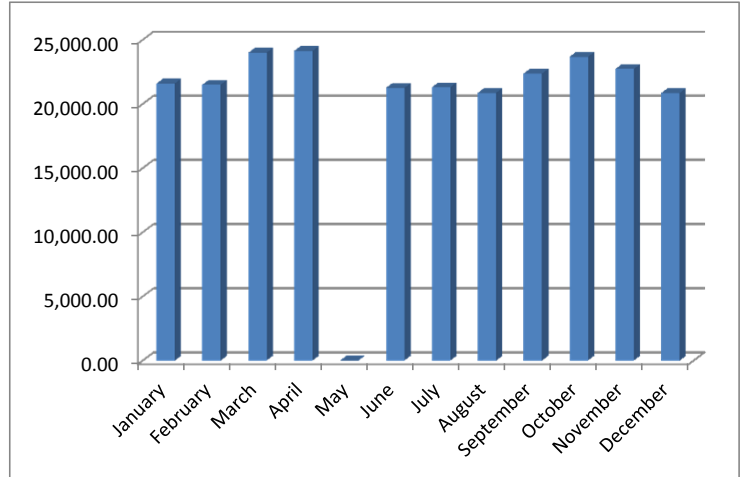
Common Building Name: Psychology - Bldg 9

Floors Above/Below Grade: 4 / 0 Year Built: 1970

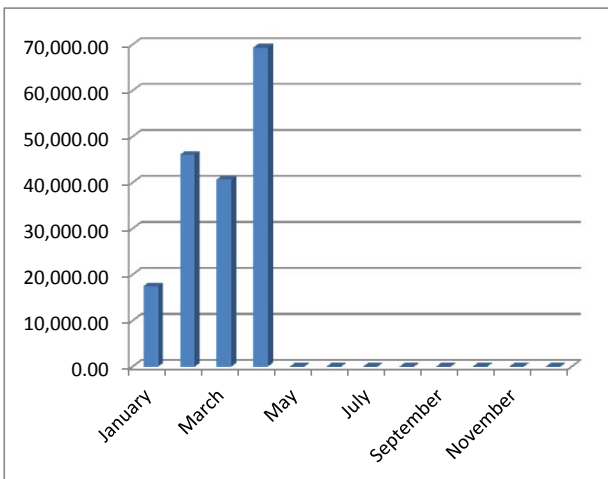
Types of Spaces: Lecture classroom and faculty offices



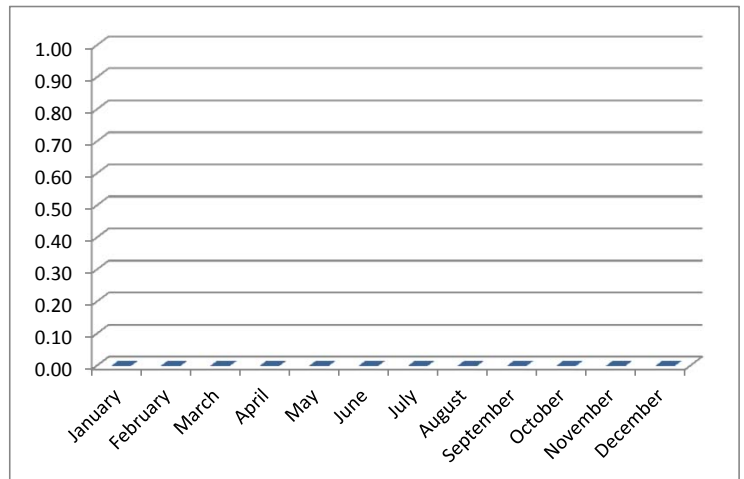
S31A: Annual Electrical Consumption (kW-hrs)



S31B: Annual Electrical Consumption (kW-hrs)



CHW (Ton-hrs/mo)



HHW (Btu/mo) N/A

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Psychology Surveyor: AT  
 Building Key: 9 Date: 9/21/2010  
 Gross Area: 85,147 SF  
 Assigned Area: 50,100 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Psychology - Bldg 9

EUI: 63.66 kBtu/SF-yr

Carbon Footprint: 289.28 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
9-1	Replace to Tankless Water Heaters	0	-		0	0.00	\$ 441.23	\$ 4,450	\$ -	\$ 4,450.00	10.1
9-7	Energystar Dish Washer	3,160	0.36		0	0.00	\$ 36.00	\$ 60	\$ -	\$ 60.00	1.7
9-11	Retrofit Light Fixtures	106,174	12.12		0	0.00	\$ 11,679.16	\$ 118,365	\$ 25,481.81	\$ 92,883.19	8.0
9-13	Cool Roof Equivalent PV	16,254	1.86		0	0.00	\$ 1,526.38	\$ 46,200	\$ 3,900.92	\$ 42,299.08	27.7
9-17-EF 2-2	Exhaust Fan Setback	3,481	0.40		248	0.00	\$ 536.18	\$ 1,122	\$ 835.40	\$ 286.60	0.5
9-18-1	Fan Efficiency Improvements	2,206	0.25		0	563.37	\$ 198.55	\$ 3,500	\$ 529.46	\$ 2,970.54	15.0
9-18-2	Fan Efficiency Improvements	2,941	0.34		0	751.17	\$ 264.73	\$ 4,250	\$ 705.95	\$ 3,544.05	13.4
9-18-3	Fan Efficiency Improvements	4,412	0.50		0	1,126.75	\$ 397.10	\$ 4,500	\$ 1,058.92	\$ 3,441.08	8.7
9-18-4	Fan Efficiency Improvements	4,412	0.50		0	1,126.75	\$ 397.10	\$ 4,500	\$ 1,058.92	\$ 3,441.08	8.7
9-18-5	Fan Efficiency Improvements	2,941	0.34		0	751.17	\$ 264.73	\$ 4,250	\$ 705.95	\$ 3,544.05	13.4
9-18-6	Fan Efficiency Improvements	13,972	1.59		0	3,568.03	\$ 1,257.47	\$ 7,500	\$ 3,353.25	\$ 4,146.75	3.3
9-18-7	Fan Efficiency Improvements	13,972	1.59		0	3,568.03	\$ 1,257.47	\$ 7,500	\$ 3,353.25	\$ 4,146.75	3.3
<b>Totals</b>		<b>173,926.25</b>	<b>19.85</b>	<b>-</b>	<b>247.67</b>	<b>11,455.27</b>	<b>\$ 18,256.09</b>	<b>\$206,197.00</b>	<b>\$40,983.82</b>	<b>\$165,213.18</b>	<b>9.05</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Liberal Arts 5</u>	Surveyor:	<u>JD/AT</u>
Building Key	<u>10</u>	Date:	<u>9/20/2010</u>
Gross Area	<u>63,220 SF</u>		
Assigned Area	<u>38,776 SF</u>		

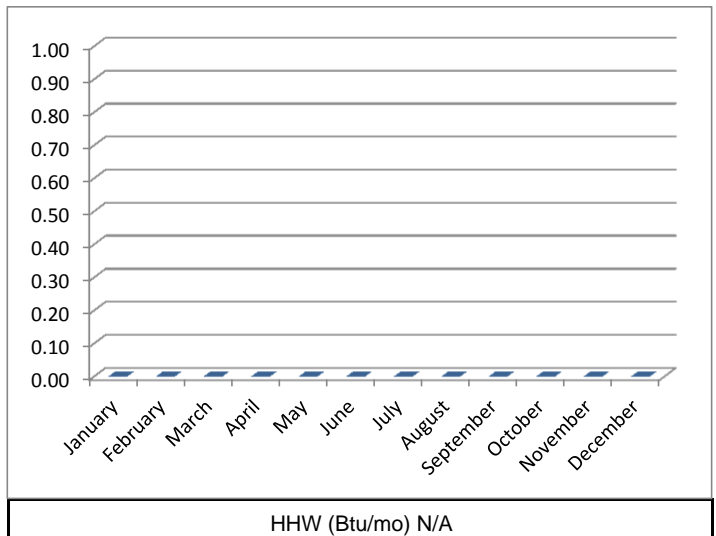
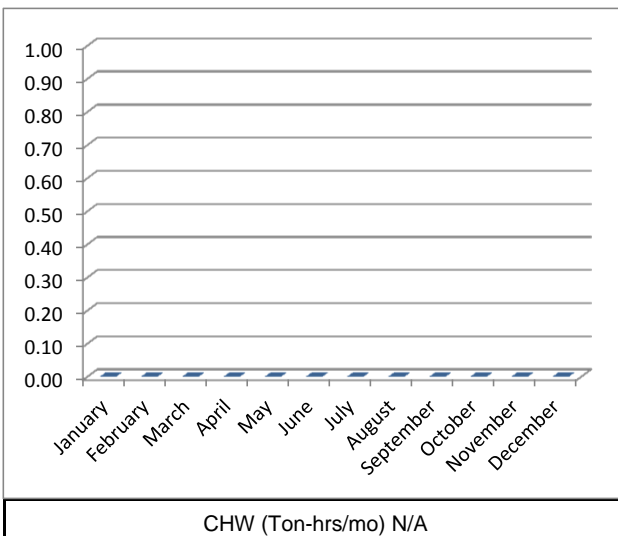
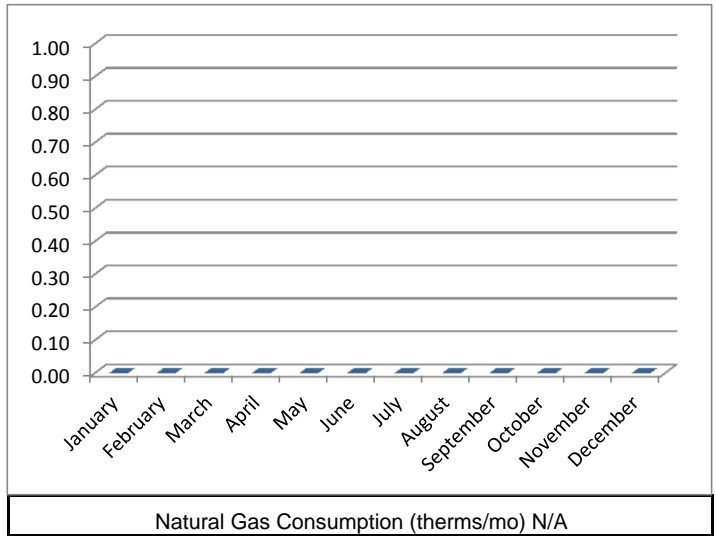
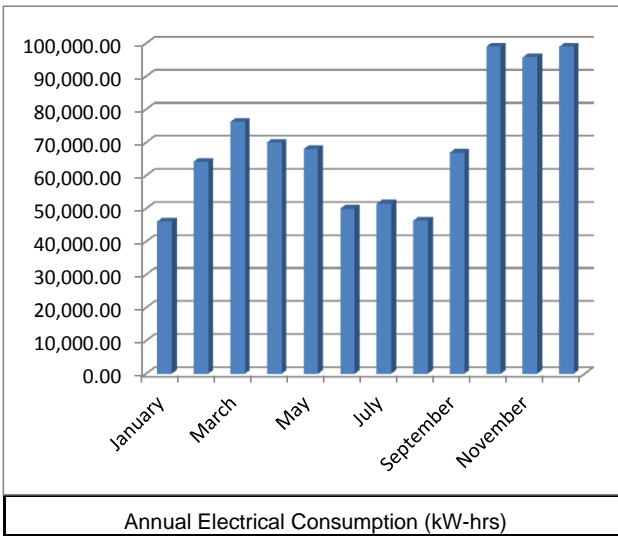


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Liberal Arts 5 - Building 10

Floors Above/Below Grade: 3 / 0      Year Built: 1959

Types of Spaces: Offices & classrooms



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name	<u>Liberal Arts 5</u>	Surveyor:	<u>JD/AT</u>
Building Key	<u>10</u>	Date:	<u>9/20/2010</u>
Gross Area	<u>63,220 SF</u>		
Assigned Area	<u>38,776 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
10-1	Replace to Tankless Water Heaters	902	-		0		\$ 341.50	\$ 4,450	\$ -	\$ 4,450.00	13.0
10-2	Insulate DHW Pipe	902	-		39		\$ 35.04	\$ 126	\$ -	\$ 126.20	3.6
10-5-1	Static Pressure Reset	902	2.72		0		\$ 2,143.11	\$ 1,420	\$ 1,135.68	\$ 283.92	0.1
10-5-2	Static Pressure Reset	902	2.72		0		\$ 2,143.11	\$ 1,420	\$ 1,135.68	\$ 283.92	0.1
10-11	Retrofit Light Fixtures	902	6.17		0		\$ 5,949.21	\$ 128,148	\$ 12,980.09	\$ 115,167.41	19.4
10-13	Cool Roof Equivalent PV	902	1.18		0		\$ 971.33	\$ 29,400	\$ 2,482.40	\$ 26,917.60	27.7
<b>Totals</b>		<b>5,412.00</b>	<b>12.79</b>	<b>-</b>	<b>38.93</b>	<b>-</b>	<b>\$ 11,583.30</b>	<b>\$164,962.90</b>	<b>\$ 17,733.85</b>	<b>\$ 147,229.05</b>	<b>12.71</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Liberal Arts 1	Surveyor:	AT
Building Key	14	Date:	9/21/2010
Gross Area	40,230 SF		
Assigned Area	28,275 SF		

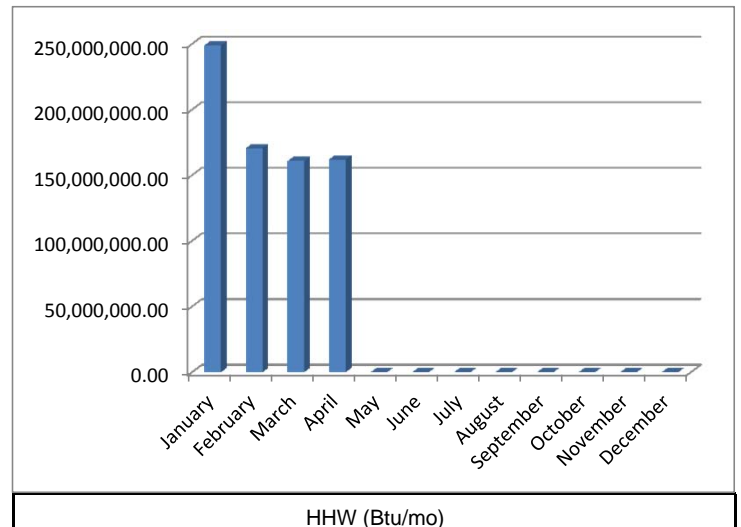
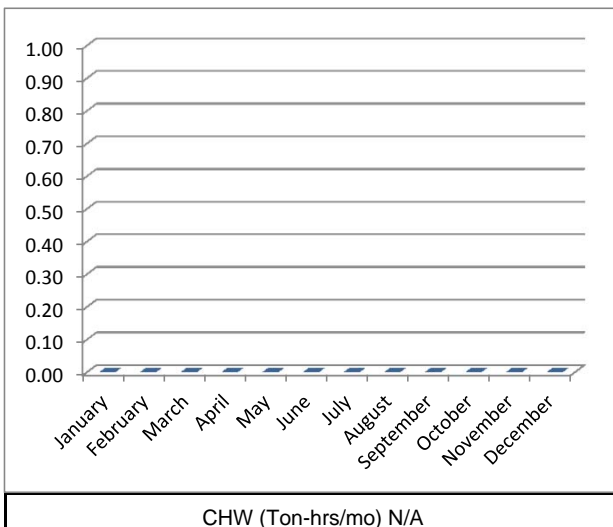
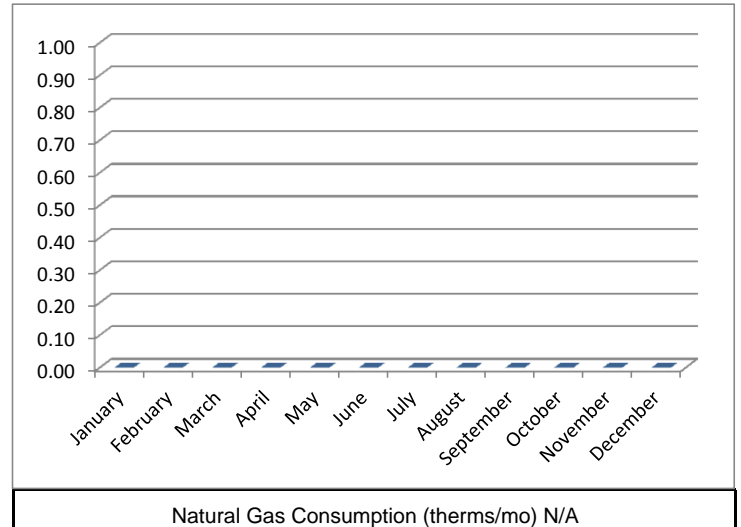
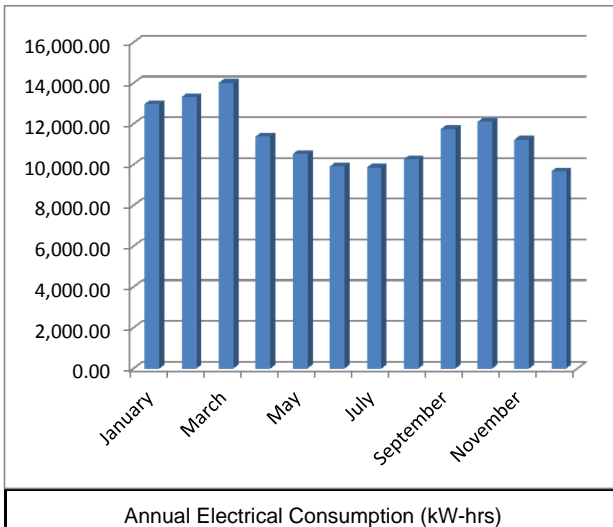


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Liberal Arts 1 - Building 14

Floors Above/Below Grade: 3 / 0 Year Built: 1962

Types of Spaces: Offices & classrooms



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Liberal Arts 1	Surveyor:	AT
Building Key	14	Date:	9/21/2010
Gross Area	40,230 SF		
Assigned Area	28,275 SF		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Liberal Arts 1 - Building 14

EUI: 77.03 kBtu/SF-yr

Carbon Footprint: 167.31 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
14-1	Replace to Tankless Water Heaters	16,682	1.90		(569)	0.00	\$ 988.94	\$ 8,900	\$ 4,003.59	\$ 4,896.41	5.0
14-2	Insulate DHW Pipe	599	0.07		0	0.00	\$ 53.90	\$ 126	\$ 100.96	\$ 25.24	0.5
14-5	Static Pressure Reset	10,026	1.14		0	0.00	\$ 902.36	\$ 1,420	\$ 1,135.68	\$ 283.92	0.3
14-11	Retrofit Light Fixtures	34,927	3.99		0	0.00	\$ 3,841.99	\$ 61,230	\$ 8,382.53	\$ 52,847.47	13.8
14-13	Cool Roof Equivalent PV	11,821	1.35		0	0.00	\$ 1,110.10	\$ 33,600	\$ 2,837.03	\$ 30,762.97	27.7
14-17-RR	Exhaust Fan Setback	2,238	0.26		0	0.00	\$ 201.42	\$ 1,122	\$ 537.12	\$ 584.88	2.9
14-17-525	Exhaust Fan Setback	2,238	0.26		0	0.00	\$ 201.42	\$ 1,122	\$ 537.12	\$ 584.88	2.9
14-18-1	Fan Efficiency Improvements	5,883	0.67		0	1,502.33	\$ 529.46	\$ 5,250	\$ 1,411.89	\$ 3,838.11	7.2
<b>Totals</b>		<b>84,413.81</b>	<b>9.64</b>	<b>-</b>	<b>(569.34)</b>	<b>1,502.33</b>	<b>\$ 7,829.59</b>	<b>\$ 112,769.80</b>	<b>\$ 18,945.92</b>	<b>\$ 93,823.88</b>	<b>11.98</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Faculty Office #3	Surveyor:	JD
Building Key	15	Date:	9/21/2010
Gross Area	33,373 SF		
Assigned Area	18,709 SF		

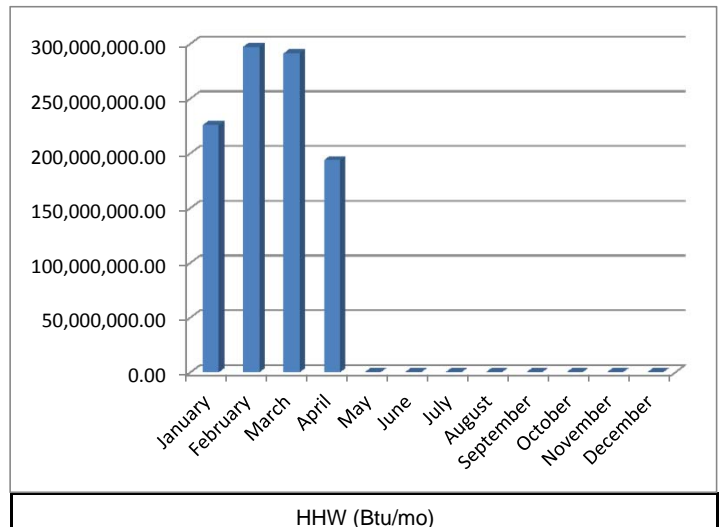
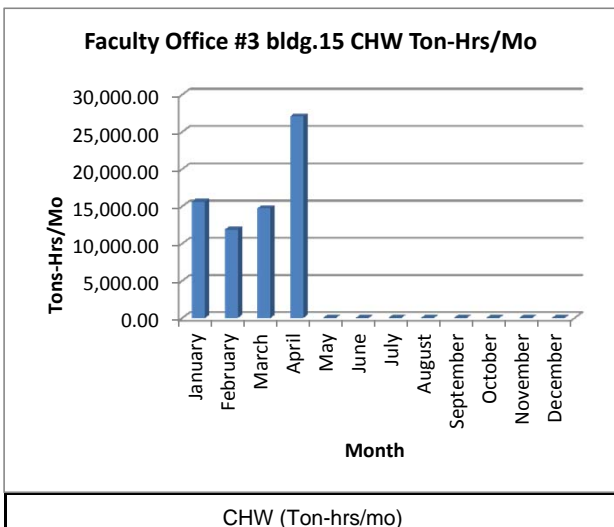
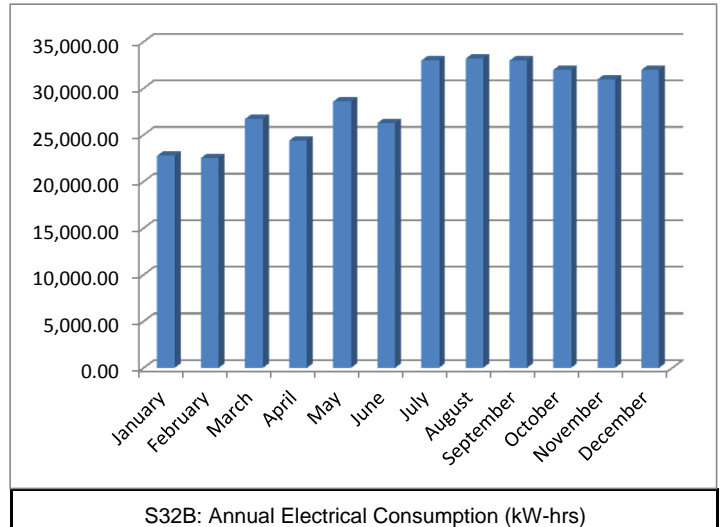
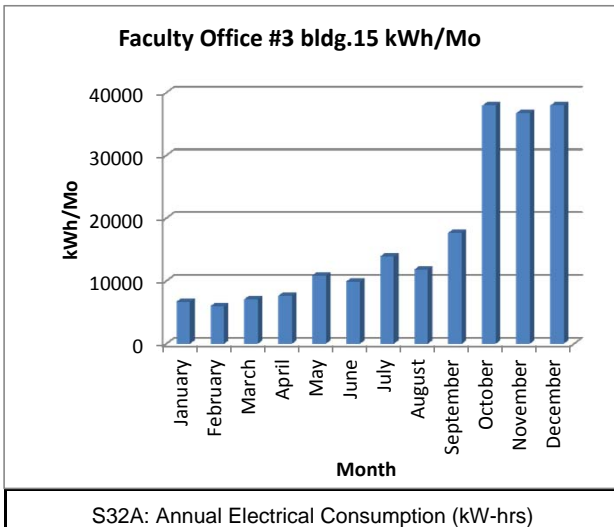


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Faculty Office #3 - Building 15

Floors Above/Below Grade: 3 / 1 Year Built: 1993

Types of Spaces: Faculty Offices, Conference Room



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Faculty Office #3</u>	Surveyor:	<u>JD</u>
Building Key	<u>15</u>	Date:	<u>9/21/2010</u>
Gross Area	<u>33,373 SF</u>		
Assigned Area	<u>18,709 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
15-1	Replace to Tankless Water Heaters	0	0.00		0.00		293.92	4,450	0.00	4,450.00	15.1
15-9	Prem Eff Mtr - Heating Hot Water Pumps	370	0.04		0.00		33.30	401	88.80	312.20	9.4
15-10-1	VFD for AHU Supply Fan	9,097	1.04		0.00		818.77	2,576	2,183.39	392.61	0.5
15-11	Retrofit Light Fixtures	31,205	3.56		0.00		3,432.53	67,308	7,489.15	59,818.35	17.4
15-13	Cool Roof Equivalent PV	8,866	1.01		0.00		832.57	25,200	2,127.77	23,072.23	27.7
15-18-1	Fan Efficiency Improvements	4,412	0.50		0.00		397.10	4,500	1,058.92	3,441.08	8.7
<b>Totals</b>		<b>53,950.16</b>	<b>6.16</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 5,808.18</b>	<b>\$ 104,434.50</b>	<b>\$ 12,948.04</b>	<b>\$ 91,486.46</b>	<b>15.75</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Faculty Office #2</u>	Surveyor:	<u>JD</u>
Building Key	<u>16</u>	Date:	<u>9/27/2010</u>
Gross Area	<u>11,994 SF</u>		
Assigned Area	<u>8,310 SF</u>		

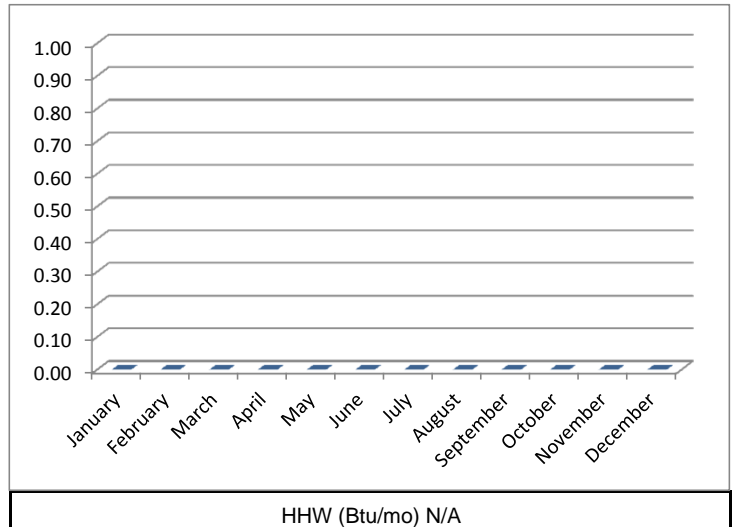
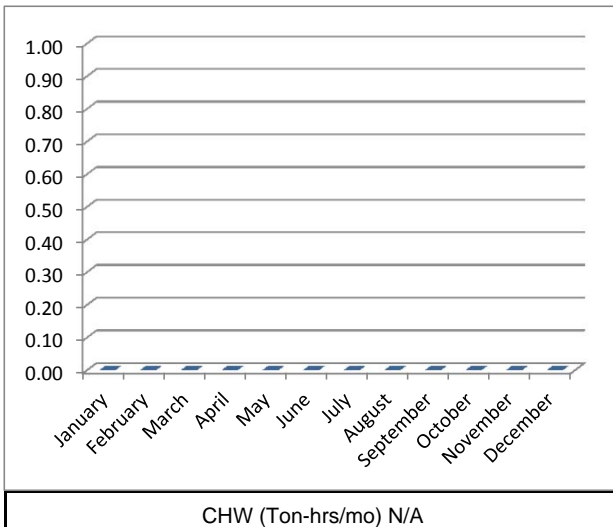
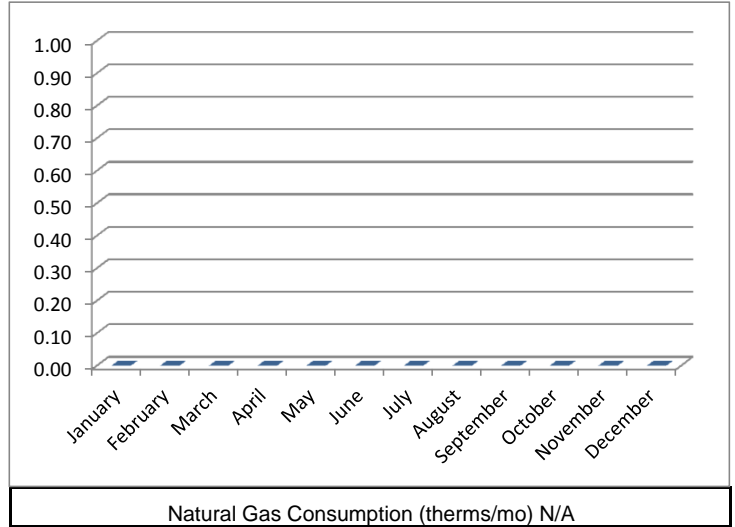
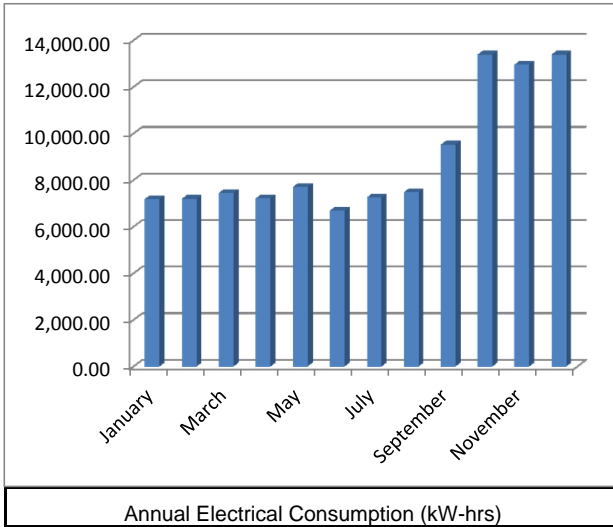


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: FO2 - Bldg 16

Floors Above/Below Grade: 2 / 0 Year Built: 1,954

Types of Spaces: Faculty Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Faculty Office #2 Surveyor: JD  
 Building Key 16 Date: 9/27/2010  
 Gross Area 11,994 SF  
 Assigned Area 8,310 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
16-11	Retrofit Light Fixtures	9,507.30	1.09				\$ 1,045.80	\$ 22,230	\$ 2,281.75	\$ 19,948.25	19.1
16-13	4,433	4,432.86	0.51				\$ 416.29	\$ 12,600	\$ 1,063.89	\$ 11,536.11	27.7
<b>Totals</b>		<b>13,940.16</b>	<b>1.59</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 1,462.09</b>	<b>\$ 34,830.00</b>	<b>\$ 3,345.64</b>	<b>\$ 31,484.36</b>	<b>21.53</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

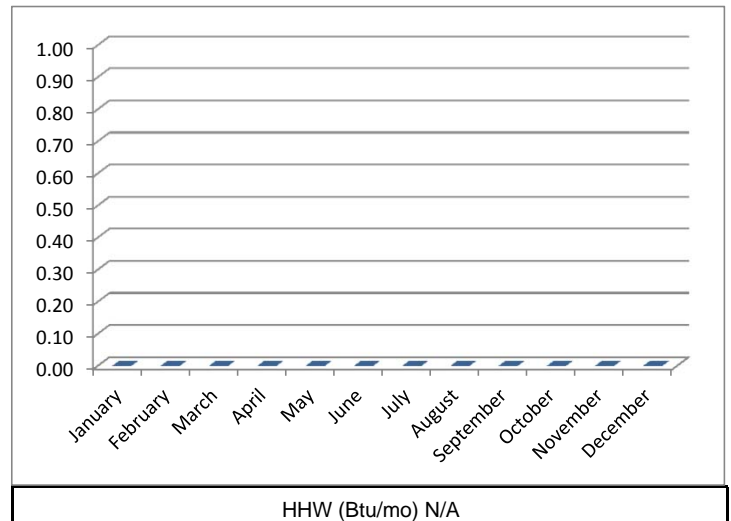
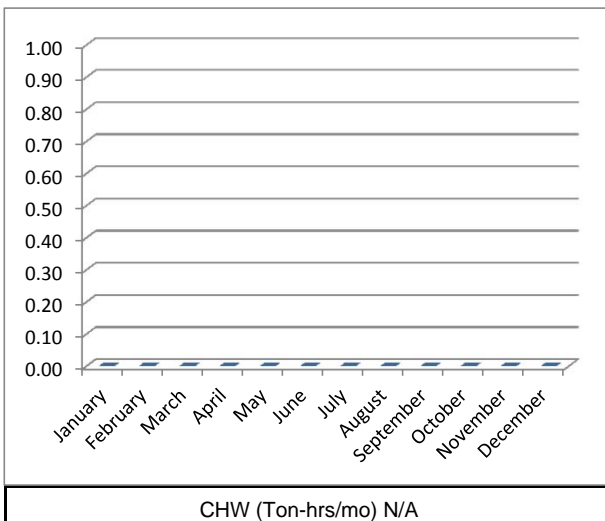
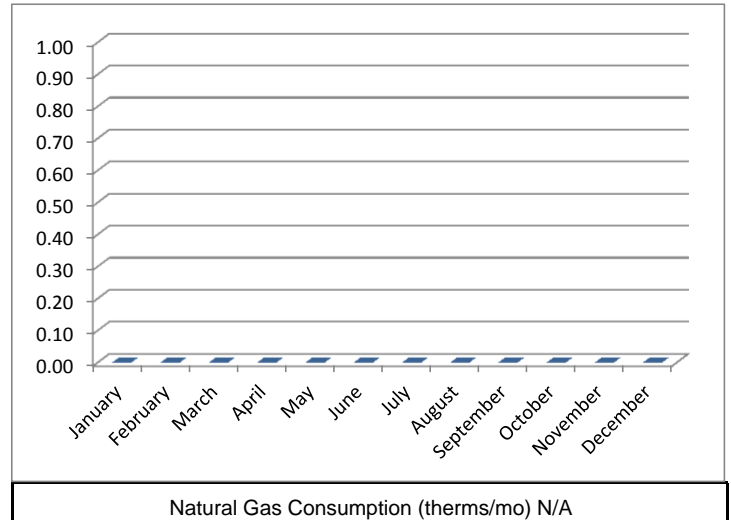
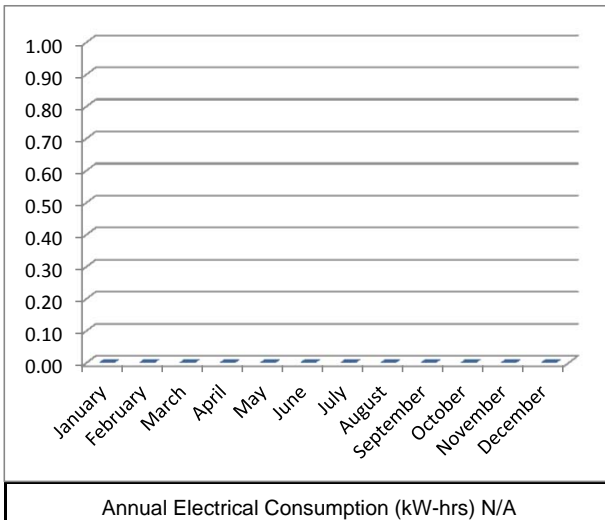
Building Name: Lecture Hall 150-151      Surveyor: JD  
 Building Key: 17      Date: 9/21/2010  
 Gross Area: 7,050 SF  
 Assigned Area: 5,457 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Lecture Hall 150-151 - Bldg 17

Floors Above/Below Grade: 1 / 0      Year Built: 1955

Types of Spaces: Lecture Halls



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Lecture Hall 150-151 Surveyor: JD  
 Building Key 17 Date: 9/21/2010  
 Gross Area 7,050 SF  
 Assigned Area 5,457 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>



SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
17-11	Retrofit Light Fixtures	26,030	2.97	-	-	-	2,863.34	13,878	6,247.30	7,630.20	2.7
17-12-1	High SEER Upgrades	10,572	1.21	-	-	-	951.52	21,100	2,537.38	18,562.62	19.5
17-12-2	High SEER Upgrades	6,041	0.69	-	-	-	543.72	11,100	1,449.93	9,650.07	17.7
17-13	Cool Roof Equivalent PV	2,955	0.34	-	-	-	277.52	8,400	709.26	7,690.74	27.7
<b>Totals</b>		<b>45,599.43</b>	<b>5.21</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 4,636.11</b>	<b>\$ 54,477.50</b>	<b>\$ 10,943.86</b>	<b>\$ 43,533.64</b>	<b>9.39</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Library</u>	Surveyor:
Building Key	<u>19</u>	Date:
Gross Area	<u>206,521 SF</u>	
Assigned Area	<u>180,971 SF</u>	

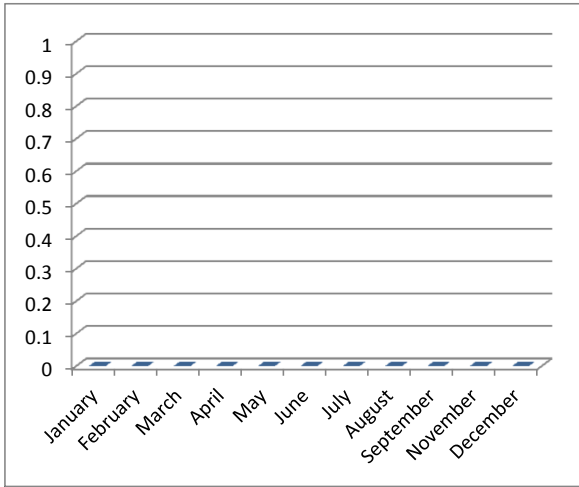


## BUILDING DESCRIPTION / STATISTICS

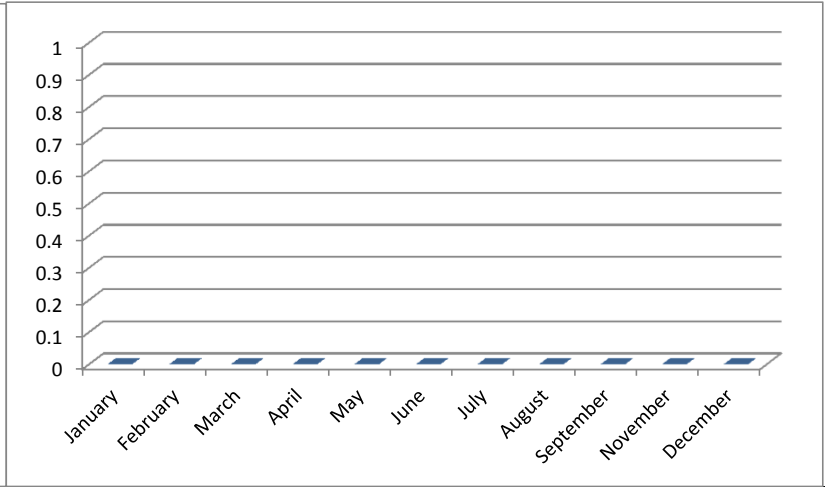
Common Building Name: Library - Building 19

Floors Above/Below Grade: 5 / 1 Year Built: 1971

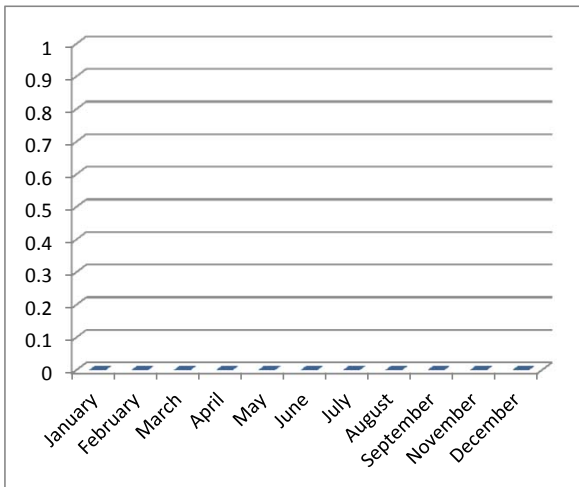
Types of Spaces: Library, Reading Rooms, Offices, and Catalog Department



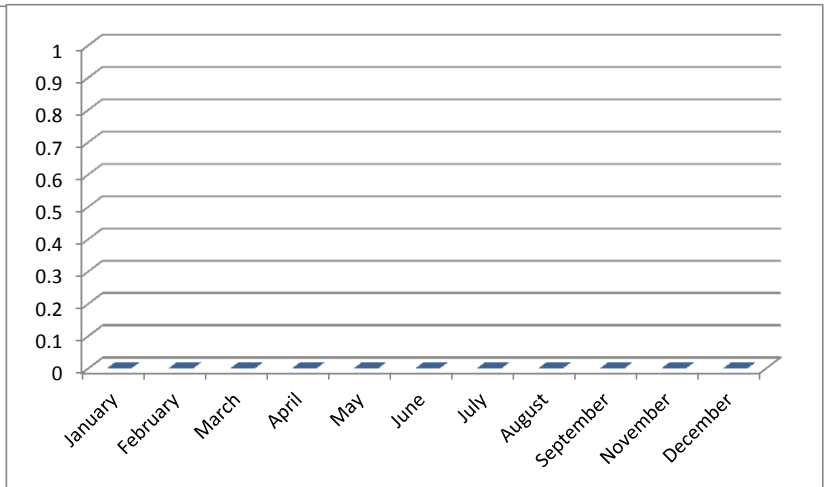
Annual Electrical Consumption (kW-hrs) N/A



Natural Gas Consumption (therms/mo) N/A



CHW (Ton-hrs/mo) N/A



HHW (Btu/mo) N/A

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Library</u>	Surveyor:
Building Key	<u>19</u>	Date:
Gross Area	<u>206,521 SF</u>	
Assigned Area	<u>180,971 SF</u>	



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
19-2	Insulate DHW Pipe	2,994	0.34	0	0.00	\$ 269.50	\$ 631	\$ 504.80	\$ 126.20	0.5
19-12-1	High SEER Upgrades	801	0.09	0	0.00	\$ 72.10	\$ 1,469	\$ 192.27	\$ 1,276.48	17.7
19-12-2	High SEER Upgrades	755	0.09	0	0.00	\$ 67.97	\$ 900	\$ 181.24	\$ 718.76	10.6
19-13	Cool Roof Equivalent PV	31,030	3.54	0	0.00	\$ 2,914.00	\$ 88,200	\$ 7,447.20	\$ 80,752.80	27.7
19-16-1	CHP	1,752,000	200.00	(199,319)	60,782.40	\$ 54,041.86	\$ 593,750	\$ 49,220.91	\$ 544,529.09	10.1
19-16-2	CHP	1,752,000	200.00	(199,319)	60,782.40	\$ 54,041.86	\$ 593,750	\$ 49,220.91	\$ 544,529.09	10.1
19-18-1	Fan Efficiency Improvements	7,721	0.88	0	1,971.81	\$ 694.92	\$ 7,500	\$ 1,853.11	\$ 5,646.89	8.1
19-18-2	Fan Efficiency Improvements	6,618	0.76	0	1,690.12	\$ 595.64	\$ 7,500	\$ 1,588.38	\$ 5,911.62	9.9
19-18-3	Fan Efficiency Improvements	10,295	1.18	0	2,629.08	\$ 926.56	\$ 7,500	\$ 2,470.81	\$ 5,029.19	5.4
19-18-4	Fan Efficiency Improvements	5,883	0.67	0	1,502.33	\$ 529.46	\$ 7,500	\$ 1,411.89	\$ 6,088.11	11.5
19-18-5	Fan Efficiency Improvements	12,869	1.47	0	3,286.35	\$ 1,158.19	\$ 7,500	\$ 3,088.52	\$ 4,411.48	3.8
19-18-6	Fan Efficiency Improvements	5,883	0.67	0	1,502.33	\$ 529.46	\$ 7,500	\$ 1,411.89	\$ 6,088.11	11.5
<b>Totals</b>		<b>3,588,849.99</b>	<b>409.69</b>	<b>(398,638.40)</b>	<b>134,146.82</b>	<b>\$ 115,841.53</b>	<b>\$ 1,323,699.75</b>	<b>\$118,591.96</b>	<b>\$1,205,107.79</b>	<b>10.40</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

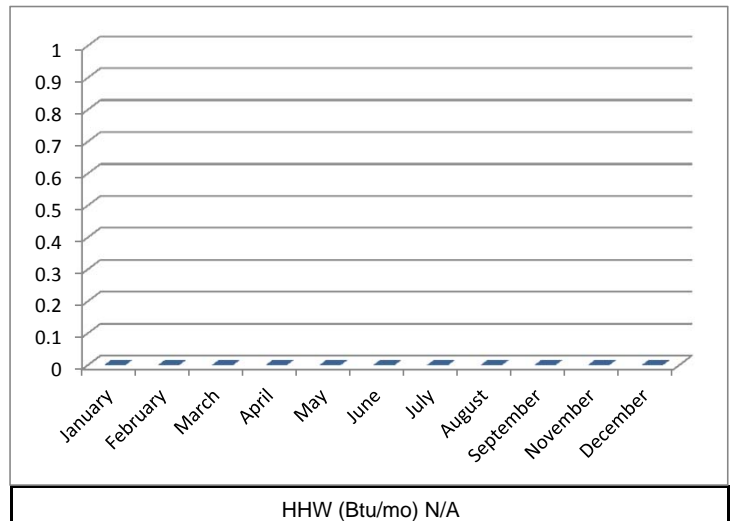
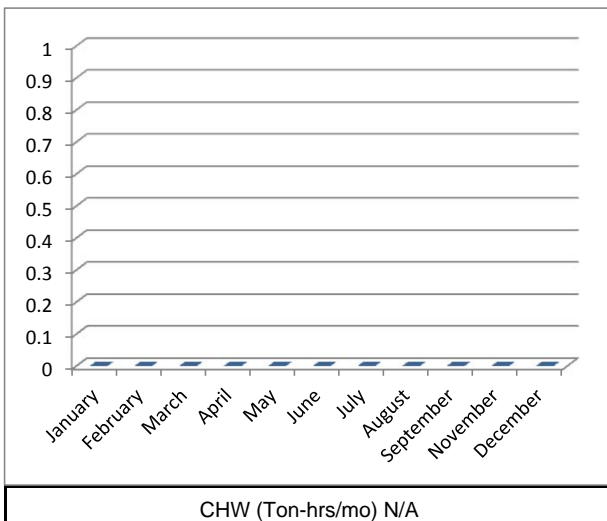
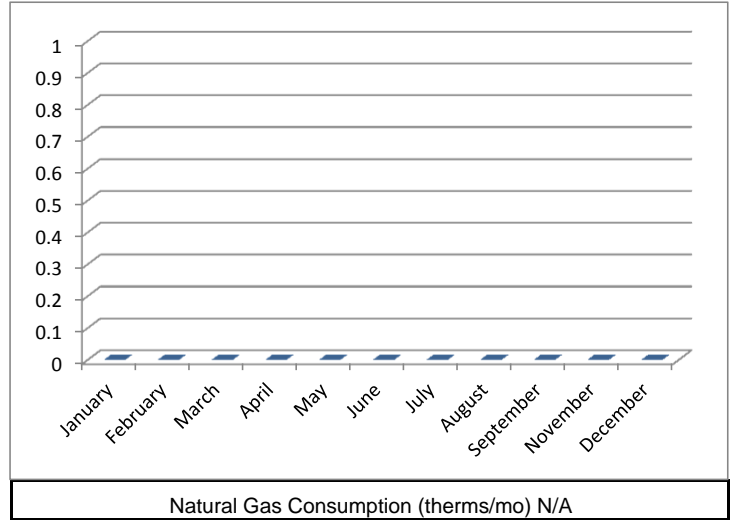
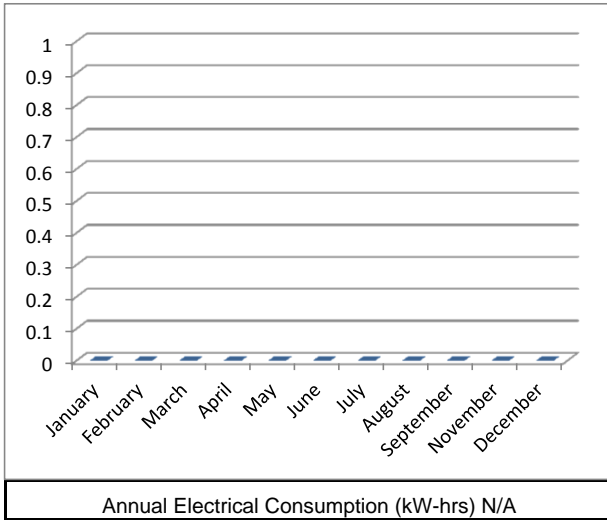
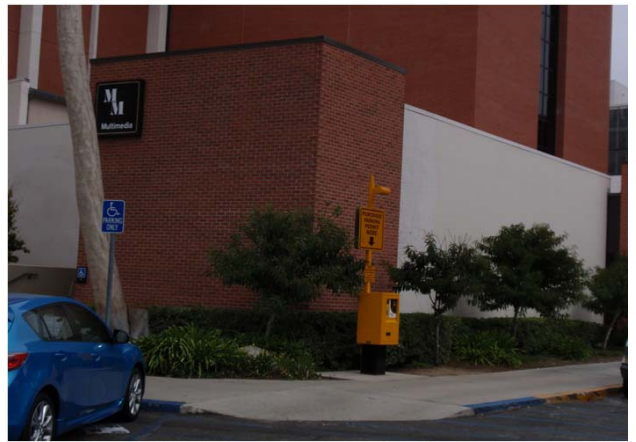
Building Name Multi-Media Center      Surveyor: AT  
 Building Key 21      Date: 9/21/2010  
 Gross Area 6,728 SF  
 Assigned Area 4,628 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name Multi-Media Center - Bldg 21

Floors Above/Below Grade: 2 / 0      Year Built: 1971

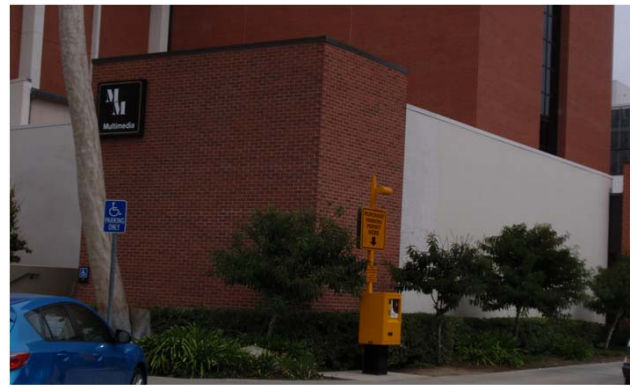
Types of Spaces: Large Lecture Halls



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Multi-Media Center Surveyor: AT  
 Building Key 21 Date: 9/21/2010  
 Gross Area 6,728 SF  
 Assigned Area 4,628 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
21-5	Static Pressure Reset	1,762	0.20	-	0	-	\$ 158.62	\$ 1,420	\$ 422.98	\$ 996.62	6.3
21-11	Retrofit Light Fixtures	11,583	1.32	-	0	-	\$ 1,274.13	\$ 10,270	\$ 2,779.92	\$ 7,490.08	5.9
21-13	Cool Roof Equivalent PV	2,955	0.34	-	0	-	\$ 277.52	\$ 8,400	\$ 709.26	\$ 7,690.74	27.7
21-18-1	Fan Efficiency Improvements	2,068	0.24	-	0	-	\$ 186.14	\$ 3,500	\$ 496.37	\$ 3,003.63	16.1
<b>Totals</b>		<b>18,368.87</b>	<b>2.10</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 1,896.41</b>	<b>\$ 23,589.60</b>	<b>\$ 4,408.53</b>	<b>\$ 19,181.07</b>	<b>10.11</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Education 1 (ED1)</u>	Surveyor:	<u>AT</u>
Building Key	<u>22</u>	Date:	<u>10/21/2010</u>
Gross Area	<u>23,447 SF</u>		
Assigned Area	<u>15,633 SF</u>		

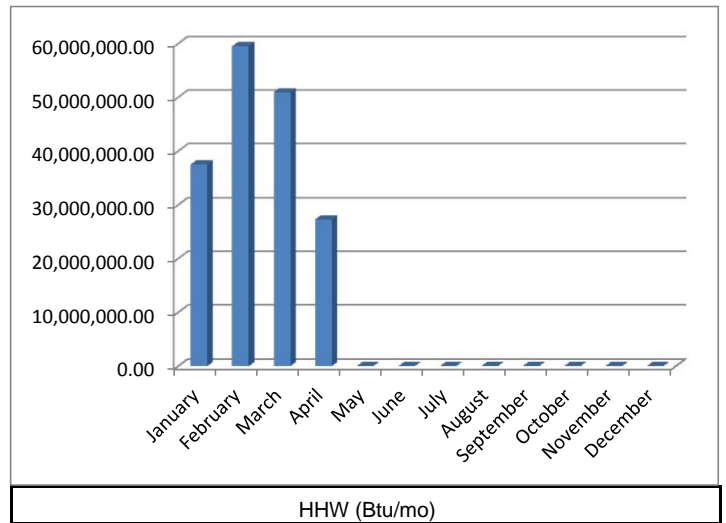
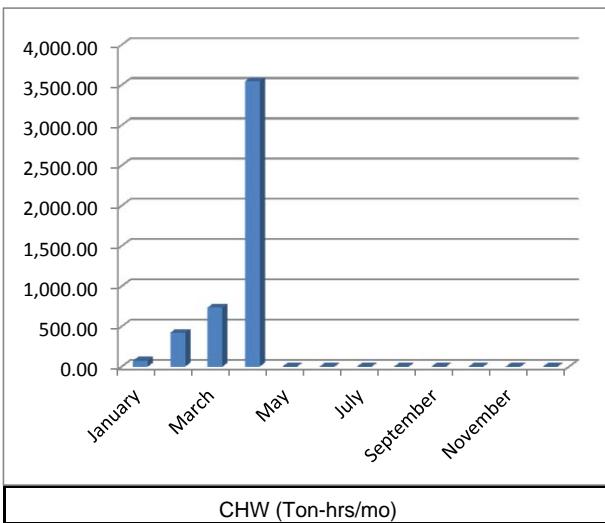
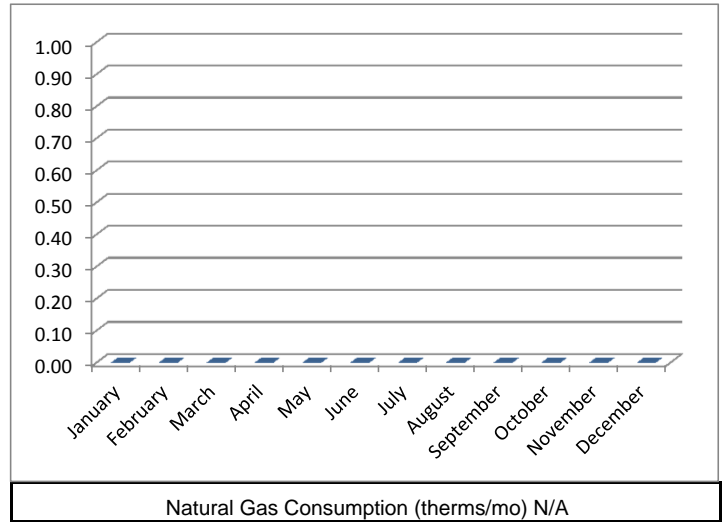
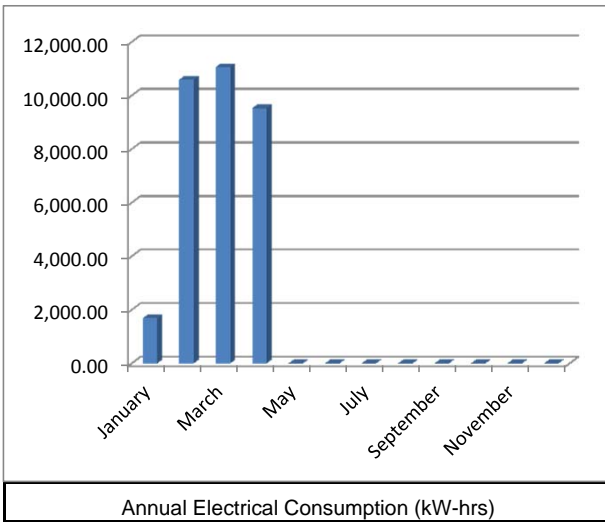


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Education 1 (ED1) Surveyor: AT  
 Building Key 22 Date: 10/21/2010  
 Gross Area 23,447 SF  
 Assigned Area 15,633 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name ED1 - Building 22

EUI: 30.39 kBtu/SF-yr

Carbon Footprint: 35.96 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
22-5	Static Pressure Reset	4,386	0.50			0.00	\$ 394.78	\$ 1,419.60	\$ 1,052.76	\$ 366.84	0.9
22-9-1	Prem Eff Mtr - AHU SF Fan	1,245	0.14			0.00	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
22-9-2	Prem Eff Mtr - AHU RF Fan	902	0.10			0.00	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
22-11	Retrofit Light Fixtures	31,964	3.65			0.00	\$ 3,516.02	\$ 34,320.00	\$ 7,671.31	\$ 26,648.69	7.6
22-13	Cool Roof Equivalent PV	8,866	1.01			0.00	\$ 832.57	\$ 25,200.00	\$ 2,127.77	\$ 23,072.23	27.7
22-18-1	Fan Efficiency Improvements	6,442	0.74			1,645.05	\$ 579.76	\$ 4,250.00	\$ 1,546.02	\$ 2,703.98	4.7
22-18-2	Fan Efficiency Improvements	3,221	0.37			822.53	\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
22-18-1S	Fan Efficiency Improvements	2,574	0.29			657.27	\$ 231.64	\$ 4,250.00	\$ 617.70	\$ 3,632.30	15.7
22-18-1R	Fan Efficiency Improvements	1,287	0.15			328.63	\$ 115.82	\$ 3,000.00	\$ 308.85	\$ 2,691.15	23.2
<b>Totals</b>		<b>60,886.30</b>	<b>6.95</b>	<b>-</b>	<b>-</b>	<b>3,453.48</b>	<b>\$ 6,153.70</b>	<b>\$ 77,578.60</b>	<b>\$ 14,612.71</b>	<b>\$ 62,965.89</b>	<b>10.23</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Education 2</u>	Surveyor:	<u>JD</u>
Building Key	<u>23</u>	Date:	<u>9/22/2010</u>
Gross Area	<u>24,237 SF</u>		
Assigned Area	<u>11,830 SF</u>		

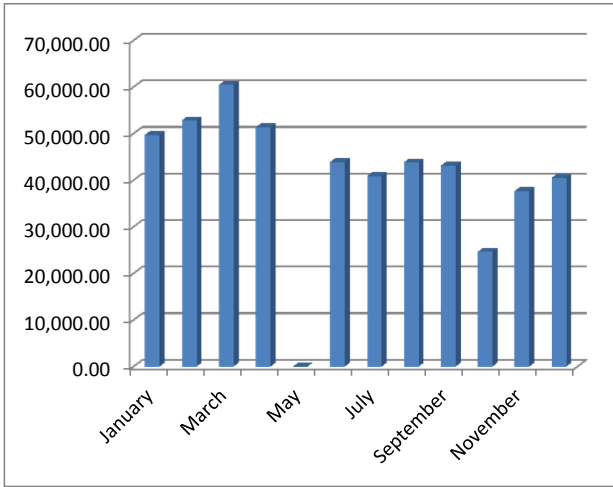


## BUILDING DESCRIPTION / STATISTICS

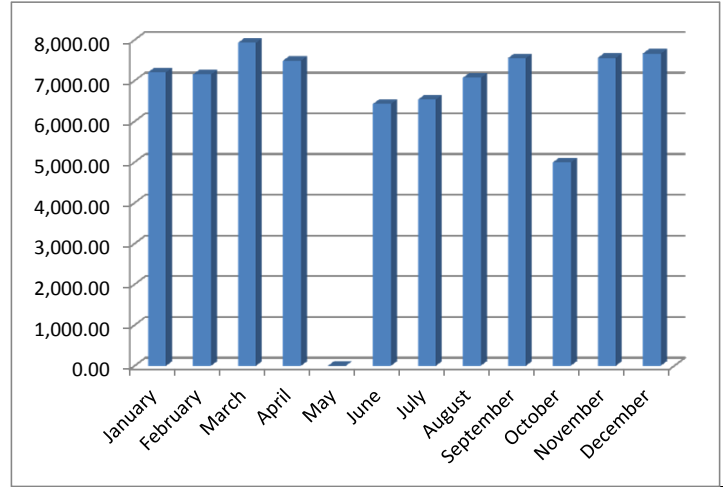
Common Building Name: Education 2 - Building 23

Floors Above/Below Grade: 2 / 0 Year Built: 1961

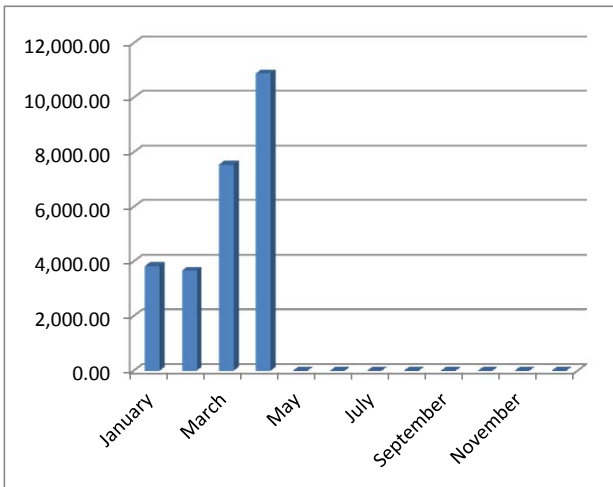
Types of Spaces: Faculty Offices/Graduate Work Areas



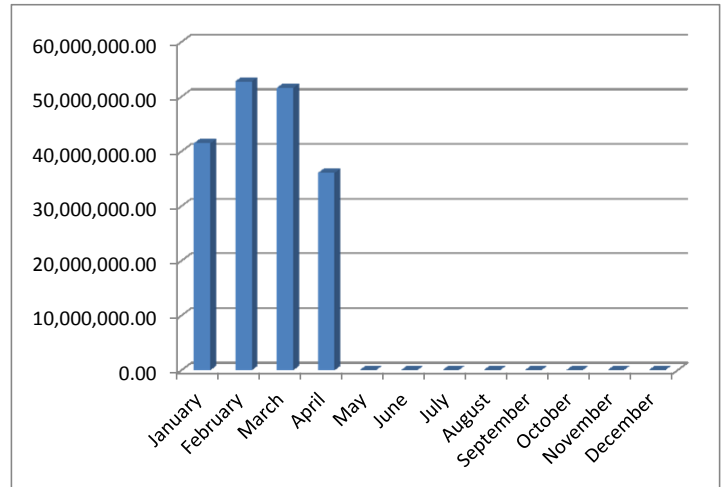
S41A: Annual Electrical Consumption (kW-hrs)



S41B: Natural Gas Consumption (therms/mo)



CHW (Ton-hrs/mo)



HHW (Btu/mo)

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Education 2</u>	Surveyor:	<u>JD</u>
Building Key	<u>23</u>	Date:	<u>9/22/2010</u>
Gross Area	<u>24,237 SF</u>		
Assigned Area	<u>11,830 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Education 2 - Building 23

EUI: 59.27 kBtu/SF-yr

Carbon Footprint: 56.19 Tons CO<sub>2</sub>

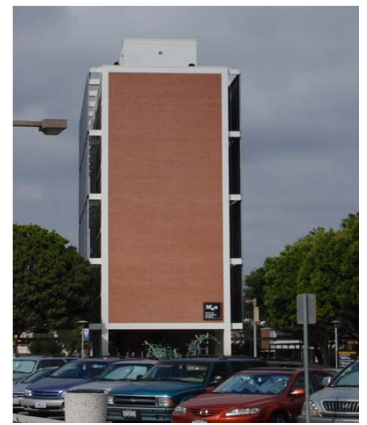
SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
23-1	Replace to Tankless Water Heaters	15,793	1.80		-539	0.00	\$ 936.28	\$ 4,450.00	\$ 3,560.00	\$ 890.00	1.0
23-9-1	Prem Eff Mtr - AHU Supply Fan	1,245	0.14		0	0.00	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
23-9-2	Prem Eff Mtr - AHU Return Fan	902	0.10		0	0.00	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
23-11	Retrofit Light Fixtures	20,246	2.31		0	0.00	\$ 2,227.01	\$ 32,630.00	\$ 4,858.92	\$ 27,771.08	12.5
23-13	Cool Roof Equivalent PV	19,209	2.19		0	0.00	\$ 1,803.91	\$ 54,600.00	\$ 4,610.17	\$ 49,989.83	27.7
23-18-1	Fan Efficiency Improvements	2,941	0.34		0	751.17	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
23-18-2	Fan Efficiency Improvements	1,471	0.17		0	375.58	\$ 132.37	\$ 3,000.00	\$ 352.97	\$ 2,647.03	20.0
23-18-1S	Fan Efficiency Improvements	2,206	0.25		0	563.37	\$ 198.55	\$ 4,250.00	\$ 529.46	\$ 3,720.54	18.7
23-18-1R	Fan Efficiency Improvements	2,206	0.25		0	563.37	\$ 198.55	\$ 4,250.00	\$ 529.46	\$ 3,720.54	18.7
<b>Totals</b>		<b>66,219.36</b>	<b>7.56</b>	<b>-</b>	<b>(539.03)</b>	<b>2,253.50</b>	<b>\$ 5,954.62</b>	<b>\$ 109,569.00</b>	<b>\$15,662.22</b>	<b>\$ 93,906.78</b>	<b>15.77</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME McIntosh Humanities Bldg SURVEYOR: JD  
 BUILDING KEY 24 DATE: 9/22/2010  
 GROSS AREA 42,510 SF  
 ASSIGNED AREA 20,192 SF

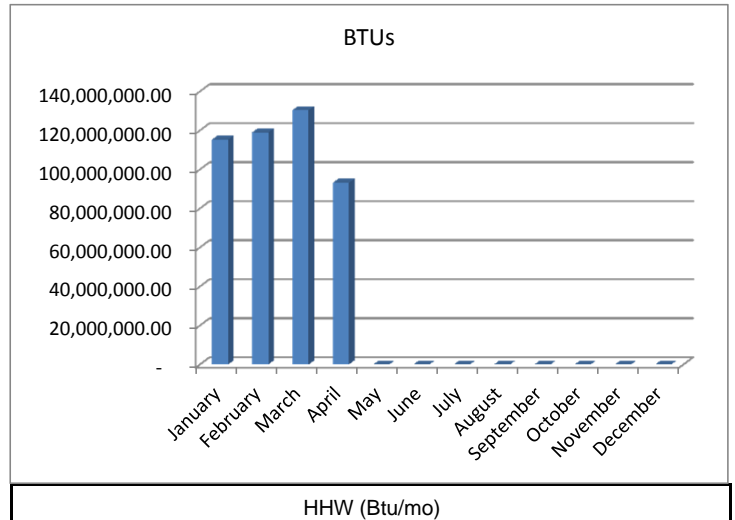
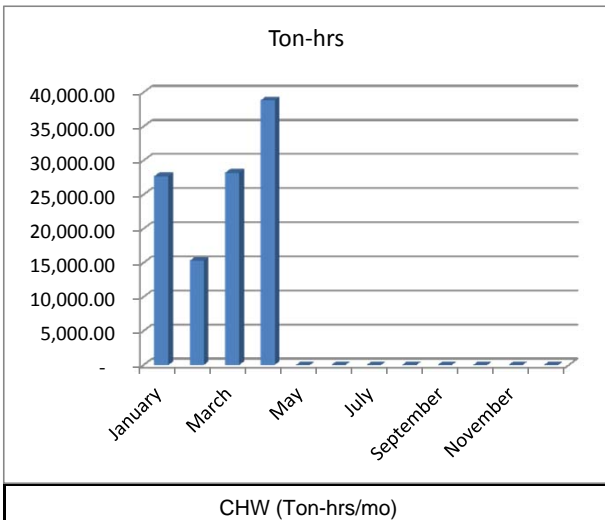
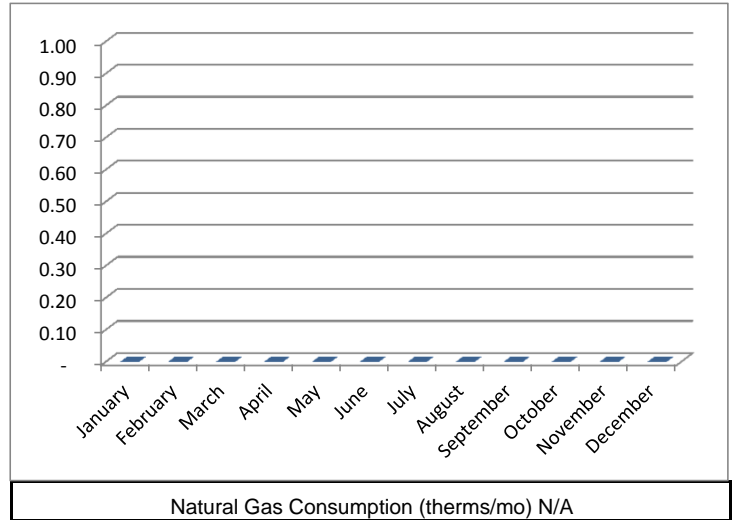
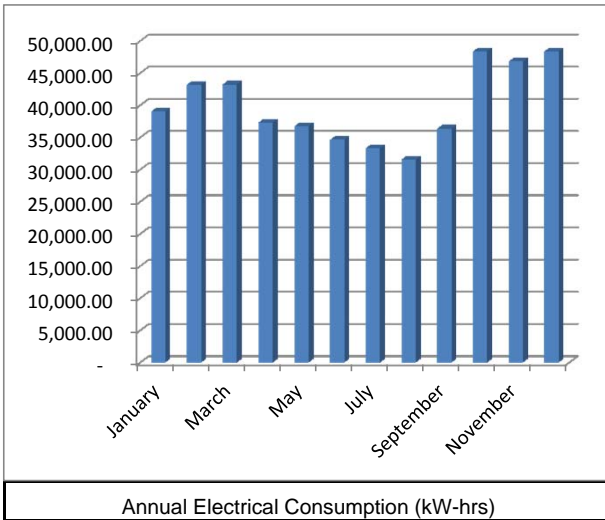
BUILDING DESCRIPTION / STATISTICS

Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

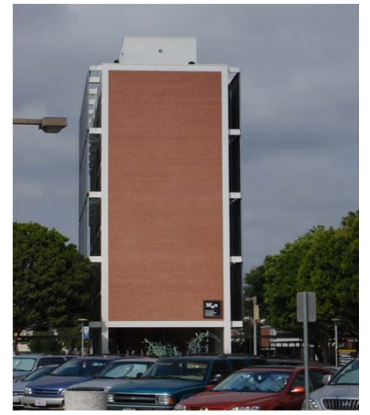
Floors Above/Below Grade  Year Built

Types of Spaces:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME: McIntosh Humanities Bldg SURVEYOR: JD  
 BUILDING KEY: 24 DATE: 9/22/2010  
 GROSS AREA: 42,510 SF  
 ASSIGNED AREA: 20,192 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name:

EUI:

Carbon Footprint:

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
24-1	Replace to Tankless Water Heaters	0	-		0		\$ 167.33	\$ 4,450.00	\$ -	\$ 4,450.00	26.6
24-9-1	Prem Eff Mtr - Fountain Pump	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
24-9-2	Prem Eff Mtr - HHW Pump	237	0.03		0		\$ 21.33	\$ 359.00	\$ 56.88	\$ 302.12	14.2
24-9-3	Prem Eff Mtr - Exhaust Fan for Penthouse	753	0.09		0		\$ 67.77	\$ 742.00	\$ 180.72	\$ 561.28	8.3
24-9-4	Prem Eff Mtr - OSA AHU SF in Penthouse	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
24-10-1	VFD for 100% OA AHU	15,162	1.73		0		\$ 1,364.62	\$ 6,240.00	\$ 3,638.99	\$ 2,601.01	1.9
24-11	Retrofit Light Fixtures	26,842	3.06		0		\$ 2,952.64	\$ 59,897.50	\$ 6,442.13	\$ 53,455.37	18.1
24-12-1	High SEER Upgrades	801	0.09		0		\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
24-12-2	High SEER Upgrades	801	0.09		0		\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
24-13	Cool Roof Equivalent PV	4,433	0.51		0		\$ 416.29	\$ 12,600.00	\$ 1,063.89	\$ 11,536.11	27.7
<b>Totals</b>		<b>50,687.78</b>	<b>5.79</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 5,283.41</b>	<b>\$ 90,898.00</b>	<b>\$ 12,165.07</b>	<b>\$ 78,732.93</b>	<b>14.90</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Language Arts (LAB)</u>	Surveyor:	<u>AT</u>
Building Key	<u>25</u>	Date:	<u>10/21/2010</u>
Gross Area	<u>27,480 SF</u>		
Assigned Area	<u>14,345 SF</u>		

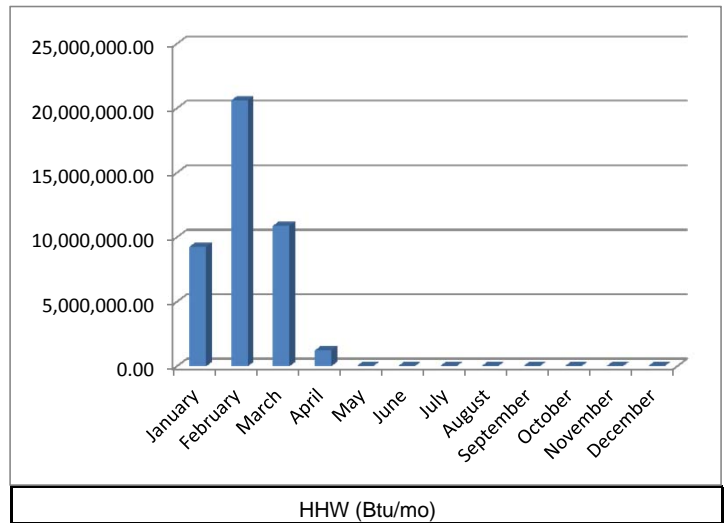
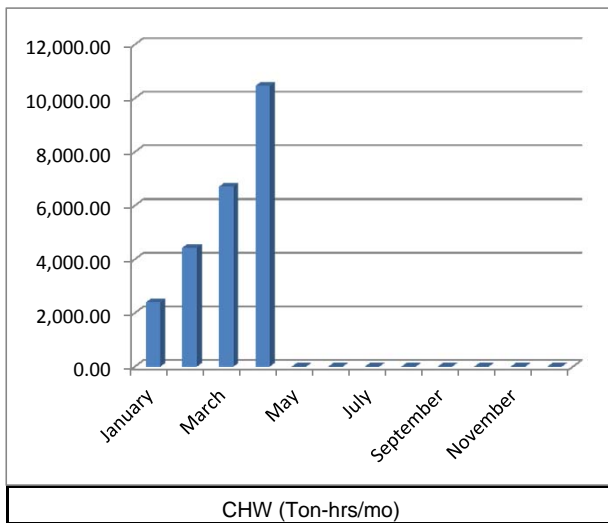
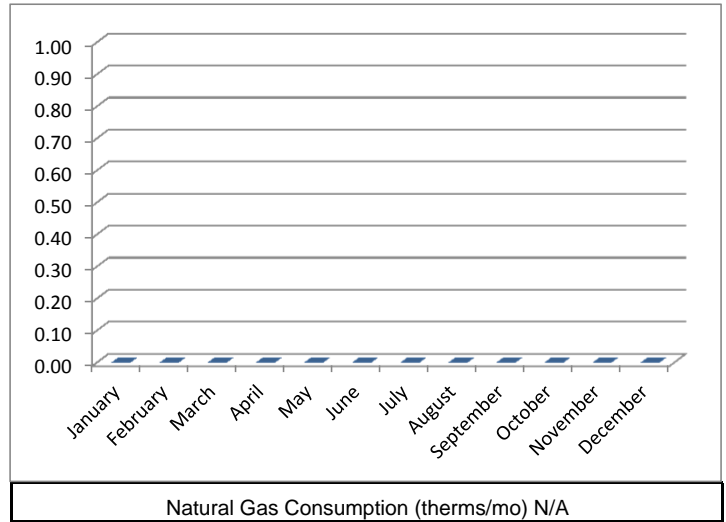
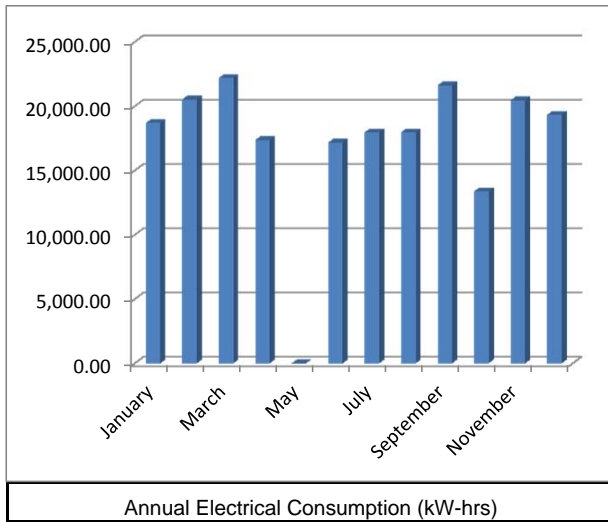


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: LAB - Building 25

Floors Above/Below Grade: 3 / 1 Year Built: 1967

Types of Spaces: Lecture Classroom and Offices



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name Language Arts (LAB) Surveyor: AT  
 Building Key 25 Date: 10/21/2010  
 Gross Area 27,480 SF  
 Assigned Area 14,345 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name LAB - Building 25

EUI: 81.20 kBtu/SF-yr

Carbon Footprint: 103.93 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
25-1	Replace to Tankless Water Heaters	0	-		0	0.00	\$ 131.22	\$ 4,450.00	\$ -	\$ 4,450.00	33.9
25-5	Static Pressure Reset	2,820	0.32		0	0.00	\$ 253.79	\$ 1,419.60	\$ 676.77	\$ 742.83	2.9
25-9-1	Prem Eff Mtr - AH-1 Supply Fan	829	0.09		0	0.00	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
25-9-2	Prem Eff Mtr - AH-1 Return Fan	470	0.05		0	0.00	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
25-9-3	Prem Eff Mtr - AH-2 Supply Fan	829	0.09		0	0.00	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
25-9-4	Prem Eff Mtr - AH-2 Return Fan	470	0.05		0	0.00	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
25-11	Retrofit Light Fixtures	26,525	3.03		0	0.00	\$ 2,917.79	\$ 45,857.50	\$ 6,366.10	\$ 39,491.40	13.5
25-12-1	High SEER Upgrades	801	0.09		0	0.00	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
25-13	Cool Roof Equivalent PV	22,164	2.53		0	0.00	\$ 2,081.43	\$ 63,000.00	\$ 5,319.43	\$ 57,680.57	27.7
25-18-1S	Fan Efficiency Improvements	3,309	0.38		0	845.06	\$ 297.82	\$ 4,500.00	\$ 794.19	\$ 3,705.81	12.4
25-18-2S	Fan Efficiency Improvements	3,309	0.38		0	845.06	\$ 297.82	\$ 4,500.00	\$ 794.19	\$ 3,705.81	12.4
<b>Totals</b>		<b>61,526.97</b>	<b>7.02</b>	<b>-</b>	<b>-</b>	<b>1,690.12</b>	<b>\$ 6,285.80</b>	<b>\$ 130,351.85</b>	<b>\$ 14,766.47</b>	<b>\$ 115,585.38</b>	<b>18.39</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Theater Arts (TA)</u>	Surveyor:	<u>AT</u>
Building Key	<u>26</u>	Date:	<u>10/6/2010</u>
Gross Area	<u>61,400 SF</u>		
Assigned Area	<u>31,290 SF</u>		

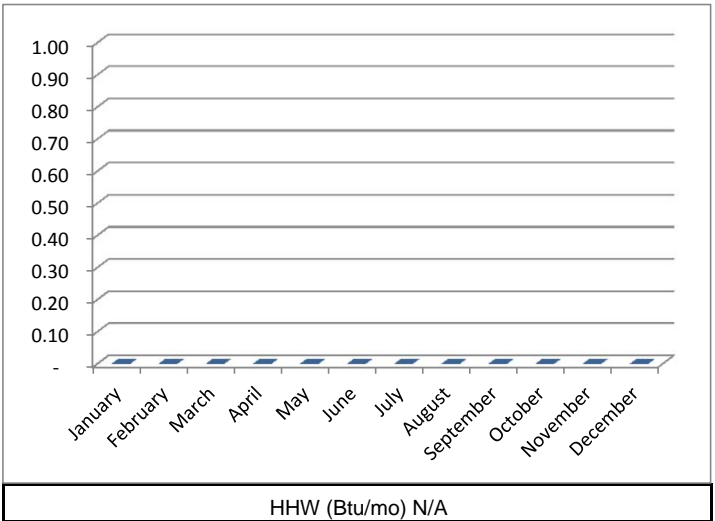
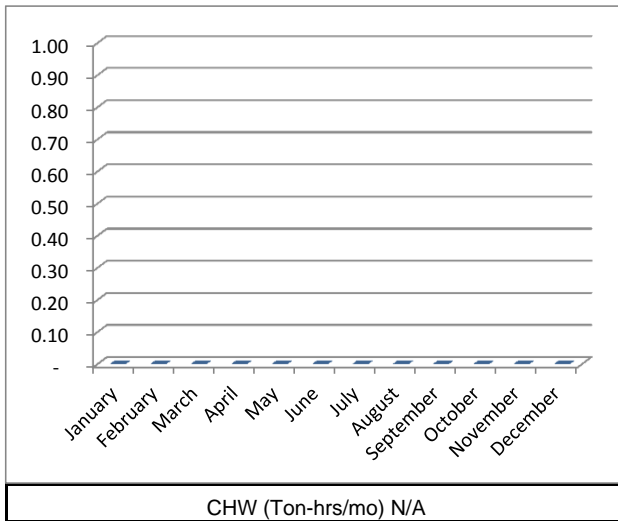
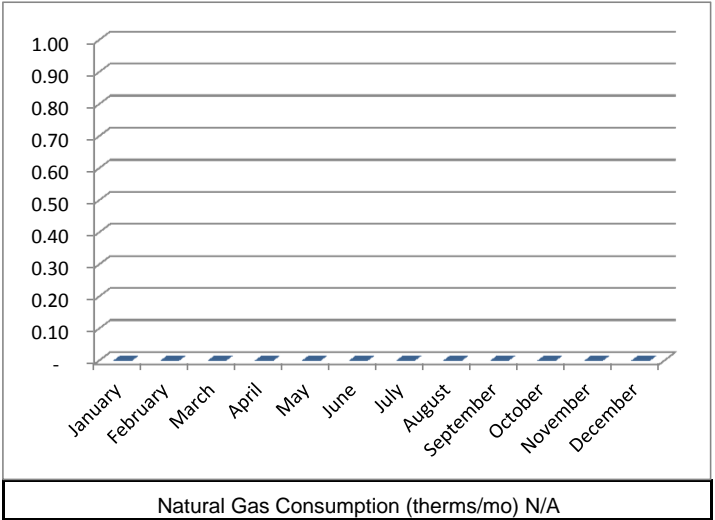
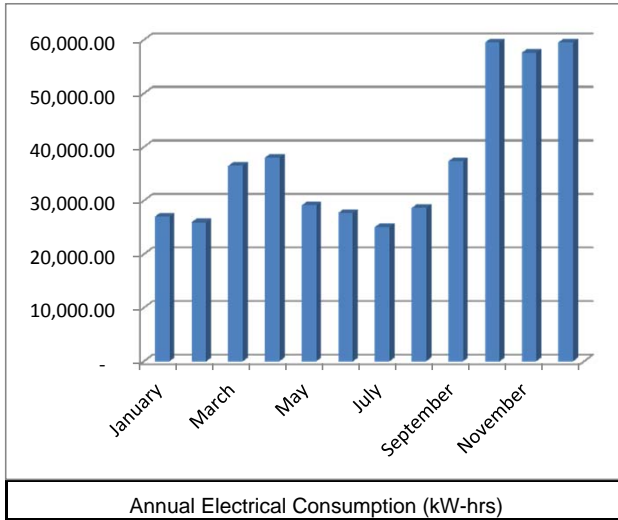


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: TA - Building 26

Floors Above/Below Grade: 2 / 1 Year Built: 1972

Types of Spaces: Lecture Classroom, Theater Studio, and Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Theater Arts (TA)</u>	Surveyor:	<u>AT</u>
Building Key	<u>26</u>	Date:	<u>10/6/2010</u>
Gross Area	<u>61,400 SF</u>		
Assigned Area	<u>31,290 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: TA - Building 26

EUI: 49.30 kBtu/SF-yr

Carbon Footprint: 139.91 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
26-1	Replace to Tankless Water Heaters	0	-	-	-	0.00	\$ 275.66	\$ 4,450	\$ -	\$ 4,450.00	16.1
26-11	Retrofit Light Fixtures	112,118	12.80	-	-	0.00	\$ 12,332.93	\$ 59,475	\$ 26,908.20	\$ 32,566.80	2.6
26-18-1S	Fan Efficiency Improvements	2,206	0.25	-	-	563.37	\$ 198.55	\$ 4,250	\$ 529.46	\$ 3,720.54	18.7
26-18-2S	Fan Efficiency Improvements	662	0.08	-	-	169.01	\$ 59.56	\$ 3,000	\$ 158.84	\$ 2,841.16	47.7
26-18-3S	Fan Efficiency Improvements	3,309	0.38	-	-	845.06	\$ 297.82	\$ 4,500	\$ 794.19	\$ 3,705.81	12.4
26-18-4S	Fan Efficiency Improvements	1,655	0.19	-	-	422.53	\$ 148.91	\$ 3,500	\$ 397.10	\$ 3,102.90	20.8
26-18-5S	Fan Efficiency Improvements	5,515	0.63	-	-	1,408.43	\$ 496.37	\$ 5,250	\$ 1,323.65	\$ 3,926.35	7.9
26-18-6S	Fan Efficiency Improvements	1,655	0.19	-	-	422.53	\$ 148.91	\$ 3,500	\$ 397.10	\$ 3,102.90	20.8
<b>Totals</b>		<b>127,118.88</b>	<b>14.51</b>	<b>-</b>	<b>-</b>	<b>3,830.94</b>	<b>\$ 13,958.71</b>	<b>\$87,925.00</b>	<b>\$ 30,508.53</b>	<b>\$ 57,416.47</b>	<b>4.11</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

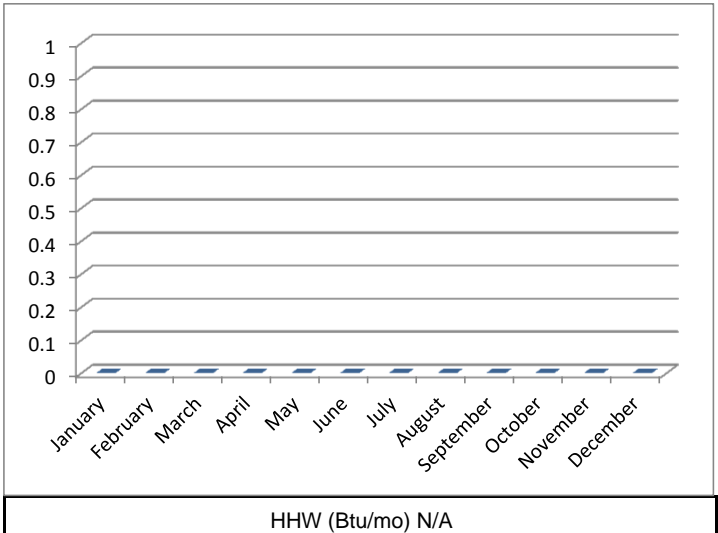
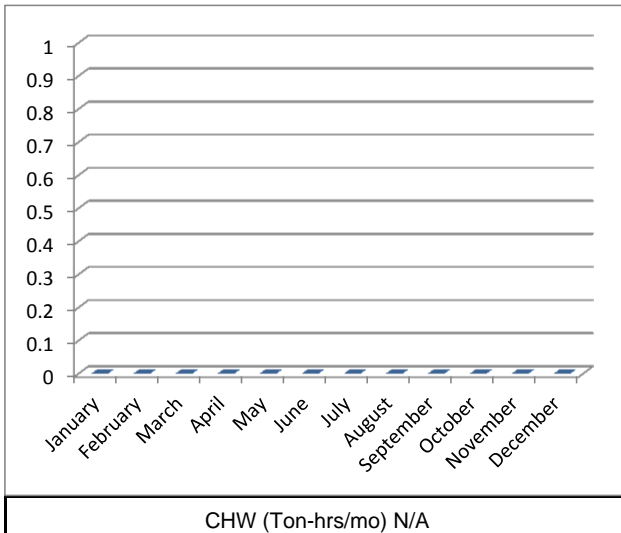
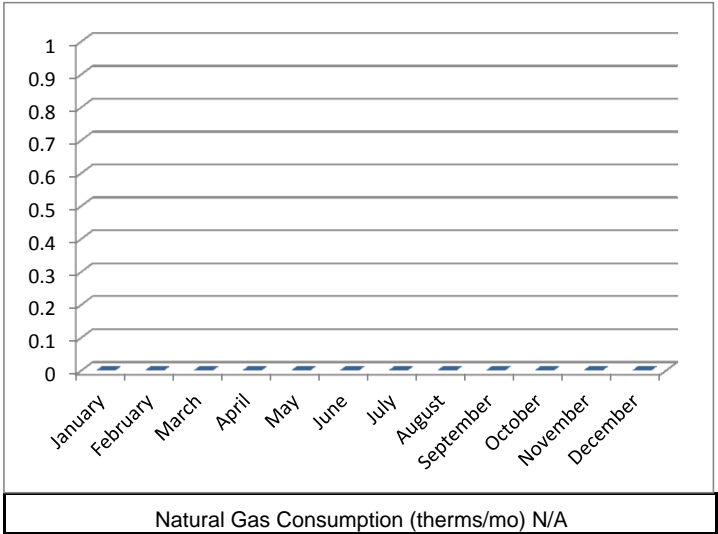
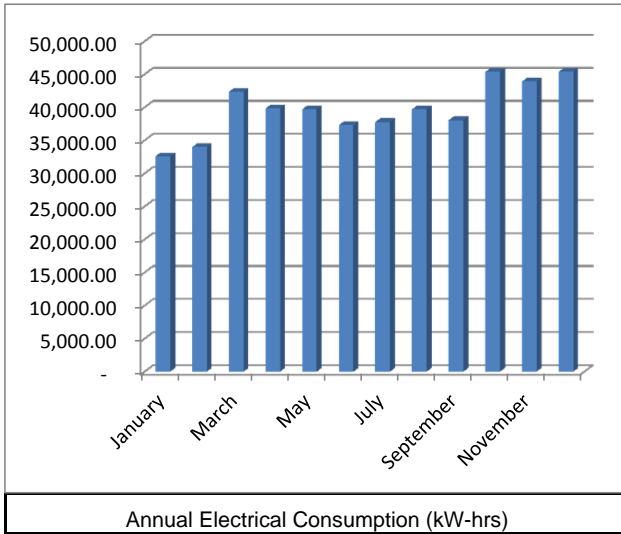
Building Name	University Theatre	Surveyor:	JD
Building Key	27	Date:	9/27/2010
Gross Area	19,598 SF		
Assigned Area	12,409 SF		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name University Theatre Surveyor: JD  
 Building Key 27 Date: 9/27/2010  
 Gross Area 19,598 SF  
 Assigned Area 12,409 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name University Theatre - Bldg 27

EUI: 130.95 kBtu/SF-yr

Carbon Footprint: 147.38 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
27-9-1	Prem Eff Mtr - AHU SF Multizone on 2nd flr	1,245	0.14				\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
27-9-2	Prem Eff Mtr - AHU SF on roof	1,245	0.14				\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
27-11	Retrofit Light Fixtures	5,590	0.64				\$ 614.92	\$ 12,512.50	\$ 1,341.65	\$11,170.85	18.2
<b>Totals</b>		<b>8,080.20</b>	<b>0.92</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 839.02</b>	<b>\$ 14,790.50</b>	<b>\$ 1,939.25</b>	<b>\$12,851.25</b>	<b>15.32</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Univ Telecommunicat Ctr</u>	Surveyor:	<u>JD</u>
Building Key	<u>28</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>23,600 SF</u>		
Assigned Area	<u>15,958 SF</u>		

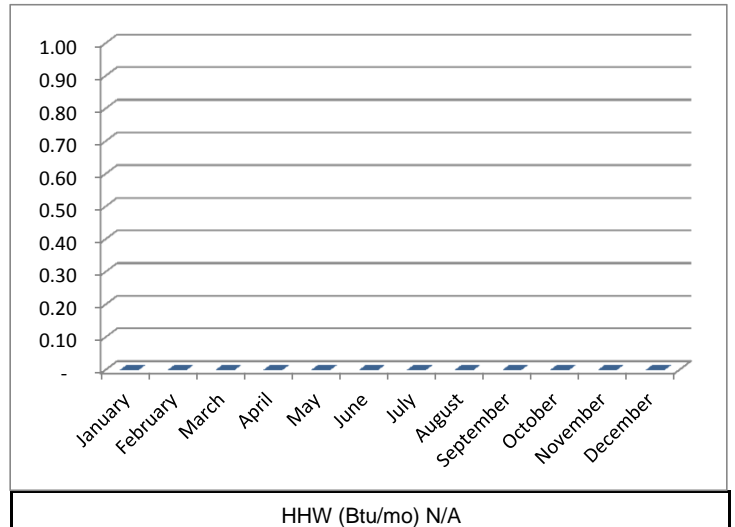
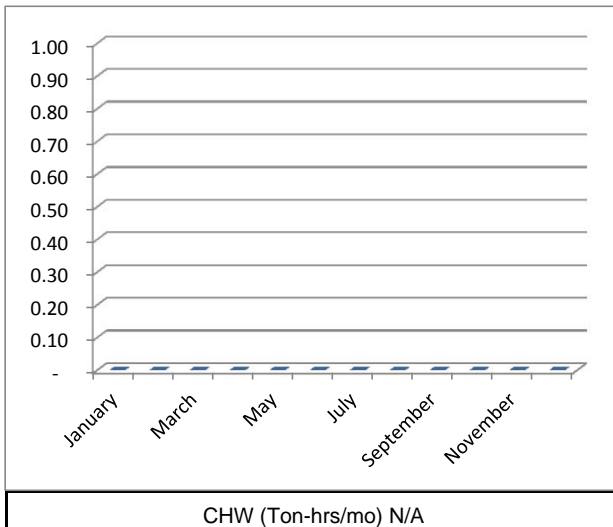
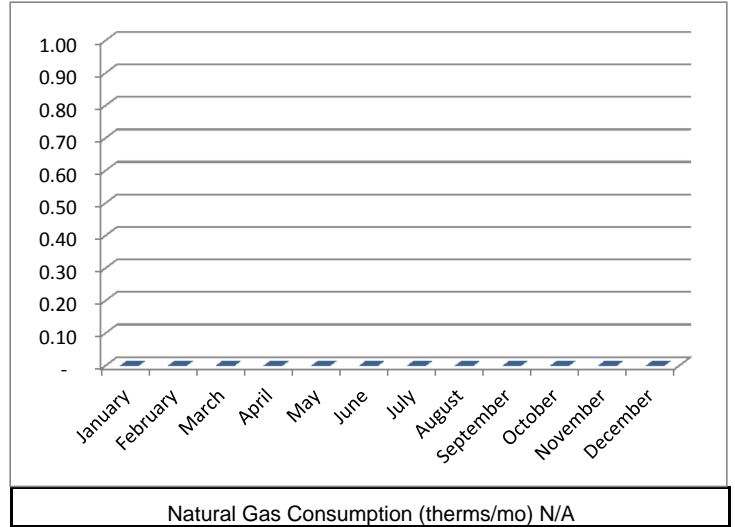
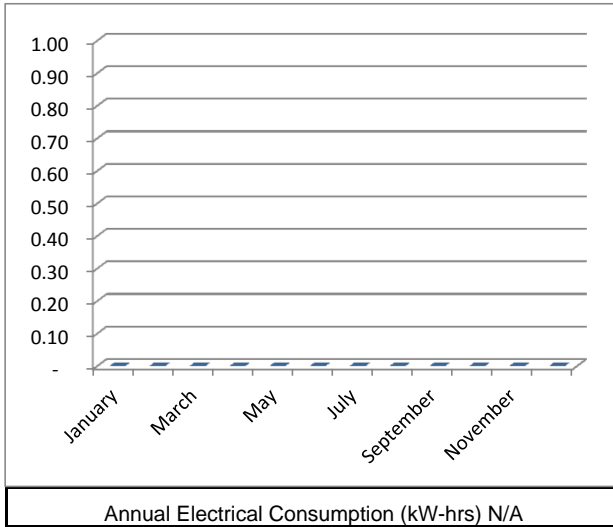


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Univ Telecommunicat Ctr - Bldg 28

Floors Above/Below Grade: 2 / 0 Year Built: 1958

Types of Spaces: Classrooms, Offices, TV Studio



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Univ Telecommunicat Ctr Surveyor: JD  
 Building Key: 28 Date: 9/13/2010  
 Gross Area: 23,600 SF  
 Assigned Area: 15,958 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Univ Telecommunicat Ctr - Bldg 28

EUI:                      - kBtu/SF-yr

Carbon Footprint:                      - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
28-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 109.29	\$ 4,450.00	\$ -	\$ 4,450.00	40.7
28-2	Insulate DHW Pipe	0	-	-	39	-	\$ 35.04	\$ 126.20	\$ -	\$ 126.20	3.6
28-9-1	Prem Eff Mtr - AHU SF Fan, 2nd flr	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
28-9-2	Prem Eff Mtr - CHW Pump	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
28-9-3	Prem Eff Mtr - Exhaust Fan	237	0.03	-	0	-	\$ 21.33	\$ 359.00	\$ 56.88	\$ 302.12	14.2
28-9-4	Prem Eff Mtr - Exhaust Fan	902	0.10	-	0	-	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
28-9-5	Prem Eff Mtr - Exhaust Fan	902	0.10	-	0	-	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
28-11	Retrofit Light Fixtures	12,745	1.45	-	0	-	\$ 1,401.91	\$ 37,927.50	\$ 3,058.70	\$ 34,868.80	24.9
<b>Totals</b>		<b>17,275.60</b>	<b>1.97</b>	<b>-</b>	<b>38.93</b>	<b>-</b>	<b>\$ 1,954.02</b>	<b>\$ 47,140.70</b>	<b>\$ 4,146.14</b>	<b>\$ 42,994.56</b>	<b>22.00</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Fine Arts 1</u>	Surveyor:	<u>JD</u>
Building Key	<u>32</u>	Date:	<u>10/4/2010</u>
Gross Area	<u>15,504 SF</u>		
Assigned Area	<u>10,246 SF</u>		

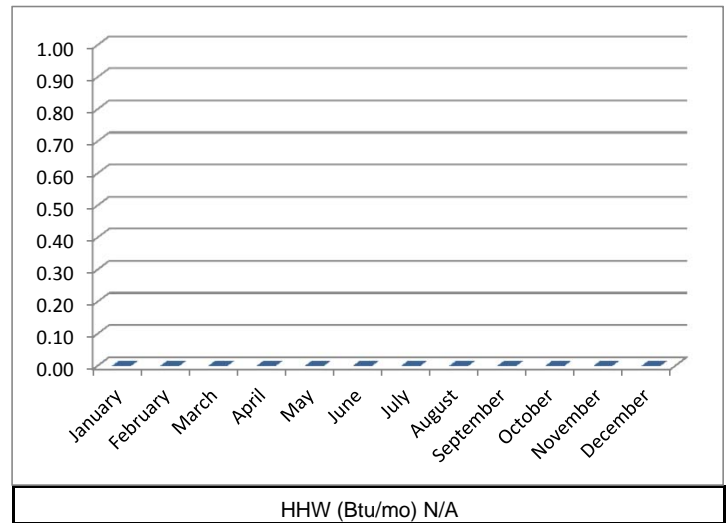
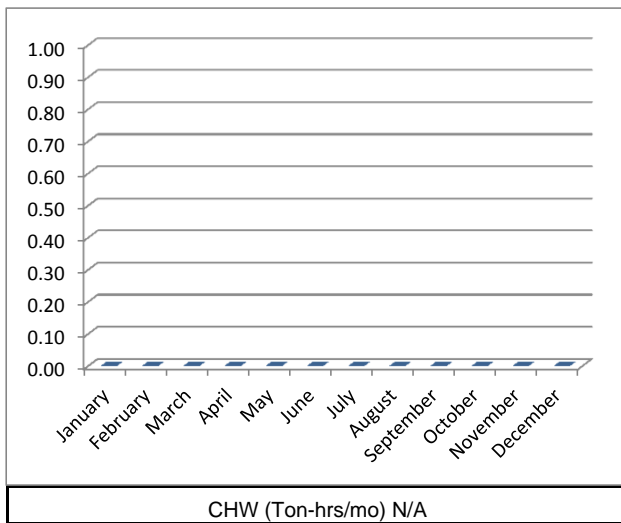
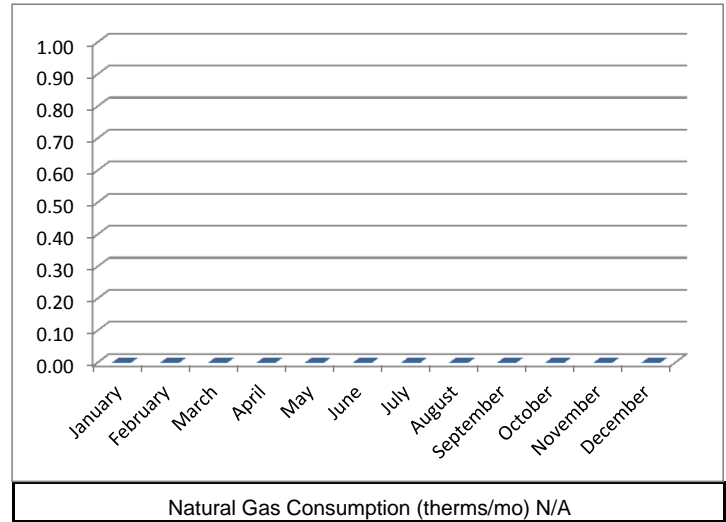
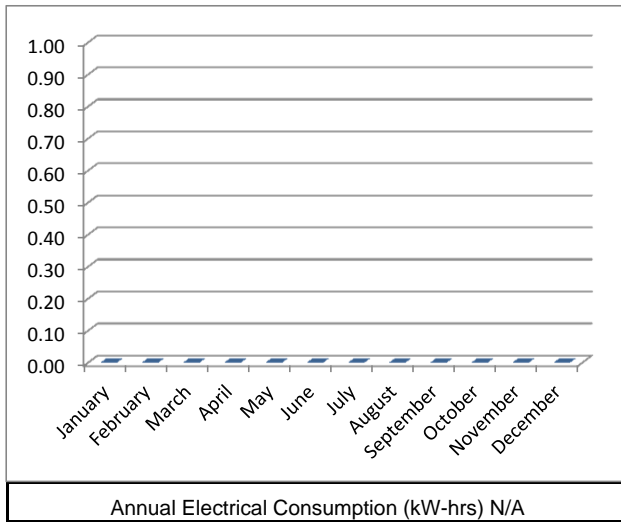


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 1 - Bldg 32

Floors Above/Below Grade: 2 / 1 Year Built: 1954

Types of Spaces: Art Classrooms & Studios



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Fine Arts 1 Surveyor: JD  
 Building Key: 32 Date: 10/4/2010  
 Gross Area: 15,504 SF  
 Assigned Area: 10,246 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 1 - Bldg 32

EUI:                      -                      kBtu/SF-yr

Carbon Footprint:                      -                      Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
32-1	Replace to Tankless Water Heaters	0	0.00		0		\$ 136.54	\$ 4,450.00	\$ -	\$ 4,450.00	32.6
32-2	Insulate DHW Pipe	0	0.00		39		\$ 35.04	\$ 132.51	\$ -	\$ 132.51	3.8
32-9-1	Prem Eff Mtr - AHU-1 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
32-9-2	Prem Eff Mtr - AHU-4 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
32-9-3	Prem Eff Mtr - AHU-4 Return Fan	1,245	0.14		0		\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
32-10-1	VFD for AHU Supply Fan	11,372	1.30		0		\$ 1,023.47	\$ 6,240.00	\$ 2,729.24	\$ 3,510.76	3.4
32-11	Retrofit Light Fixtures	14,236	1.63		0		\$ 1,565.98	\$ 25,642.50	\$ 3,416.69	\$ 22,225.81	14.2
32-12-1	High SEER Upgrades	801	0.09		0		\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
32-13	Cool Roof Equivalent PV	11,821	1.35		0		\$ 1,110.10	\$ 33,600.00	\$ 2,837.03	\$ 30,762.97	27.7
32-17-FA2-EF-15	Exhaust Fan Setback	604	0.07		0		\$ 54.38	\$ 1,122.00	\$ 145.02	\$ 976.98	18.0
32-17-FA2-EF-16	Exhaust Fan Setback	1,460	0.17		234		\$ 341.90	\$ 1,122.00	\$ 350.34	\$ 771.66	2.3
32-17-FA2-EF-17	Exhaust Fan Setback	439	0.05		118		\$ 145.42	\$ 1,122.00	\$ 105.43	\$ 1,016.57	7.0
32-17-FA3-EF-1	Exhaust Fan Setback	2,263	0.26		498		\$ 651.98	\$ 1,122.00	\$ 543.18	\$ 578.82	0.9
32-17-FA3-EF-4	Exhaust Fan Setback	1,265	0.14		427		\$ 497.76	\$ 1,122.00	\$ 303.63	\$ 818.37	1.6
32-17-FA3-EF-5	Exhaust Fan Setback	250	0.03		74		\$ 89.35	\$ 1,122.00	\$ 59.94	\$ 1,062.06	11.9
32-17-FA3-EF-6	Exhaust Fan Setback	7,130	0.81		1,190		\$ 1,712.89	\$ 1,122.00	\$ 897.60	\$ 224.40	0.1
32-17-FA3-EF-7	Exhaust Fan Setback	3,006	0.34		550		\$ 765.85	\$ 1,122.00	\$ 721.33	\$ 400.67	0.5
32-17-FA3-EF-8	Exhaust Fan Setback	626	0.07		177		\$ 216.08	\$ 1,122.00	\$ 150.21	\$ 971.79	4.5
32-17-FA3-EF-9	Exhaust Fan Setback	1,243	0.14		248		\$ 334.76	\$ 1,122.00	\$ 298.28	\$ 823.72	2.5
32-17-FA4-EF-1	Exhaust Fan Setback	449	0.05		138		\$ 164.27	\$ 1,122.00	\$ 107.82	\$ 1,014.18	6.2
32-17-FA4-EF-2	Exhaust Fan Setback	17,547	2.00		2,419		\$ 3,756.27	\$ 1,122.00	\$ 897.60	\$ 224.40	0.1
32-17-FA4-EF-3	Exhaust Fan Setback	2,187	0.25		512		\$ 657.53	\$ 1,122.00	\$ 524.96	\$ 597.04	0.9
32-17-FA4-EF-4	Exhaust Fan Setback	1,551	0.18		193		\$ 312.96	\$ 1,122.00	\$ 372.24	\$ 749.76	2.4
32-17-FA4-EF-5	Exhaust Fan Setback	322	0.04		62		\$ 84.70	\$ 1,122.00	\$ 77.26	\$ 1,044.74	12.3
32-17-FA4-EF-6	Exhaust Fan Setback	399	0.05		83		\$ 110.24	\$ 1,122.00	\$ 95.85	\$ 1,026.15	9.3
32-17-FA4-EF-7	Exhaust Fan Setback	81	0.01		28		\$ 32.05	\$ 1,122.00	\$ 19.42	\$ 1,102.58	34.4



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Fine Arts 1</u>	Surveyor:	<u>JD</u>
Building Key	<u>32</u>	Date:	<u>10/4/2010</u>
Gross Area	<u>15,504 SF</u>		
Assigned Area	<u>10,246 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Fine Arts 1 - Bldg 32

32-17-FA4-EF-8	Exhaust Fan Setback	1,551	0.18		193		\$ 312.96	\$ 1,122.00	\$ 372.24	\$ 749.76	2.4
32-17-FA4-EF-12	Exhaust Fan Setback	23,118	2.64		3,267		\$ 5,020.51	\$ 1,122.00	\$ 897.60	\$ 224.40	0.0
32-17-FA4-EF-12A	Exhaust Fan Setback	6,016	0.69		842		\$ 1,299.32	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
32-18-1	Fan Efficiency Improvements	7,354	0.84		0		\$ 661.83	\$ 5,250.00	\$ 1,764.87	\$ 3,485.13	5.3
32-18-2	Fan Efficiency Improvements	7,354	0.84		0		\$ 661.83	\$ 5,250.00	\$ 1,764.87	\$ 3,485.13	5.3
32-18-3	Fan Efficiency Improvements	2,941	0.34		0		\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
<b>Totals</b>		<b>130,289.34</b>	<b>14.87</b>	<b>-</b>	<b>11,289.50</b>	<b>-</b>	<b>\$22,354.07</b>	<b>\$113,534.76</b>	<b>\$ 21,945.19</b>	<b>\$ 91,589.57</b>	<b>4.10</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Fine Arts 2</u>	Surveyor:	<u>JD</u>
Building Key	<u>33</u>	Date:	<u>9/27/2010</u>
Gross Area	<u>20,074 SF</u>		
Assigned Area	<u>19,785 SF</u>		

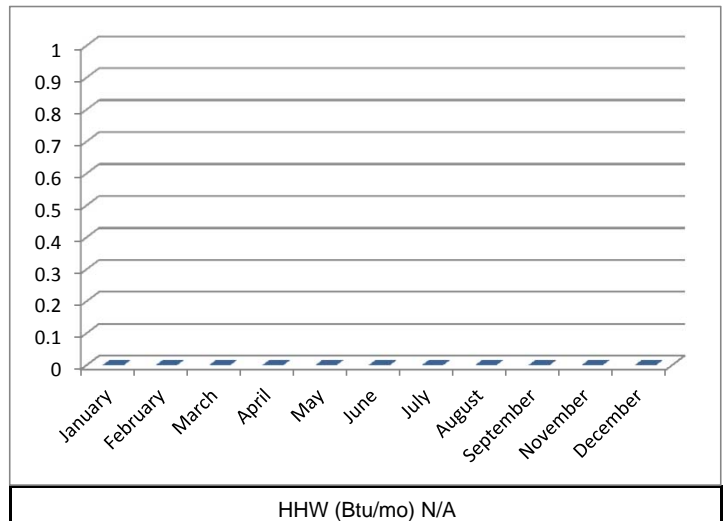
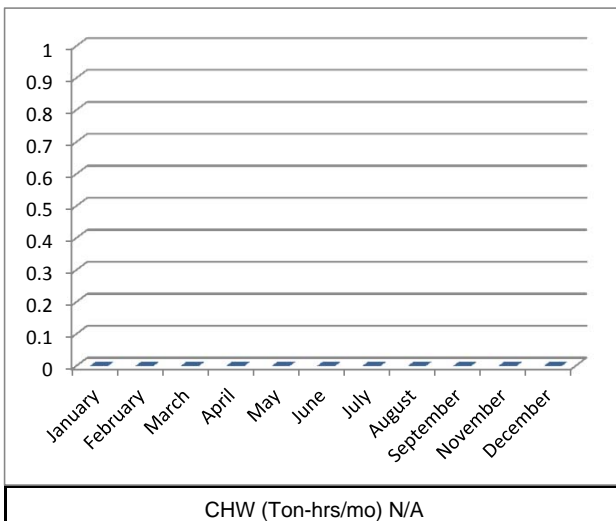
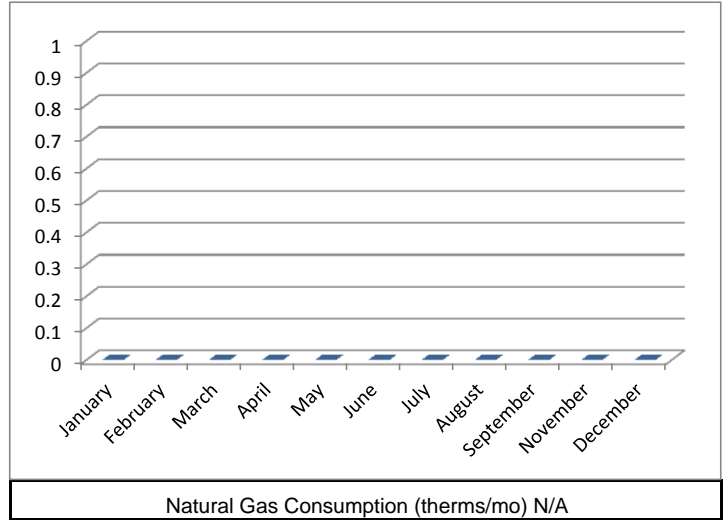
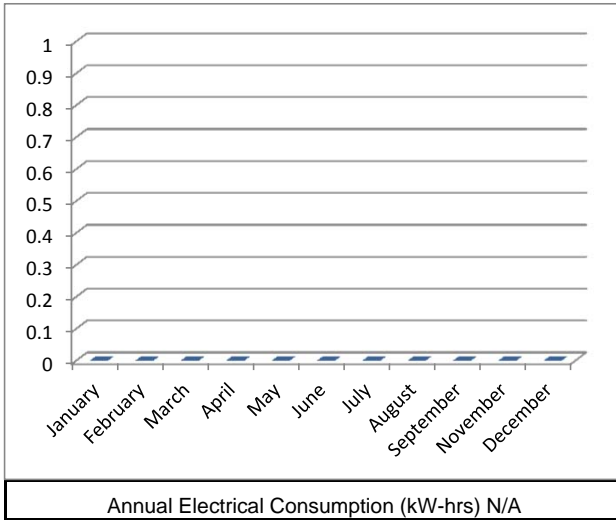


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 2 - Bldg 33

Floors Above/Below Grade: 2 / 0 Year Built: 1954

Types of Spaces: Art Classrooms, Staff Offices, Art Galleries



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Fine Arts 2 Surveyor: JD  
 Building Key: 33 Date: 9/27/2010  
 Gross Area: 20,074 SF  
 Assigned Area: 19,785 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 2 - Bldg 33

EUI:                      - kBtu/SF-yr

Carbon Footprint:                      - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
33-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 176.79	\$ 4,450.00	\$ -	\$ 4,450.00	25.2
33-2	Insulate DHW Pipe	0	-	-	39	-	\$ 35.04	\$ 138.82	\$ -	\$ 138.82	4.0
33-5	Static Pressure Reset	4,700	0.54	-	0	-	\$ 422.98	\$ 1,419.60	\$ 1,127.95	\$ 291.65	0.7
33-9-1	Prem Eff Mtr - AHU-1 Supply Fan	829	0.09	-	0	-	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
33-9-2	Prem Eff Mtr - AHU-2 Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
33-9-3	Prem Eff Mtr - AHU-3 Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
33-9-4	Prem Eff Mtr - AHU-3 Return Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
33-9-5	Prem Eff Mtr - AHU-4 Return Fan	902	0.10	-	0	-	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
33-10-1	VFD for AHU-2 Supply Fan	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
33-10-2	VFD for AHU-4 Supply Fan	6,823	0.78	-	0	-	\$ 614.08	\$ 3,825.00	\$ 1,637.54	\$ 2,187.46	3.6
33-10-3	VFD for AHU-4 Return Fan	2,274	0.26	-	0	-	\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
33-10-1	VFD for AHU Supply Fan	6,065	0.69	-	0	-	\$ 545.85	\$ 3,050.00	\$ 1,455.60	\$ 1,594.40	2.9
33-10-1	VFD for AHU Return Fan	1,819	0.21	-	0	-	\$ 163.75	\$ 2,450.00	\$ 436.68	\$ 2,013.32	12.3
33-11	Retrofit Light Fixtures	8,204	0.94	-	0	-	\$ 902.42	\$ 24,830.00	\$ 1,968.91	\$ 22,861.09	25.3
33-13	Cool Roof Equivalent PV	16,254	1.86	-	0	-	\$ 1,526.38	\$ 46,200.00	\$ 3,900.92	\$ 42,299.08	27.7
33-18-1	Fan Efficiency Improvements	4,412	0.50	-	0	-	\$ 397.10	\$ 4,500.00	\$ 1,058.92	\$ 3,441.08	8.7
33-18-2	Fan Efficiency Improvements	2,206	0.25	-	0	-	\$ 198.55	\$ 3,500.00	\$ 529.46	\$ 2,970.54	15.0
33-18-3	Fan Efficiency Improvements	2,941	0.34	-	0	-	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
33-18-4	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
33-18-5	Fan Efficiency Improvements	1,471	0.17	-	0	-	\$ 132.37	\$ 3,000.00	\$ 352.97	\$ 2,647.03	20.0
33-18-15	Fan Efficiency Improvements	2,758	0.31	-	0	-	\$ 248.18	\$ 4,250.00	\$ 661.83	\$ 3,588.17	14.5
33-22	Skylights Analysis	22,400	8.96	-	0	-	\$ 2,016.00	\$ 14,563.00	\$ 5,376.00	\$ 9,187.00	4.6
<b>Totals</b>		<b>91,312.38</b>	<b>16.83</b>	<b>-</b>	<b>38.93</b>	<b>-</b>	<b>\$ 8,657.56</b>	<b>\$ 134,907.42</b>	<b>\$ 21,914.97</b>	<b>\$ 112,992.45</b>	<b>13.05</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Fine Arts 2 Surveyor: JD  
Building Key 33 Date: 9/27/2010  
Gross Area 20,074 SF  
Assigned Area 19,785 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name Fine Arts 2 - Bldg 33

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Fine Arts 3</u>	Surveyor:	<u>JD</u>
Building Key	<u>34</u>	Date:	<u>10/6/2010</u>
Gross Area	<u>22,910 SF</u>		
Assigned Area	<u>21,073 SF</u>		

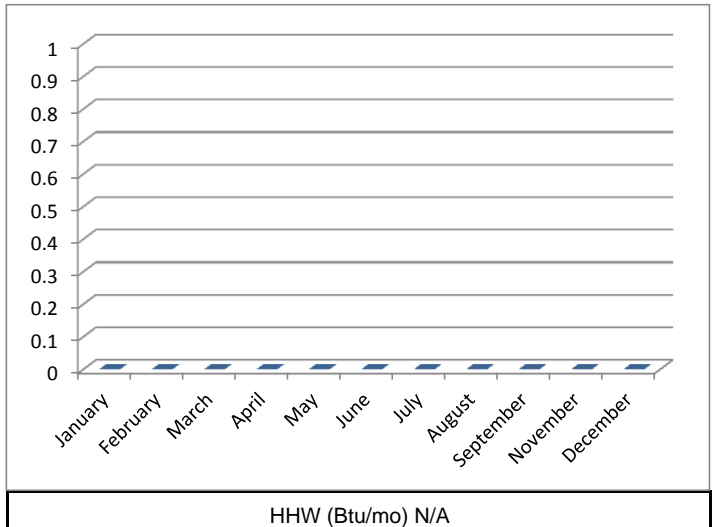
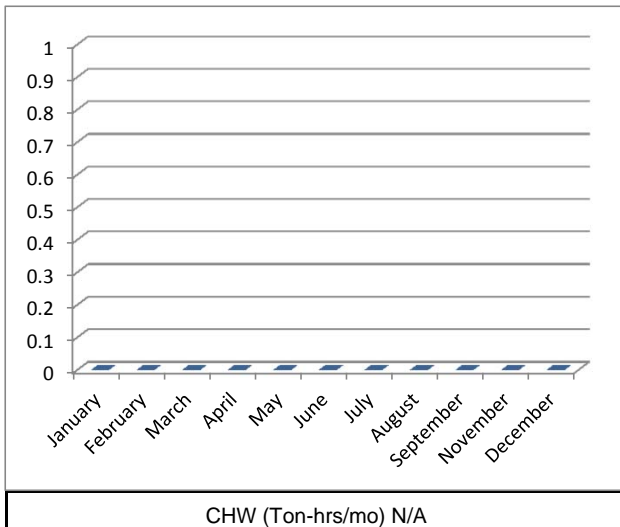
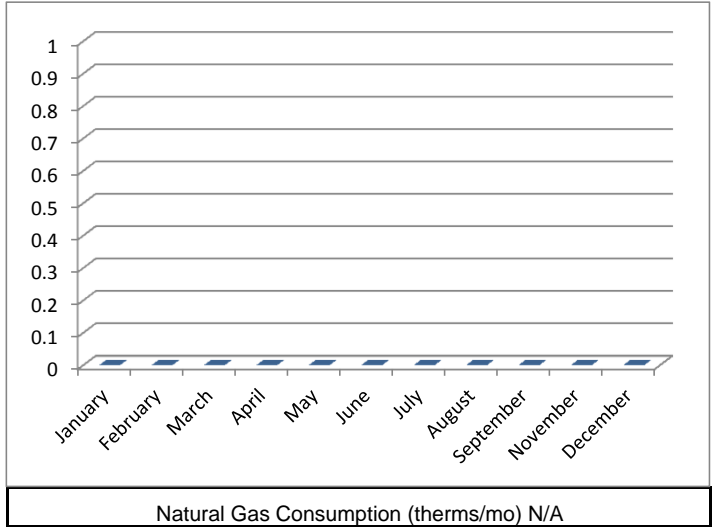
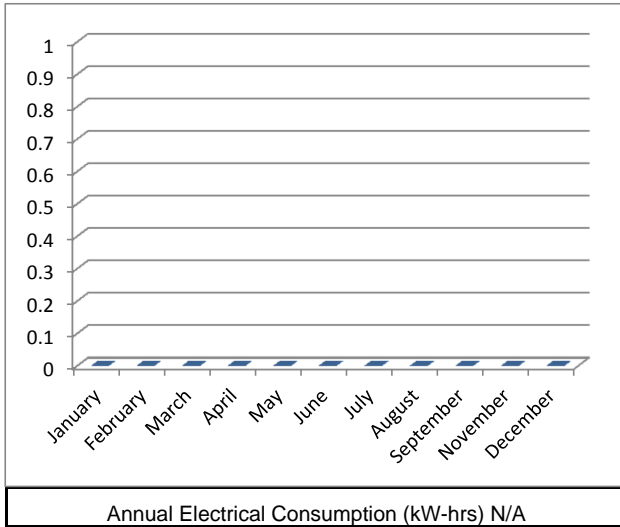


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 3 - Building 34

Floors Above/Below Grade: 1 / 0 Year Built: 1958

Types of Spaces: Fabrication Classrooms, Woodworking Classrooms, etc.



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Fine Arts 3 Surveyor: JD  
 Building Key 34 Date: 10/6/2010  
 Gross Area 22,910 SF  
 Assigned Area 21,073 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Fine Arts 3 - Building 34

EUI:                      - kBtu/SF-yr

Carbon Footprint:                      - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
34-1	Replace to Tankless Water Heaters	0	-	-	0	0.00	\$ 201.77	\$ 4,450.00	\$ -	\$ 4,450.00	22.1
34-2	Insulate DHW Pipe	0	-	-	39	0.00	\$ 35.04	\$ 145.13	\$ -	\$ 145.13	4.1
34-9-1	Prem Eff Mtr - AHU-1 Supply Fan	1,245	0.14	-	0	0.00	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
34-9-2	Prem Eff Mtr - AHU-1 Return Fan	470	0.05	-	0	0.00	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
34-9-3	Prem Eff Mtr - AHU-2 Supply Fan	829	0.09	-	0	0.00	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
34-9-4	Prem Eff Mtr - AHU-2 Return Fan	902	0.10	-	0	0.00	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
34-11	Retrofit Light Fixtures	4,679	0.53	-	0	0.00	\$ 514.73	\$ 17,680.00	\$ 1,123.06	\$ 16,556.94	32.2
34-12-1	High SEER Upgrades	3,580	0.41	-	0	0.00	\$ 322.16	\$ 6,562.50	\$ 859.09	\$ 5,703.41	17.7
34-13	Cool Roof Equivalent PV	17,731	2.02	-	0	0.00	\$ 1,665.14	\$ 50,400.00	\$ 4,255.55	\$ 46,144.45	27.7
34-18-1	Fan Efficiency Improvements	2,941	0.34	-	0	751.17	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
34-18-2	Fan Efficiency Improvements	882	0.10	-	0	225.35	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
34-18-3	Fan Efficiency Improvements	4,412	0.50	-	0	1,126.75	\$ 397.10	\$ 4,500.00	\$ 1,058.92	\$ 3,441.08	8.7
34-18-4	Fan Efficiency Improvements	1,471	0.17	-	0	375.58	\$ 132.37	\$ 3,000.00	\$ 352.97	\$ 2,647.03	20.0
34-22	Skylights Analysis	22,400	8.96	-	0	0.00	\$ 2,016.00	\$ 14,563.00	\$ 5,376.00	\$ 9,187.00	4.6
<b>Totals</b>		<b>61,543.16</b>	<b>13.43</b>	<b>-</b>	<b>38.93</b>	<b>2,478.85</b>	<b>\$ 5,938.60</b>	<b>\$ 113,267.63</b>	<b>\$ 14,770.36</b>	<b>\$ 98,497.27</b>	<b>16.59</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Fine Arts 4</u>	Surveyor:	<u>JD</u>
Building Key	<u>35</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>83,844 SF</u>		
Assigned Area	<u>41,194 SF</u>		

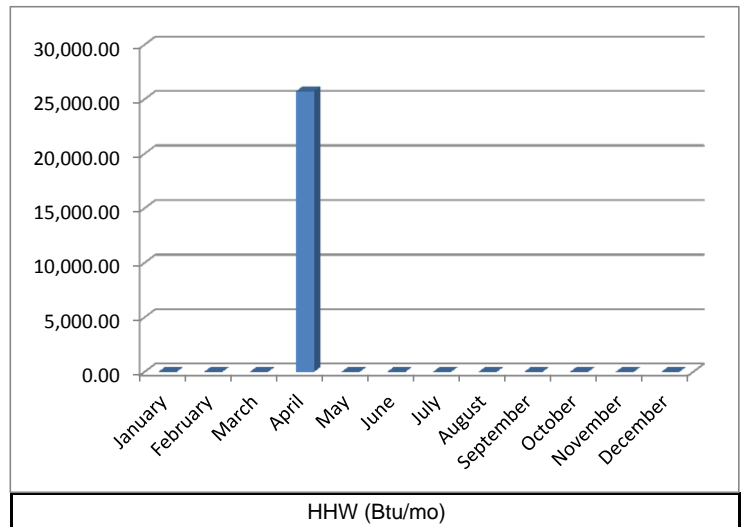
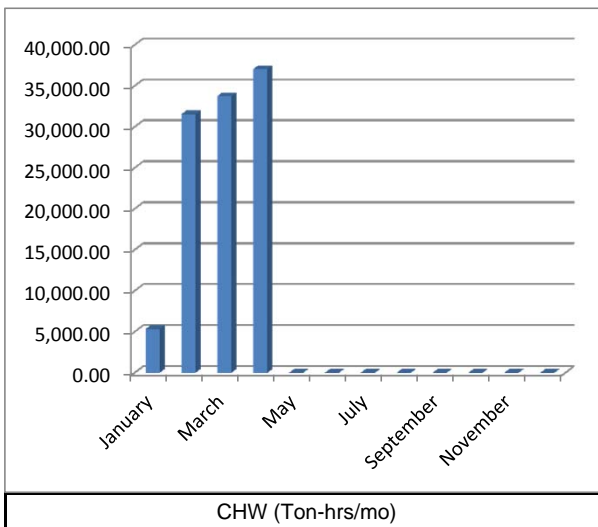
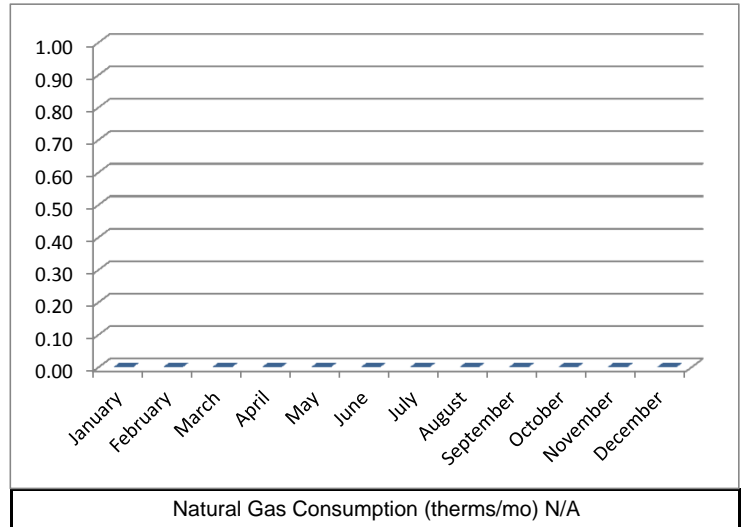
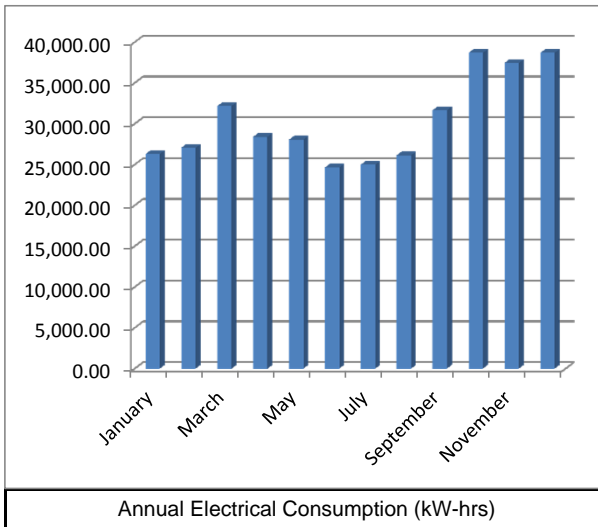


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 4 - Building 35

Floors Above/Below Grade: 3 / 0 Year Built: 1962

Types of Spaces: Art Classrooms, Faculty Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Fine Arts 4 Surveyor: JD  
 Building Key: 35 Date: 10/5/2010  
 Gross Area: 83,844 SF  
 Assigned Area: 41,194 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Fine Arts 4 - Building 35

EUI: 30.18 kBtu/SF-yr

Carbon Footprint: 112.75 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
35-1	Replace to Tankless Water Heaters	0	-		0	0.00	\$ 738.42	\$ 4,450.00	\$ -	\$ 4,450.00	6.0
35-2	Insulate DHW Pipe	0	-		39	0.00	\$ 35.04	\$ 151.44	\$ -	\$ 151.44	4.3
35-9-1	Prem Eff Mtr - AHU-1 Supply Fan	829	0.09		0	0.00	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
35-9-2	Prem Eff Mtr - AHU-2 Supply Fan	829	0.09		0	0.00	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
35-9-3	Prem Eff Mtr - AHU-3 Supply Fan	1,245	0.14		0	0.00	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
35-10-4	VFD for AHU-3 Supply Fan	3,412	0.39		0	0.00	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
35-11	Retrofit Light Fixtures	30,268	3.46		0	0.00	\$ 3,329.44	\$ 59,670.00	\$ 7,264.22	\$ 52,405.78	15.7
35-12-1	High SEER Upgrades	1,620	0.18		0	0.00	\$ 145.80	\$ 2,250.00	\$ 388.80	\$ 1,861.20	12.8
35-13	Cool Roof Equivalent PV	62,060	7.08		0	0.00	\$ 5,828.00	\$ 176,400.00	\$ 14,894.41	\$ 161,505.59	27.7
35-17-EF-1	Exhaust Fan Setback	20,142	2.30		0	0.00	\$ 1,812.78	\$ 1,122.00	\$ 897.60	\$ 224.40	0.1
35-17-EF-2	Exhaust Fan Setback	614	0.07		109	0.00	\$ 153.08	\$ 1,122.00	\$ 147.32	\$ 974.68	6.4
35-17-EF-3	Exhaust Fan Setback	1,215	0.14		193	0.00	\$ 282.75	\$ 1,122.00	\$ 291.68	\$ 830.32	2.9
35-17-EF-4	Exhaust Fan Setback	3,667	0.42		619	0.00	\$ 887.26	\$ 1,122.00	\$ 879.98	\$ 242.02	0.3
35-17-EF-5	Exhaust Fan Setback	373	0.04		0	0.00	\$ 33.57	\$ 1,122.00	\$ 89.52	\$ 1,032.48	30.8
35-17-EF-6	Exhaust Fan Setback	4,972	0.57		992	0.00	\$ 1,340.35	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
35-17-EF-7	Exhaust Fan Setback	4,972	0.57		992	0.00	\$ 1,340.35	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
35-18-1	Fan Efficiency Improvements	11,766	1.34		0	3,004.66	\$ 1,058.92	\$ 7,500.00	\$ 2,823.79	\$ 4,676.21	4.4
35-18-2	Fan Efficiency Improvements	4,412	0.50		0	1,126.75	\$ 397.10	\$ 4,500.00	\$ 1,058.92	\$ 3,441.08	8.7
35-18-3	Fan Efficiency Improvements	2,206	0.25		0	563.37	\$ 198.55	\$ 3,500.00	\$ 529.46	\$ 2,970.54	15.0
<b>Totals</b>		<b>154,601.06</b>	<b>17.65</b>	<b>-</b>	<b>2,943.59</b>	<b>4,694.78</b>	<b>\$ 18,149.70</b>	<b>\$ 274,136.44</b>	<b>\$ 32,576.40</b>	<b>\$ 241,560.04</b>	<b>13.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Microbiology	Surveyor:	AT
Building Key	41	Date:	9/22/2010
Gross Area	47,498 SF		
Assigned Area	26,835 SF		

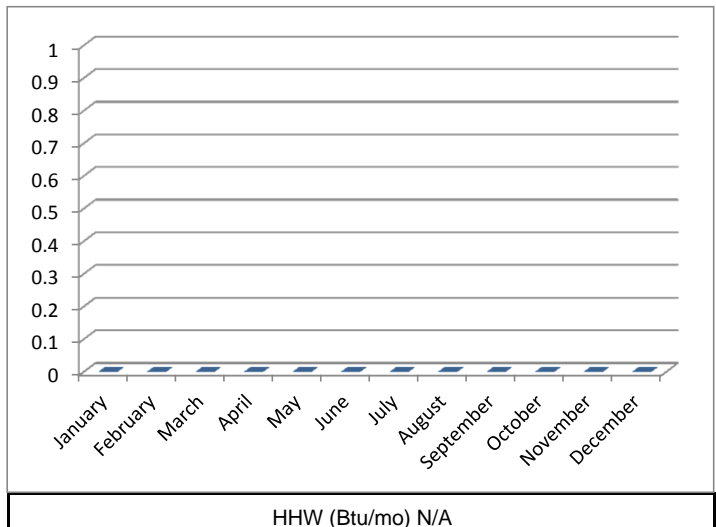
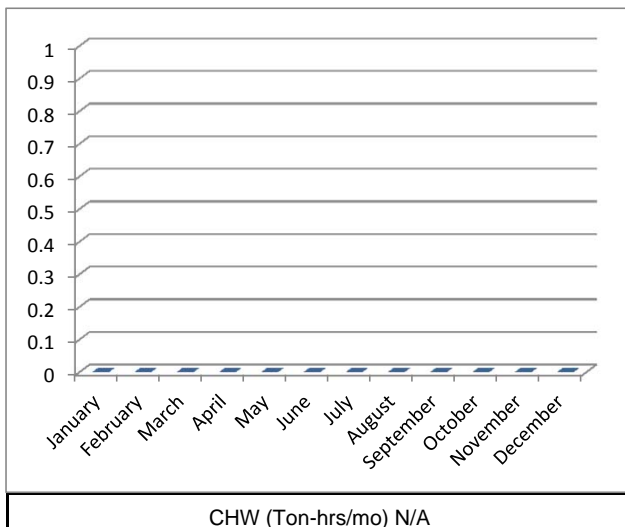
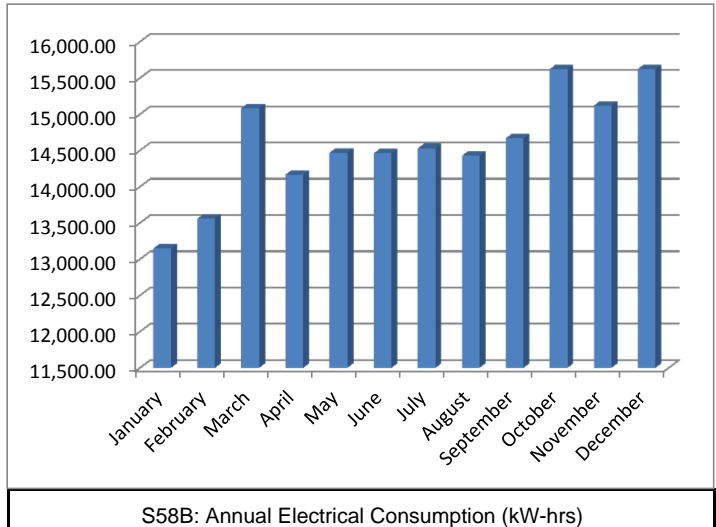
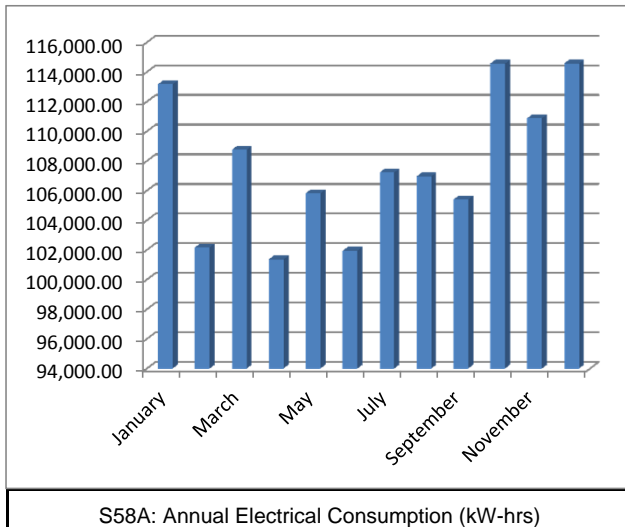


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Microbiology - Bldg 41

Floors Above/Below Grade: 4 / 0 Year Built: 1979

Types of Spaces: Laboratory spaces and faculty offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Microbiology</u>	Surveyor:	<u>AT</u>
Building Key	<u>41</u>	Date:	<u>9/22/2010</u>
Gross Area	<u>47,498 SF</u>		
Assigned Area	<u>26,835 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Microbiology - Bldg 41

EUI: 186.67 kBtu/SF-yr

Carbon Footprint: 454.34 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
41-11	Retrofit Light Fixtures	37,201	4.25	-	-	0.00	\$ 4,092.10	\$ 52,780	\$ 8,928.22	\$ 43,851.78	10.7
41-18-1	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-2	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-3	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-4	Fan Efficiency Improvements	966	0.11	-	-	246.76	\$ 86.96	\$ 3,000	\$ 231.90	\$ 2,768.10	31.8
41-18-5	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-6	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-7	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-8	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-9	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-10	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-11	Fan Efficiency Improvements	1,288	0.15	-	-	329.01	\$ 115.95	\$ 3,000	\$ 309.20	\$ 2,690.80	23.2
41-18-12	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 3,000	\$ 773.01	\$ 2,226.99	7.7
41-18-13	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-14	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-15	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-16	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-17	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-19	Fan Efficiency Improvements	1,288	0.15	-	-	329.01	\$ 115.95	\$ 3,000	\$ 309.20	\$ 2,690.80	23.2
41-18-20	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-21	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-22	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
41-18-23	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 3,500	\$ 1,159.52	\$ 2,340.48	5.4
41-18-24	Fan Efficiency Improvements	1,933	0.22	-	-	493.52	\$ 173.93	\$ 3,000	\$ 463.81	\$ 2,536.19	14.6
<b>Totals</b>		<b>104,517.37</b>	<b>11.93</b>	<b>-</b>	<b>-</b>	<b>17,190.79</b>	<b>\$ 10,150.58</b>	<b>\$ 124,780.00</b>	<b>\$ 25,084.17</b>	<b>\$ 99,695.83</b>	<b>9.82</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

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## GENERAL BUILDING INFORMATION:

Building Name	<u>Microbiology</u>	Surveyor:	<u>AT</u>
Building Key	<u>41</u>	Date:	<u>9/22/2010</u>
Gross Area	<u>47,498 SF</u>		
Assigned Area	<u>26,835 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name	<u>Microbiology - Bldg 41</u>
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# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Social Science/Public Affairs	Surveyor:	AT
Building Key	46	Date:	9/22/2010
Gross Area	57,951 SF		
Assigned Area	34,594 SF		

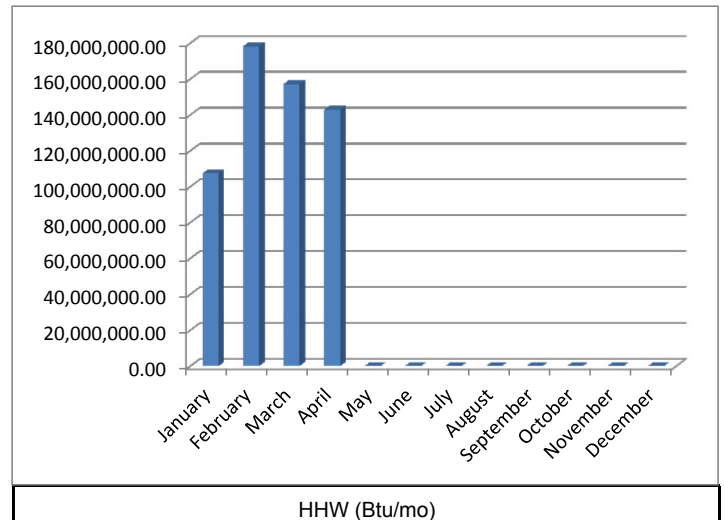
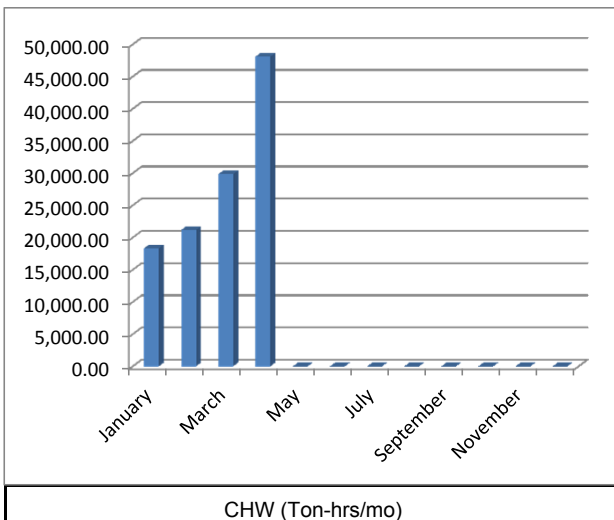
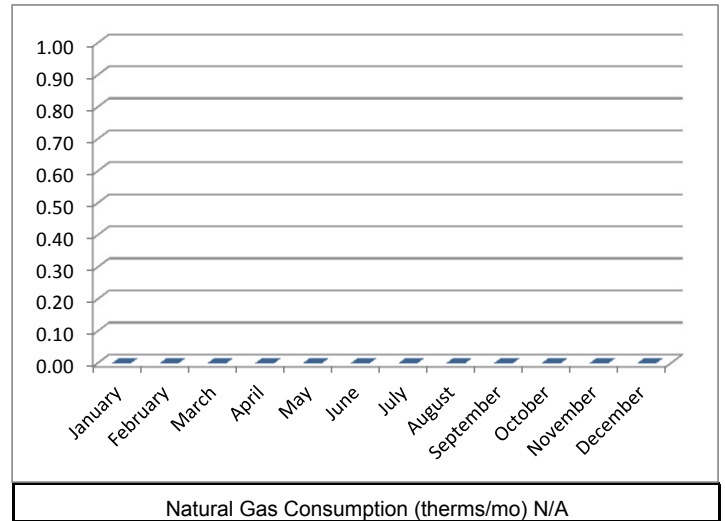
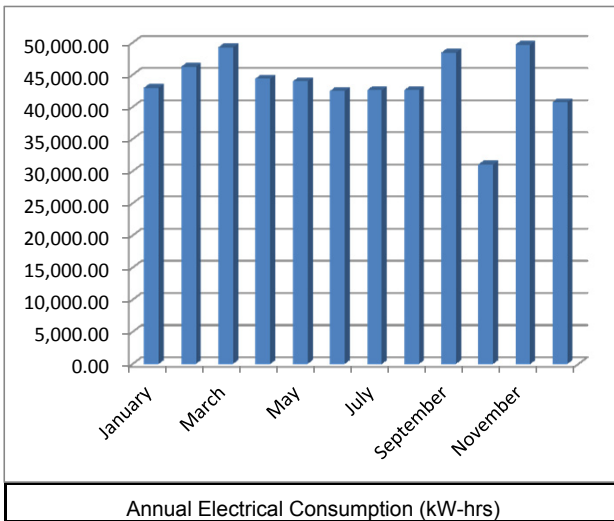


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Social Science/Public Affairs Surveyor: AT  
 Building Key 46 Date: 9/22/2010  
 Gross Area 57,951 SF  
 Assigned Area 34,594 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Social Science/Public Affairs - Bldg 46

EUI: 73.74 kBtu/SF-yr

Carbon Footprint: 207.52 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
46-5-1	Static Pressure Reset	6,016	0.69	-	-	0.00	\$ 541.42	\$ 1,420	\$ 1,135.68	\$ 283.92	0.5
46-5-2	Static Pressure Reset	12,031	1.37	-	-	0.00	\$ 1,082.83	\$ 1,420	\$ 1,135.68	\$ 283.92	0.3
46-9-1	Prem Eff Mtr - AH-1 Supply Fan	829	0.09	-	-	0.00	\$ 74.61	\$ 1,836	\$ 198.96	\$ 1,637.04	21.9
46-9-2	Prem Eff Mtr - AH-1 Return Fan	1,245	0.14	-	-	0.00	\$ 112.05	\$ 1,139	\$ 298.80	\$ 840.20	7.5
46-9-3	Prem Eff Mtr - AH-2 Supply Fan	1,245	0.14	-	-	0.00	\$ 112.05	\$ 1,139	\$ 298.80	\$ 840.20	7.5
46-9-4	Prem Eff Mtr - AH-2 Return Fan	902	0.10	-	-	0.00	\$ 81.18	\$ 1,000	\$ 216.48	\$ 783.52	9.7
46-11	Retrofit Light Fixtures	131,852	15.05	-	-	0.00	\$ 14,503.67	\$ 111,735	\$ 31,644.36	\$ 80,090.64	5.5
46-12-1	High SEER Upgrades	801	0.09	-	-	0.00	\$ 72.10	\$ 1,469	\$ 192.27	\$ 1,276.48	17.7
46-18-1	Fan Efficiency Improvements	4,831	0.55	-	-	1,233.79	\$ 434.82	\$ 4,500	\$ 1,159.52	\$ 3,340.48	7.7
46-18-2	Fan Efficiency Improvements	2,416	0.28	-	-	616.89	\$ 217.41	\$ 3,500	\$ 579.76	\$ 2,920.24	13.4
46-18-3	Fan Efficiency Improvements	2,416	0.28	-	-	616.89	\$ 217.41	\$ 3,500	\$ 579.76	\$ 2,920.24	13.4
46-18-4	Fan Efficiency Improvements	1,610	0.18	-	-	411.26	\$ 144.94	\$ 3,000	\$ 386.51	\$ 2,613.49	18.0
46-18-5	Fan Efficiency Improvements	3,221	0.37	-	-	822.53	\$ 289.88	\$ 4,250	\$ 773.01	\$ 3,476.99	12.0
<b>Totals</b>		<b>169,414.85</b>	<b>19.34</b>	<b>-</b>	<b>-</b>	<b>3,701.37</b>	<b>\$ 17,884.37</b>	<b>\$ 139,906.95</b>	<b>\$ 38,599.59</b>	<b>\$ 101,307.36</b>	<b>5.66</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>University Gymnasiums</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>47</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>167,286 SF</u>		
Assigned Area	<u>129,576 SF</u>		

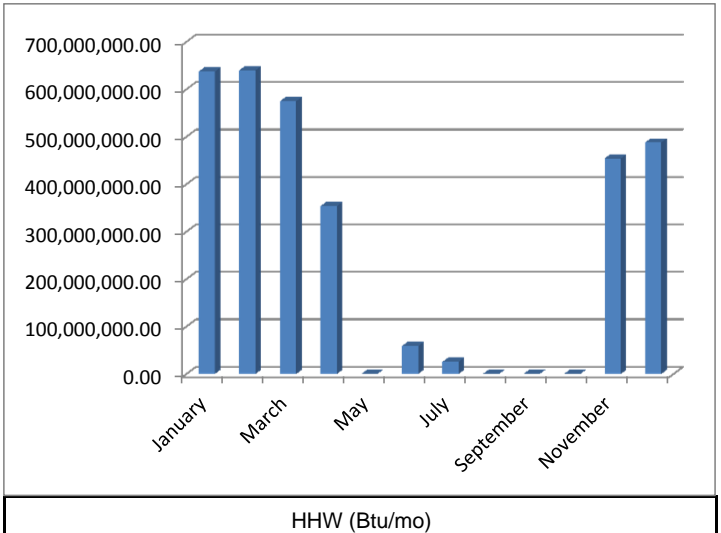
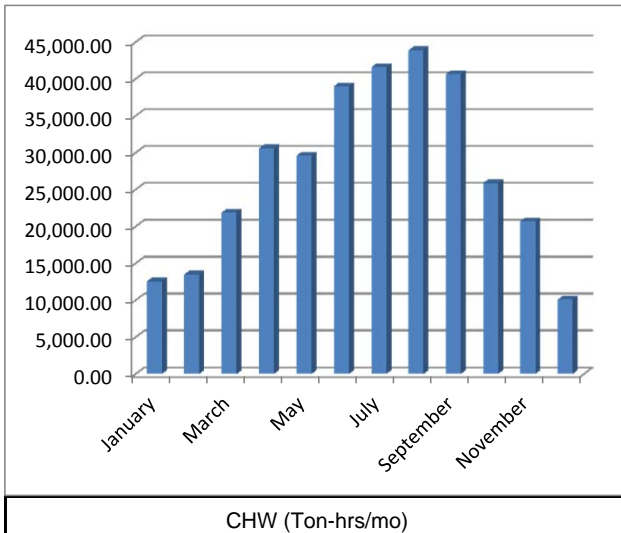
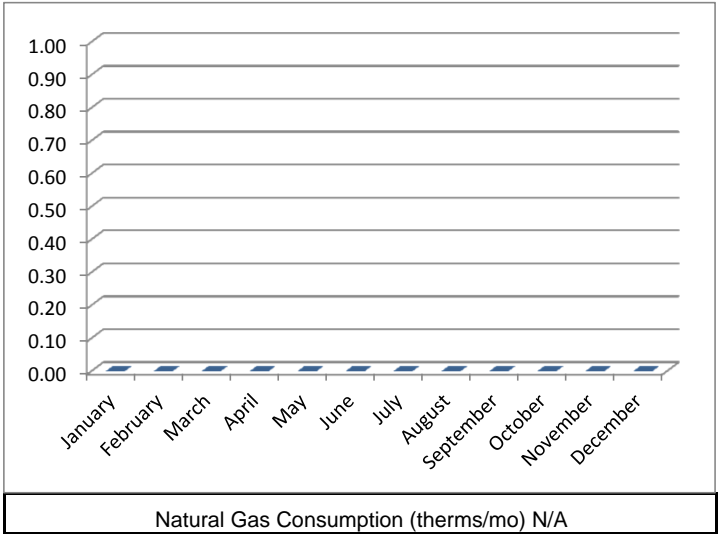
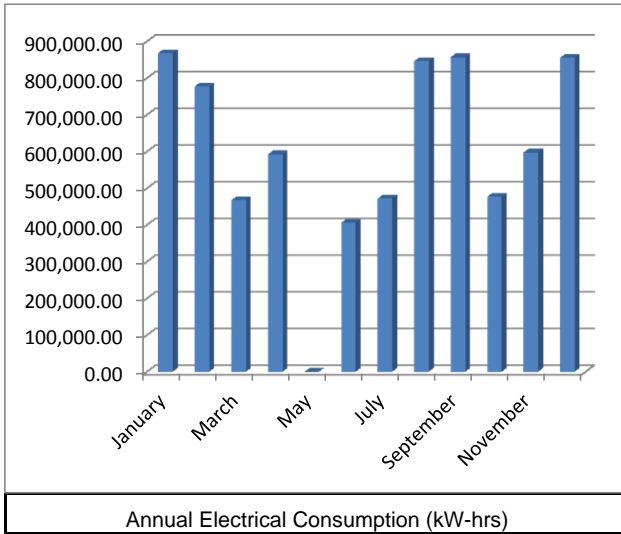


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: University Gymnasiums - Bldg 47

Floors Above/Below Grade: 5 / 0 Year Built: 1958

Types of Spaces: Lecture Classroom, Lab Classroom, Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>University Gymnasiums</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>47</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>167,286 SF</u>		
Assigned Area	<u>129,576 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
47-11	Retrofit Light Fixtures	51,506	5.88				\$ 5,665.70	\$ 90,578	\$ 12,361.54	\$ 78,215.96	13.8
47-22	Skylights Analysis	22,400	8.96				\$ 2,016.00	\$ 14,563	\$ 5,376.00	\$ 9,187.00	4.6
<b>Totals</b>		<b>73,906.40</b>	<b>14.84</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 7,681.70</b>	<b>105,140.50</b>	<b>17,737.54</b>	<b>\$ 87,402.96</b>	<b>11.38</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Health &amp; Human Svcs 2</u>	Surveyor:	<u>JD</u>
Building Key	<u>49</u>	Date:	<u>9/21/2010</u>
Gross Area	<u>13,034 SF</u>		
Assigned Area	<u>8,411 SF</u>		

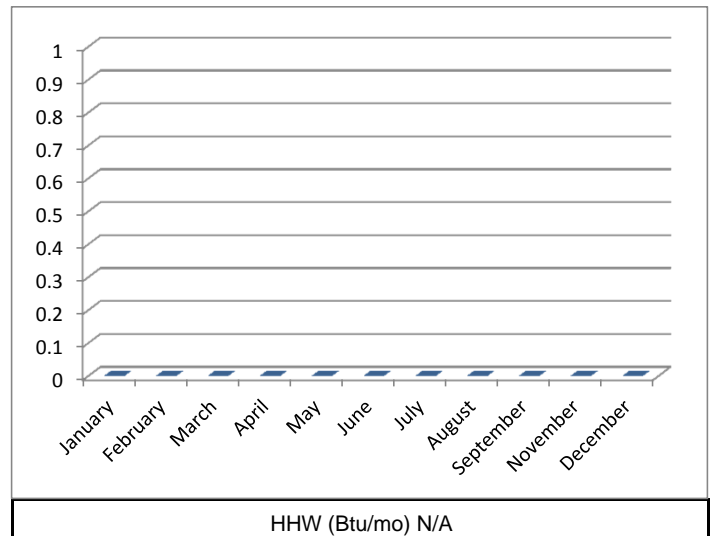
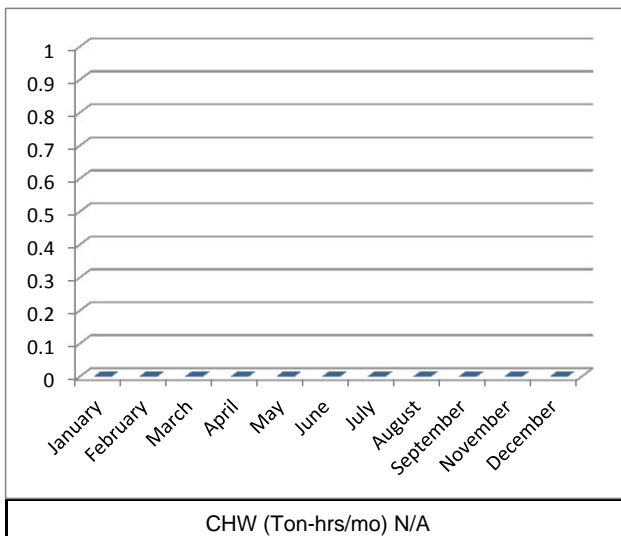
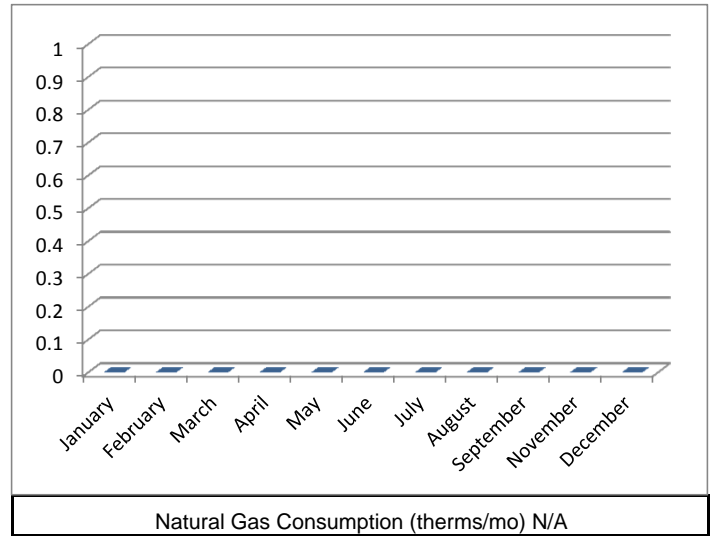
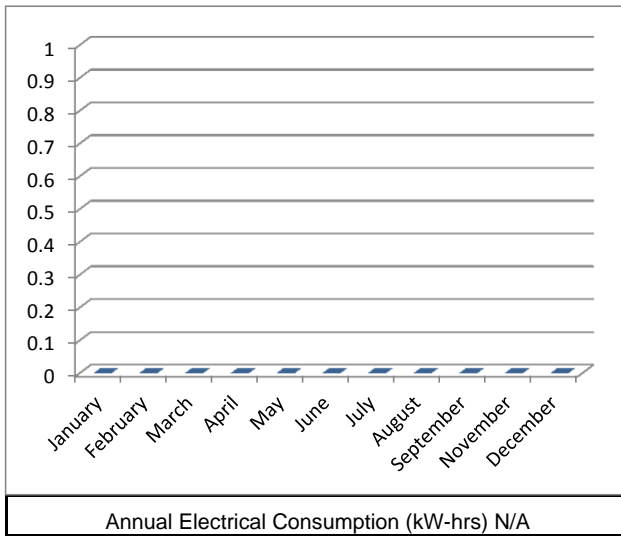


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Health & Human Svcs 2 - Bldg 47

Floors Above/Below Grade: 2 / 0 Year Built: 1965

Types of Spaces: Faculty Offices





# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Health & Human Svcs 2      Surveyor: JD  
 Building Key: 49      Date: 9/21/2010  
 Gross Area: 13,034 SF  
 Assigned Area: 8,411 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Health & Human Svcs 2 - Bldg 47

EUI: - kBtu/SF-yr

Carbon Footprint: - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
49-9	Prem Eff Mtr - Health and Human Services	370	0.04				\$ 33.30	\$ 401.00	\$ 88.80	\$ 312.20	9.4
49-11	Retrofit Light Fixtures	9,174	1.05				\$ 1,009.14	\$ 18,752.50	\$ 2,201.76	\$ 16,550.74	16.4
<b>Totals</b>		<b>9,544.00</b>	<b>1.09</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 1,042.44</b>	<b>\$ 19,153.50</b>	<b>\$ 2,290.56</b>	<b>\$ 16,862.94</b>	<b>16.18</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

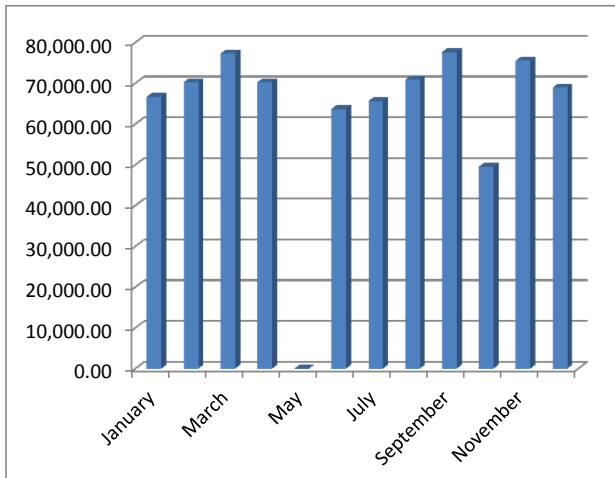
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Building Key	<u>50</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>87,000 SF</u>		
Assigned Area	<u>53,174 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

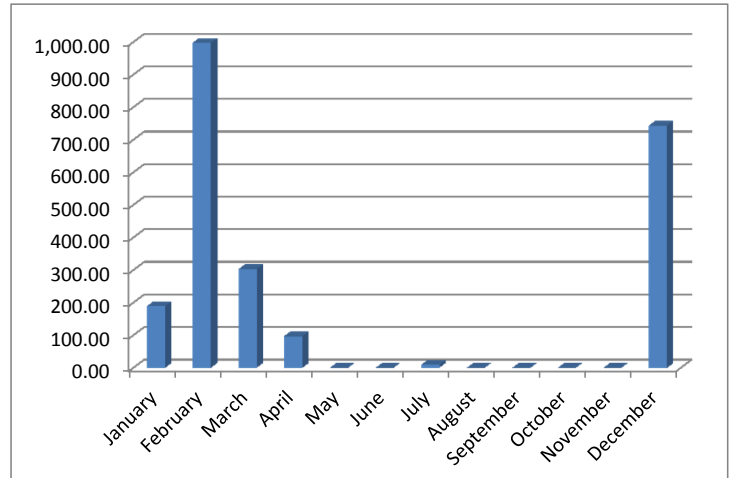
Common Building Name: Vivian Engineering Ctr - Building 50

Floors Above/Below Grade: 5 / 0 Year Built: 1971

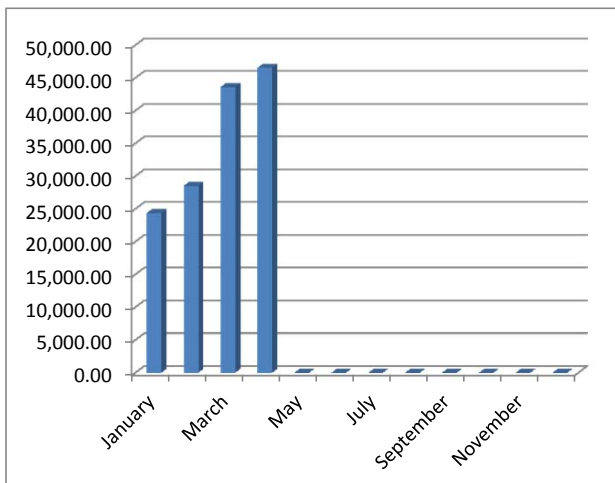
Types of Spaces: Lecture Classroom, Lab Classroom, Offices



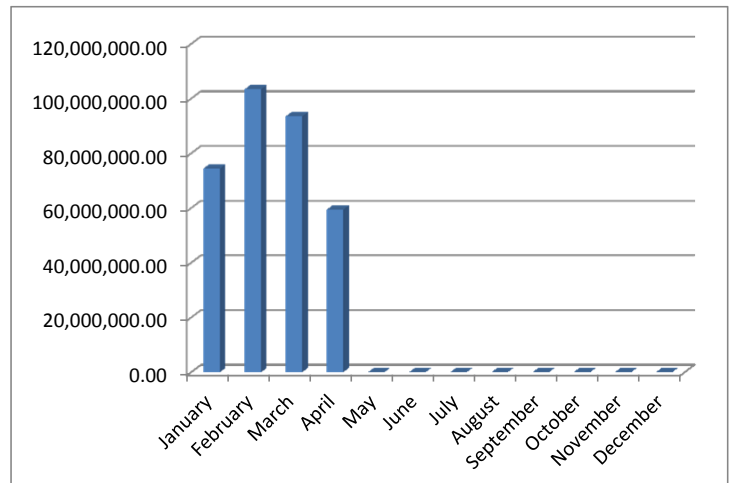
S8A: Annual Electrical Consumption (kW-hrs)



S8B: Annual Electrical Consumption (kW-hrs)



CHW (Ton-hrs/mo)



HHW (Btu/mo)

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Vivian Engineering Ctr</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>50</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>87,000 SF</u>		
Assigned Area	<u>53,174 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Vivian Engineering Ctr - Building 50

EUI: 74.41 kBtu/SF-yr

Carbon Footprint: 345.40 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
50-1	Replace to Tankless Water Heaters	0	0.00	-	0	-	\$ 766.21	\$ 8,900.00	\$ -	\$ 8,900.00	11.6
50-5-1	Static Pressure Reset	12,282	1.40	-	0	-	\$ 1,105.39	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.3
50-5-2	Static Pressure Reset	9,212	1.05	-	0	-	\$ 829.04	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.3
50-5-3	Static Pressure Reset	9,212	1.05	-	0	-	\$ 829.04	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.3
50-5-4	Static Pressure Reset	9,212	1.05	-	0	-	\$ 829.04	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.3
50-5-5	Static Pressure Reset	9,212	1.05	-	0	-	\$ 829.04	\$ 1,419.60	\$ 1,135.68	\$ 283.92	0.3
50-11	Retrofit Light Fixtures	215,012	24.54	-	0	-	\$ 23,651.27	\$ 120,640.00	\$ 51,602.76	\$ 69,037.24	2.9
<b>Totals</b>		<b>264,140.08</b>	<b>30.15</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 28,839.05</b>	<b>\$ 136,638.00</b>	<b>\$ 57,281.16</b>	<b>\$ 79,356.84</b>	<b>2.75</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Engineering 2      Surveyor: JP  
 Building Key: 51      Date: \_\_\_\_\_  
 Gross Area: 24,378 SF  
 Assigned Area: 14,886 SF

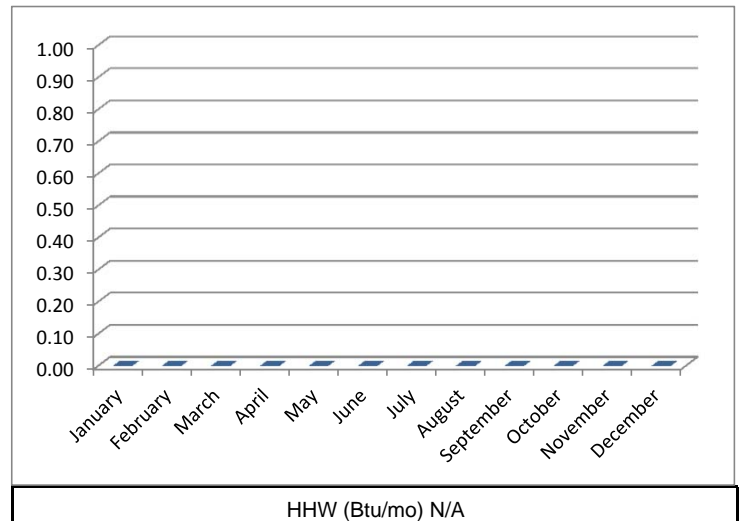
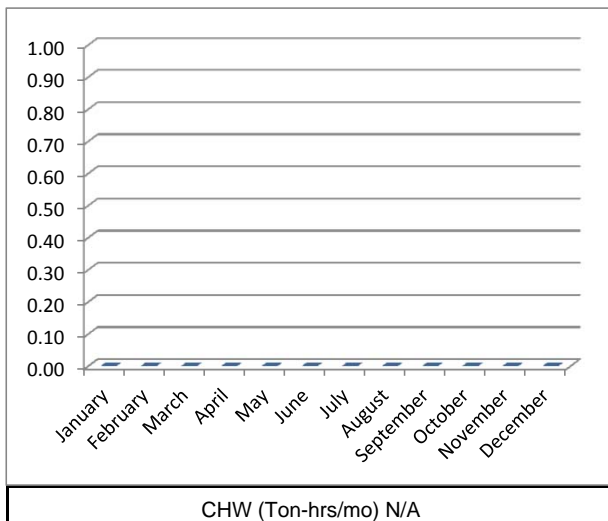
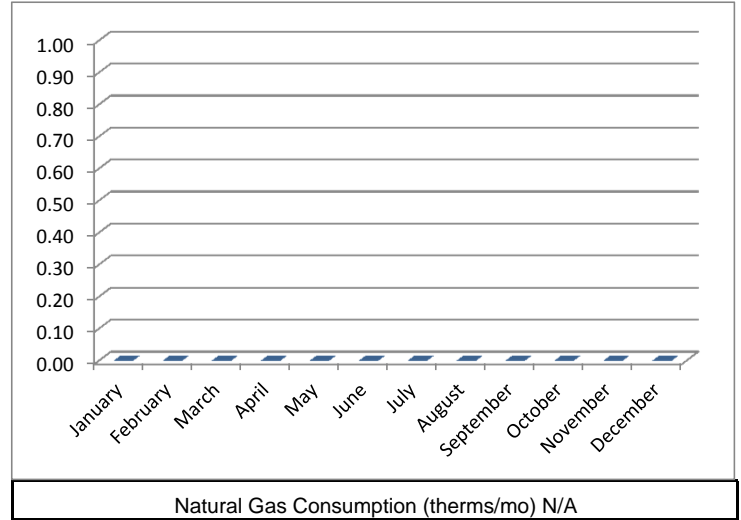
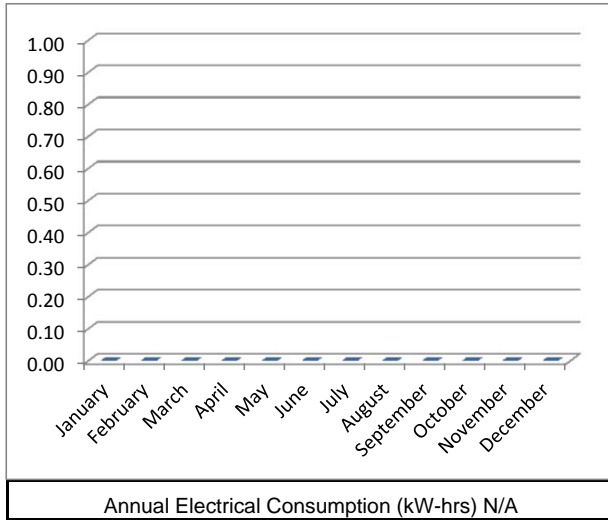


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering 2 Bldg 51

Floors Above/Below Grade: 0 / 0      Year Built: 1962

Types of Spaces: Lecture Classroom, Computer Lab, Offices



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name: Engineering 2 Surveyor: JP  
 Building Key: 51 Date: \_\_\_\_\_  
 Gross Area: 24,378 SF  
 Assigned Area: 14,886 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering 2 Bldg 51

EUI: \_\_\_\_\_ - kBtu/SF-yr

Carbon Footprint: \_\_\_\_\_ - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
51-1	Replace to Tankless Water Heaters	15,883	1.81	-	-542	-	\$ 941.61	\$ 8,900.00	\$ 3,812.01	\$ 5,087.99	5.4
51-2	Insulate DHW Pipe	299	0.03	-	0	-	\$ 26.95	\$ 63.10	\$ 50.48	\$ 12.62	0.5
51-4	Low Flush Urinals	0	-	-	0	-	\$ 571.49	\$ 1,000.00	\$ -	\$ 1,000.00	1.7
51-5	Static Pressure Reset	3,071	0.35	-	0	-	\$ 276.35	\$ 1,419.60	\$ 736.93	\$ 682.67	2.5
51-9-1	Prem Eff Mtr - AHU Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
51-9-2	Prem Eff Mtr - AHU Return Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
51-10-1	VFD for AHU Supply Fan	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
51-10-2	VFD for AHU Return Fan	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
51-11	Retrofit Light Fixtures	18,266	2.09	-	0	-	\$ 2,009.21	\$ 38,967.50	\$ 4,383.72	\$ 34,583.78	17.2
51-12-1	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
51-13	Cool Roof Equivalent PV	17,731	2.02	-	0	-	\$ 1,665.14	\$ 50,400.00	\$ 4,255.55	\$ 46,144.45	27.7
51-17-EF-1	Exhaust Fan Setback	3,481	0.40	-	248	-	\$ 536.18	\$ 1,122.00	\$ 835.40	\$ 286.60	0.5
<b>Totals</b>		<b>68,845.38</b>	<b>7.86</b>	<b>-</b>	<b>(294.43)</b>	<b>-</b>	<b>\$ 6,937.21</b>	<b>\$ 111,718.95</b>	<b>\$ 16,501.51</b>	<b>\$ 95,217.44</b>	<b>13.73</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Engineering 3      Surveyor: JP  
 Building Key: 52      Date: \_\_\_\_\_  
 Gross Area: 24,385 SF  
 Assigned Area: 14,466 SF

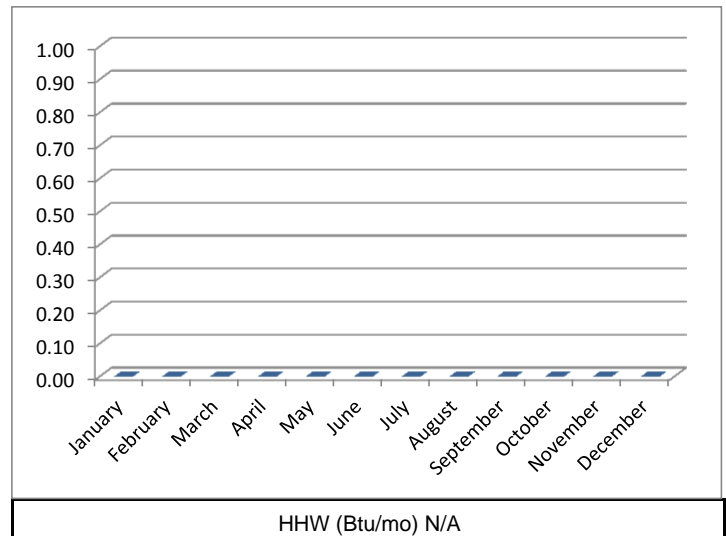
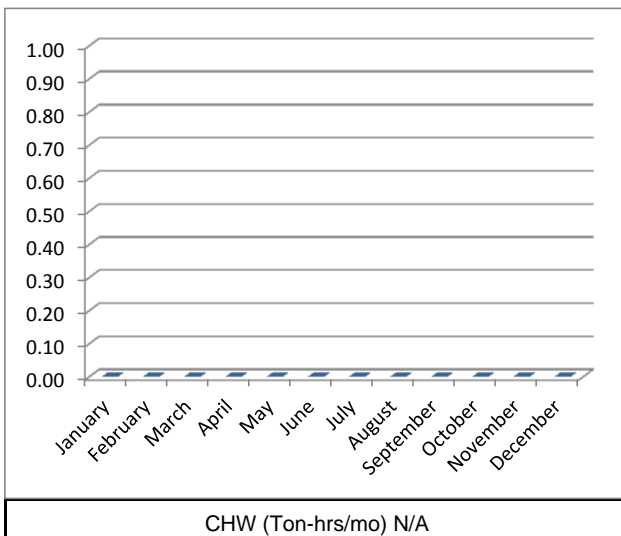
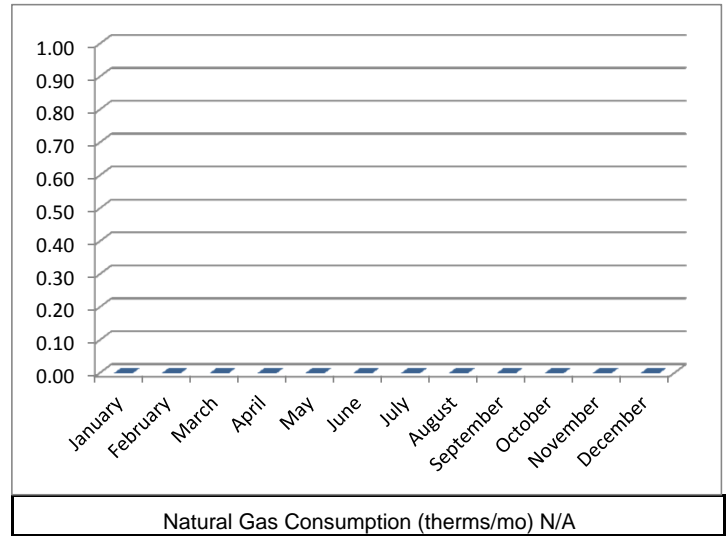
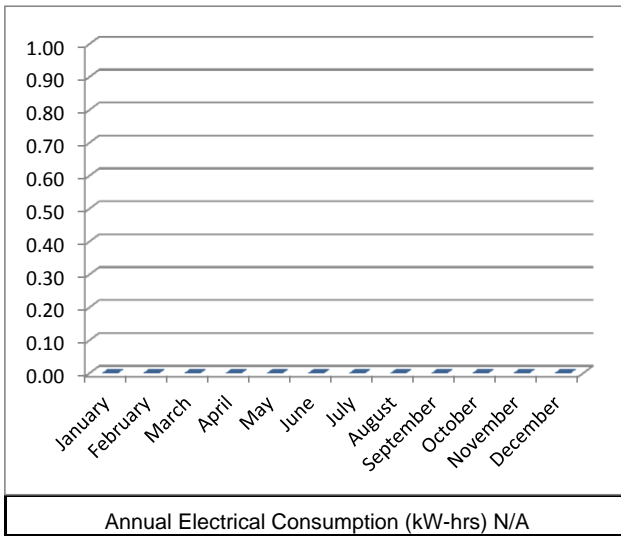


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering 3

Floors Above/Below Grade: 1 / 0      Year Built: 1962

Types of Spaces: Lecture Classroom, Computer Lab, Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Engineering 3      Surveyor: JP  
 Building Key: 52      Date: \_\_\_\_\_  
 Gross Area: 24,385 SF  
 Assigned Area: 14,466 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering 3

EUI:                      -                      kBtu/SF-yr

Carbon Footprint:                      -                      Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
52-1	Replace to Tankless Water Heaters	15,885	1.81	-	(542)	-	\$ 941.73	\$ 8,900.00	\$ 3,812.48	\$ 5,087.52	5.4
52-2	Insulate DHW Pipe	749	0.09	-	0	-	\$ 67.37	\$ 157.75	\$ 126.20	\$ 31.55	0.5
52-6	Demand Control Ventilation	13,482	1.54	-	560	-	\$ 1,716.89	\$ 16,755.00	\$ 3,235.56	\$ 13,519.44	7.9
52-9-1	Prem Eff Mtr - AHU Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
52-9-2	Prem Eff Mtr - AHU Return Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
52-10-1	VFD for AHU Supply Fan	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
52-10-2	VFD for AHU Return Fan	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
52-11	Retrofit Light Fixtures	15,005	1.71	-	0	-	\$ 1,650.56	\$ 22,457.50	\$ 3,601.22	\$ 18,856.28	11.4
52-12-1	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
52-13	Cool Roof Equivalent PV	5,910	0.67	-	0	-	\$ 555.05	\$ 16,800.00	\$ 1,418.52	\$ 15,381.48	27.7
<b>Totals</b>		<b>61,145.27</b>	<b>6.98</b>	<b>-</b>	<b>17.33</b>	<b>-</b>	<b>\$ 5,841.88</b>	<b>\$ 74,917.00</b>	<b>\$ 14,621.40</b>	<b>\$ 60,295.60</b>	<b>10.32</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	Design	Surveyor:	JD
Building Key	54	Date:	9/30/2010
Gross Area	44,768 SF		
Assigned Area	34,603 SF		

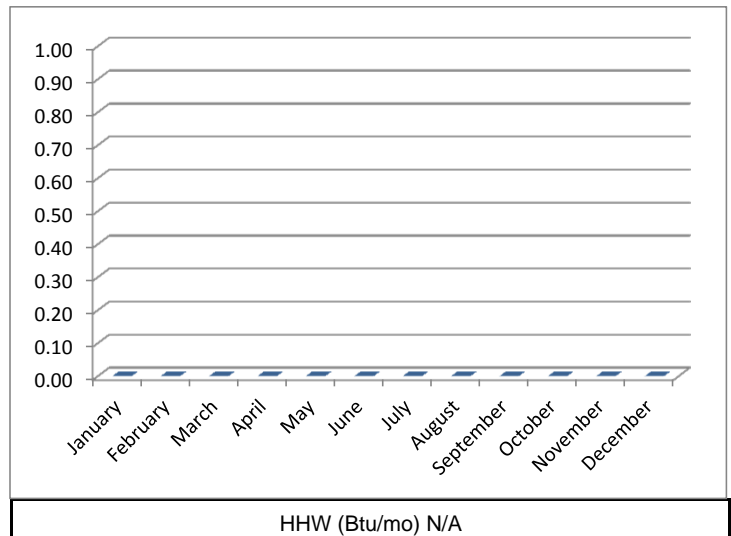
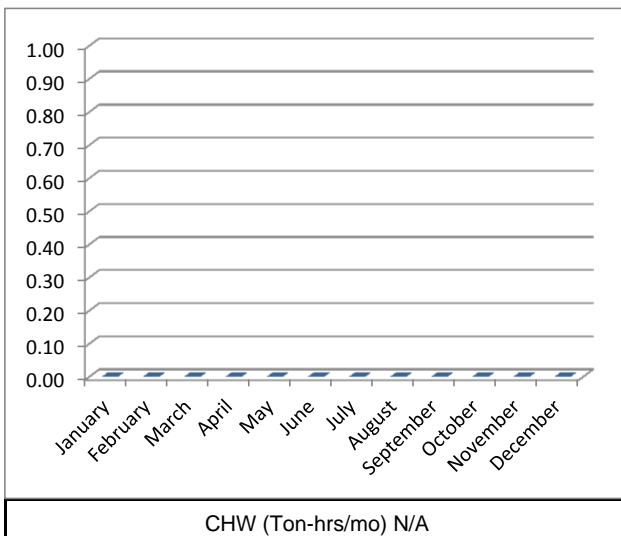
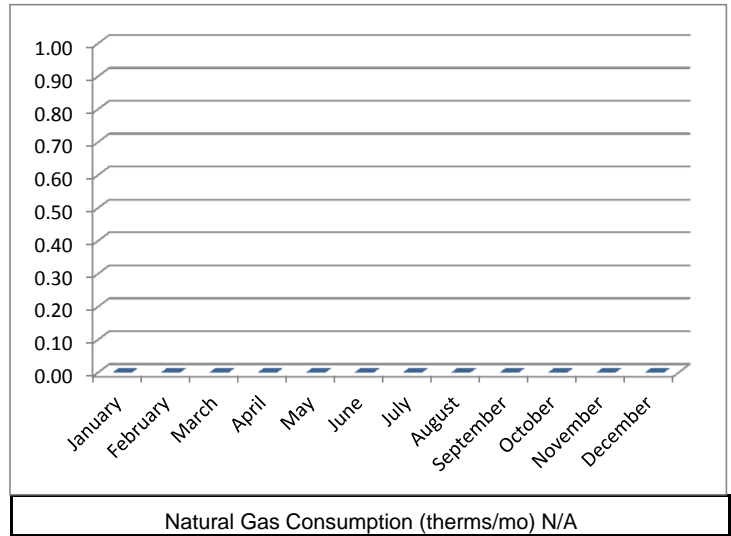
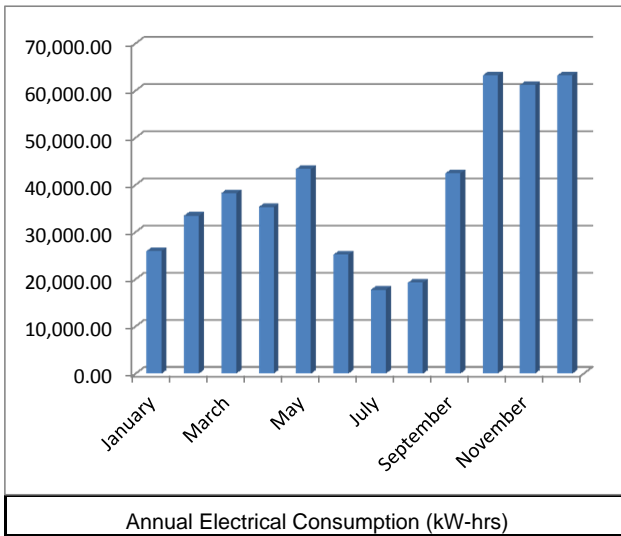


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Design - Building 54

Floors Above/Below Grade: 1 / 0 Year Built: 1960

Types of Spaces: Wood shop, paint shop, design studios, etc.





# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name	<u>Design</u>	Surveyor:	<u>JD</u>
Building Key	<u>54</u>	Date:	<u>9/30/2010</u>
Gross Area	<u>44,768 SF</u>		
Assigned Area	<u>34,603 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
54-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 394.27	\$ 4,450.00	\$ -	\$ 4,450.00	11.3
54-5	Static Pressure Reset	4,700	0.54	-	0	-	\$ 422.98	\$ 1,419.60	\$ 1,127.95	\$ 291.65	0.7
54-9-1	Prem Eff Mtr - AHU-1 Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
54-9-2	Prem Eff Mtr - AHU-2 Supply Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
54-9-3	Prem Eff Mtr - AHU-3 Supply Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
54-9-4	Prem Eff Mtr - AHU-4 Supply Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
54-9-5	Prem Eff Mtr - AHU-5 Supply Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
54-9-6	Prem Eff Mtr - AHU-6 Supply Fan	470	0.05	-	0	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
54-9-7	Prem Eff Mtr - HHW Pumps	902	0.10	-	0	-	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
54-10-2	VFD for AHU-1 Supply Fan	4,549	0.52	-	0	-	\$ 409.39	\$ 3,050.00	\$ 1,091.70	\$ 1,958.30	4.8
54-10-3	VFD for AHU-2 Supply Fan	1,365	0.16	-	0	-	\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
54-10-4	VFD for AHU-3 Supply Fan	1,365	0.16	-	0	-	\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
54-10-5	VFD for AHU-4 Supply Fan	1,365	0.16	-	0	-	\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
54-10-6	VFD for AHU-5 Supply Fan	1,365	0.16	-	0	-	\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
54-10-7	VFD for AHU-6 Supply Fan	1,365	0.16	-	0	-	\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
54-10-8	VFD for HHW Pumps	3,791	0.43	-	0	-	\$ 341.16	\$ 5,150.00	\$ 909.75	\$ 4,240.25	12.4
54-11	Retrofit Light Fixtures	38,643	4.41	-	0	-	\$ 4,250.73	\$ 41,210.00	\$ 9,274.32	\$ 31,935.68	7.5
54-12-1	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
54-12-2	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
54-13	Cool Roof Equivalent PV	33,985	3.88	-	0	-	\$ 3,191.53	\$ 96,600.00	\$ 8,156.46	\$ 88,443.54	27.7
54-18-1	Fan Efficiency Improvements	2,941	0.34	-	0	-	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
54-18-2	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
54-18-3	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
54-18-4	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
54-18-5	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
54-18-6	Fan Efficiency Improvements	882	0.10	-	0	-	\$ 79.42	\$ 3,000.00	\$ 211.78	\$ 2,788.22	35.1
<b>Totals</b>		<b>105,943.40</b>	<b>12.09</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 10,834.89</b>	<b>\$ 192,166.10</b>	<b>\$ 25,426.42</b>	<b>\$ 166,739.68</b>	<b>15.39</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Design</u>	Surveyor:	<u>JD</u>
Building Key	<u>54</u>	Date:	<u>9/30/2010</u>
Gross Area	<u>44,768 SF</u>		
Assigned Area	<u>34,603 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Human Services &amp; Design</u>	Surveyor:	<u>JD</u>
Building Key	<u>55</u>	Date:	<u>2/4/2010</u>
Gross Area	<u>24,300 SF</u>		
Assigned Area	<u>17,912 SF</u>		

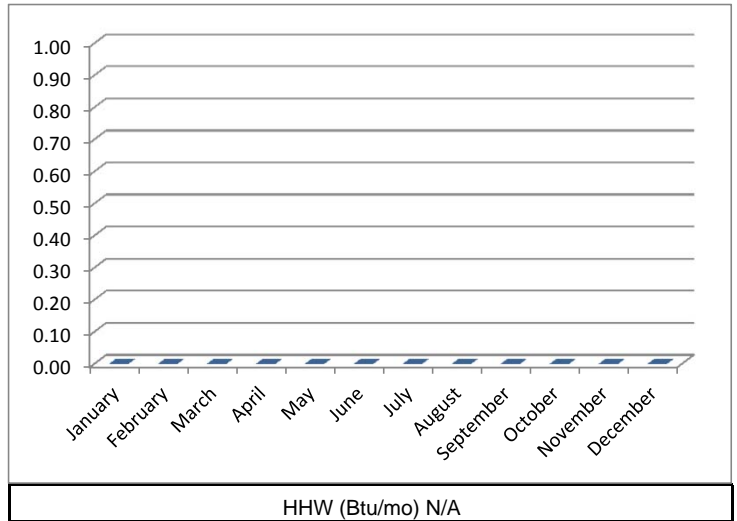
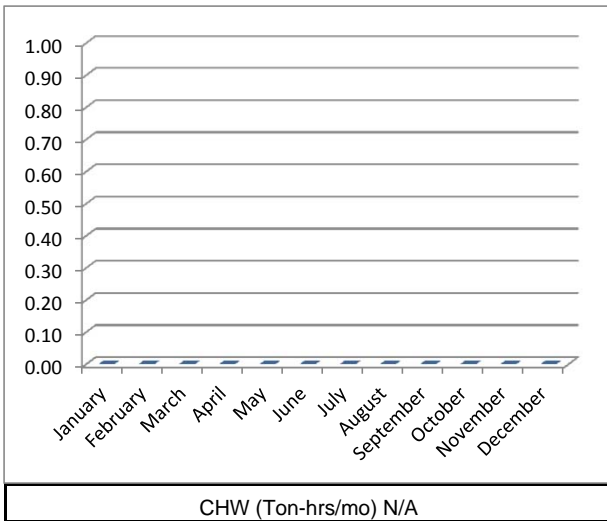
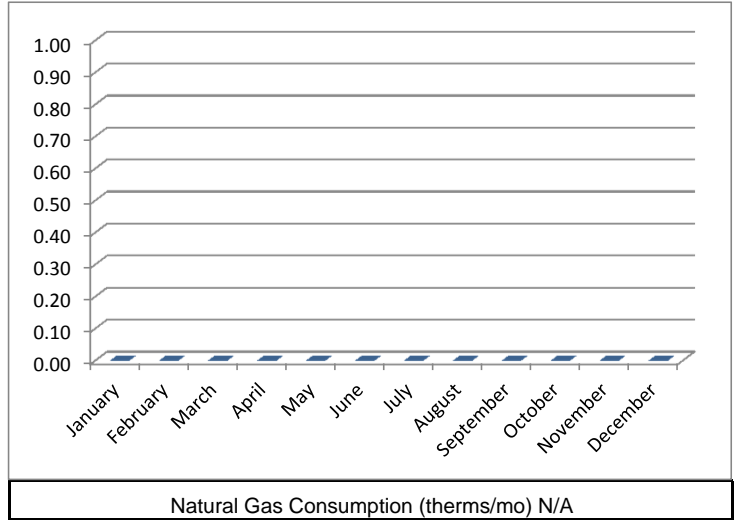
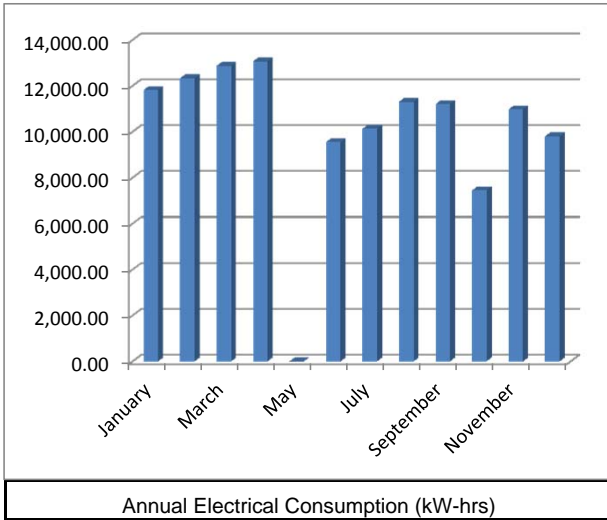


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Human Services & Design - Building 55

Floors Above/Below Grade: 1 / 0 Year Built: 1966

Types of Spaces: Classrooms & Offices



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name: Human Services & Design      Surveyor: JD  
 Building Key: 55      Date: 2/4/2010  
 Gross Area: 24,300 SF  
 Assigned Area: 17,912 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Human Services & Design - Building 55

EUI: 32.50 kBtu/SF-yr

Carbon Footprint: 52.80 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
55-1	Replace to Tankless Water Heaters	0	-		0	0.00	\$ 157.75	\$ 4,450	\$ -	\$ 4,450.00	28.2
55-10-1CS	AH-1 Supply Fan	6,065	0.69		0	0.00	\$ 545.85	\$ 3,050	\$ 1,455.60	\$ 1,594.40	2.9
55-10-1HS	AH-2 Supply Fan	4,549	0.52		0	0.00	\$ 409.39	\$ 3,050	\$ 1,091.70	\$ 1,958.30	4.8
55-10-FC-1	Fan Coil-1 Supply Fan	1,819	0.21		0	0.00	\$ 163.75	\$ 2,450	\$ 436.68	\$ 2,013.32	12.3
55-10-FC-2	Fan Coil-2 Supply Fan	3,032	0.35		0	0.00	\$ 272.92	\$ 5,150	\$ 727.80	\$ 4,422.20	16.2
55-10-FC-3	Fan Coil-3 Supply Fan	1,819	0.21		0	0.00	\$ 163.75	\$ 2,450	\$ 436.68	\$ 2,013.32	12.3
55-10-FC-4	Fan Coil-4 Supply Fan	1,819	0.21		0	0.00	\$ 163.75	\$ 2,450	\$ 436.68	\$ 2,013.32	12.3
55-11	Retrofit Light Fixtures	22,103	2.52		0	0.00	\$ 2,431.37	\$ 38,708	\$ 5,304.82	\$ 33,402.68	13.7
55-13	Cool Roof Equivalent PV	19,209	2.19		0	0.00	\$ 1,803.91	\$ 54,600	\$ 4,610.17	\$ 49,989.83	27.7
55-18-1CS	Fan Efficiency Improvements	2,758	0.31		704	704.22	\$ 248.18	\$ 4,250	\$ 661.83	\$ 3,588.17	14.5
55-18-1HS	Fan Efficiency Improvements	2,068	0.24		528	528.16	\$ 186.14	\$ 3,500	\$ 496.37	\$ 3,003.63	16.1
55-18-FC-1	Fan Efficiency Improvements	827	0.09		211	211.27	\$ 74.46	\$ 3,000	\$ 198.55	\$ 2,801.45	37.6
55-18-FC-2	Fan Efficiency Improvements	1,379	0.16		352	352.11	\$ 124.09	\$ 3,000	\$ 330.91	\$ 2,669.09	21.5
55-18-FC-3	Fan Efficiency Improvements	827	0.09		211	211.27	\$ 74.46	\$ 3,000.00	\$ 198.55	\$ 2,801.45	37.6
55-18-FC-4	Fan Efficiency Improvements	827	0.09		211	211.27	\$ 74.46	\$ 3,000.00	\$ 198.55	\$ 2,801.45	37.6
<b>Totals</b>		<b>69,103.61</b>	<b>7.89</b>	<b>-</b>	<b>2,218.28</b>	<b>2,218.28</b>	<b>\$ 6,894.23</b>	<b>\$ 136,107.50</b>	<b>\$ 16,584.87</b>	<b>\$119,522.63</b>	<b>17.34</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

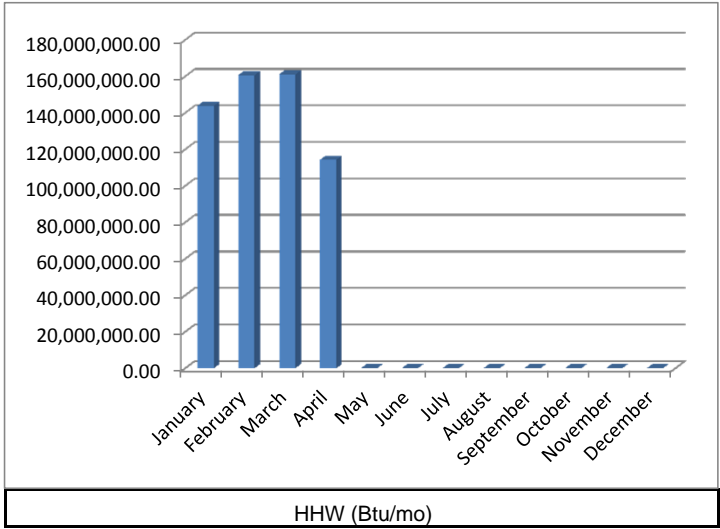
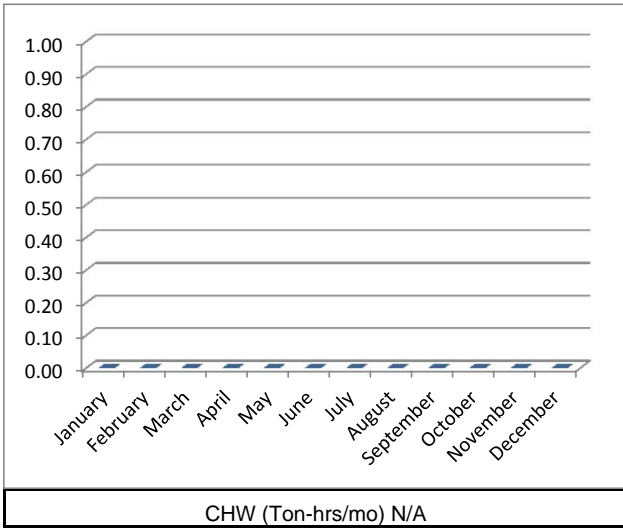
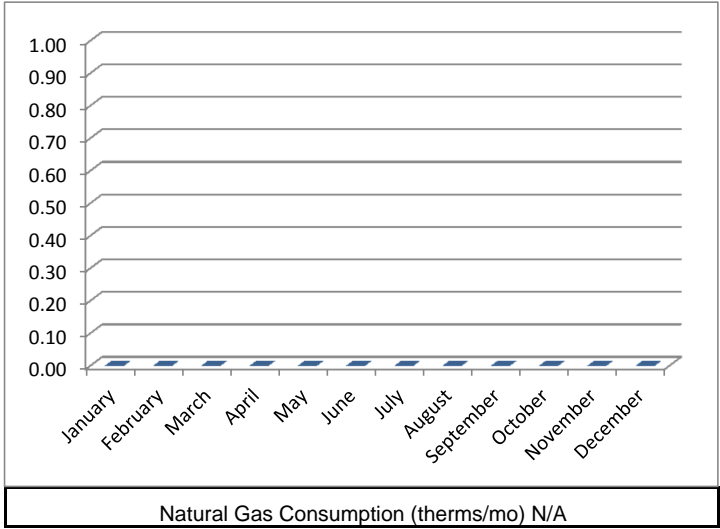
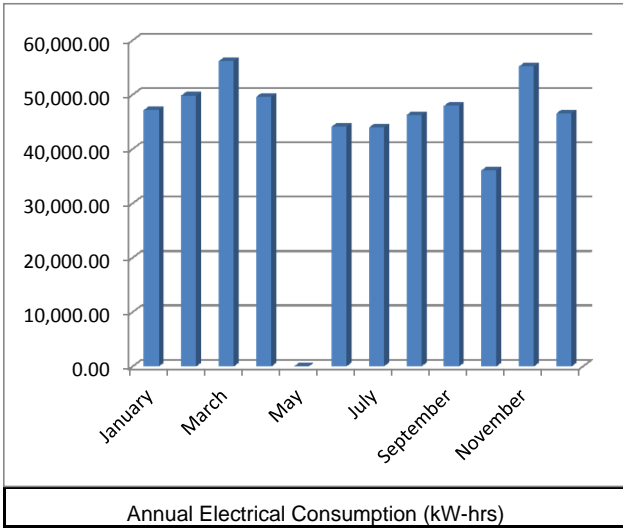
Building Name	<u>Engineering Technology</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>56</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>67,143 SF</u>		
Assigned Area	<u>46,338 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering Technology - Bldg 56

Floors Above/Below Grade: 2 / 1 Year Built: 1977

Types of Spaces: Staff offices and Engineering Labs



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Engineering Technology</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>56</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>67,143 SF</u>		
Assigned Area	<u>46,338 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Engineering Technology - Bldg 56

EUI: 67.98 kBtu/SF-yr

Carbon Footprint: 262.10 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
56-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 591.33	\$ 4,450.00	\$ -	\$ 4,450.00	7.5
56-9	Prem Eff Mtr - AHU-2 Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
56-10-1	VFD for AHU Supply Fan	4,549	0.52	-	0	-	\$ 409.39	\$ 3,050.00	\$ 1,091.70	\$ 1,958.30	4.8
56-10-2	VFD for AHU Supply Fan	6,823	0.78	-	0	-	\$ 614.08	\$ 3,825.00	\$ 1,637.54	\$ 2,187.46	3.6
56-10-3	VFD for HHW Pumps	3,791	0.43	-	0	-	\$ 341.16	\$ 5,150.00	\$ 909.75	\$ 4,240.25	12.4
56-11	Retrofit Light Fixtures	65,578	7.49	-	0	-	\$ 7,213.54	\$ 118,137.50	\$ 15,738.62	\$ 102,398.88	14.2
56-13	Cool Roof Equivalent PV	50,239	5.74	-	0	-	\$ 4,717.91	\$ 142,800.00	\$ 12,057.38	\$ 130,742.62	27.7
56-17-EF-1	Exhaust Fan Setback	3,581	0.41	-	449	-	\$ 726.02	\$ 1,122.00	\$ 859.51	\$ 262.49	0.4
56-17-EF-2	Exhaust Fan Setback	1,312	0.15	-	385	-	\$ 464.79	\$ 1,122.00	\$ 314.79	\$ 807.21	1.7
56-17-EF-3	Exhaust Fan Setback	1,257	0.14	-	275	-	\$ 360.77	\$ 1,122.00	\$ 301.58	\$ 820.42	2.3
56-17-EF-4	Exhaust Fan Setback	3,639	0.42	-	564	-	\$ 835.25	\$ 1,122.00	\$ 873.38	\$ 248.62	0.3
56-17-EF-5	Exhaust Fan Setback	2,352	0.27	-	227	-	\$ 415.97	\$ 1,122.00	\$ 564.36	\$ 557.64	1.3
56-17-EF-6	Exhaust Fan Setback	7,055	0.81	-	681	-	\$ 1,247.90	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
56-17-EF-7	Exhaust Fan Setback	3,770	0.43	-	826	-	\$ 1,082.30	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
56-17-EF-8	Exhaust Fan Setback	2,548	0.29	-	619	-	\$ 786.55	\$ 1,122.00	\$ 611.42	\$ 510.58	0.6
56-17-EF-9	Exhaust Fan Setback	33,880	3.87	-	619	-	\$ 3,606.43	\$ 1,122.00	\$ 897.60	\$ 224.40	0.1
56-17-EF-10	Exhaust Fan Setback	2,534	0.29	-	592	-	\$ 760.54	\$ 1,122.00	\$ 608.12	\$ 513.88	0.7
56-17-EF-11	Exhaust Fan Setback	2,293	0.26	-	110	-	\$ 305.44	\$ 1,122.00	\$ 550.33	\$ 571.67	1.9
56-17-EF-12	Exhaust Fan Setback	766	0.09	-	413	-	\$ 440.44	\$ 1,122.00	\$ 183.81	\$ 938.19	2.1
56-17-EF-13	Exhaust Fan Setback	639	0.07	-	158	-	\$ 199.89	\$ 1,122.00	\$ 153.27	\$ 968.73	4.8
56-17-EF-14	Exhaust Fan Setback	407	0.05	-	66	-	\$ 96.05	\$ 1,122.00	\$ 97.62	\$ 1,024.38	10.7
56-17-AA-1	Exhaust Fan Setback	18,849	2.15	-	4,128	-	\$ 5,411.51	\$ 1,122.00	\$ 897.60	\$ 224.40	0.0
56-18-1	Fan Efficiency Improvements	11,766	1.34	-	0	-	\$ 1,058.92	\$ 7,500.00	\$ 2,823.79	\$ 4,676.21	4.4
56-18-2	Fan Efficiency Improvements	2,206	0.25	-	0	-	\$ 198.55	\$ 3,500.00	\$ 529.46	\$ 2,970.54	15.0
56-18-3	Fan Efficiency Improvements	2,941	0.34	-	0	-	\$ 264.73	\$ 4,250.00	\$ 705.95	\$ 3,544.05	13.4
56-18-4	Fan Efficiency Improvements	4,412	0.50	-	0	-	\$ 397.10	\$ 4,500.00	\$ 1,058.92	\$ 3,441.08	8.7
<b>Totals</b>		<b>238,428.34</b>	<b>27.22</b>	<b>-</b>	<b>10,111.95</b>	<b>-</b>	<b>\$ 32,658.58</b>	<b>\$ 315,131.50</b>	<b>\$ 45,560.51</b>	<b>\$ 269,570.99</b>	<b>8.25</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Engineering Technology</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>56</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>67,143 SF</u>		
Assigned Area	<u>46,338 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name	<u>Engineering Technology - Bldg 56</u>
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# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Facilities Management</u>	Surveyor:	<u>JD</u>
Building Key	<u>57</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>9,313 SF</u>		
Assigned Area	<u>5,515 SF</u>		

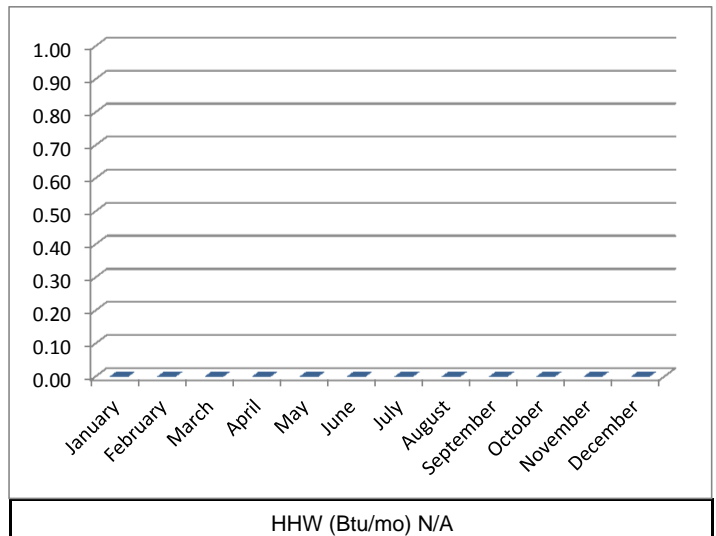
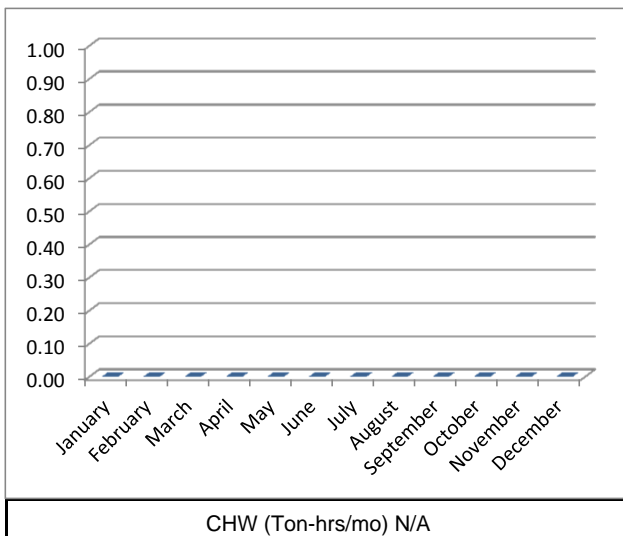
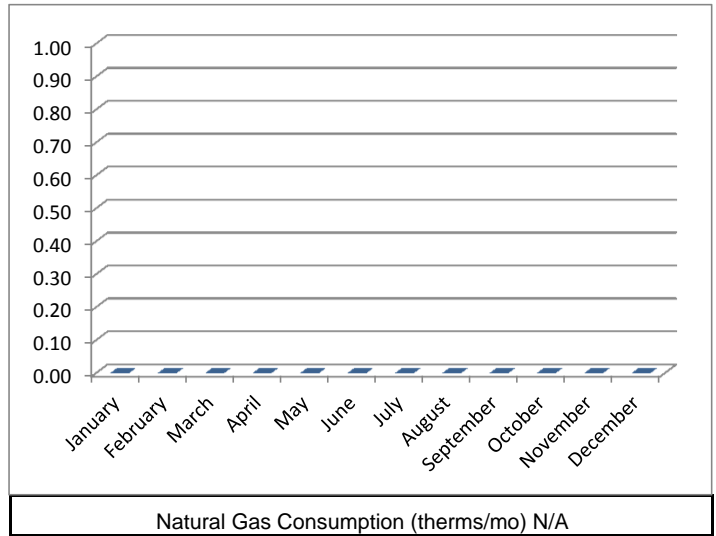
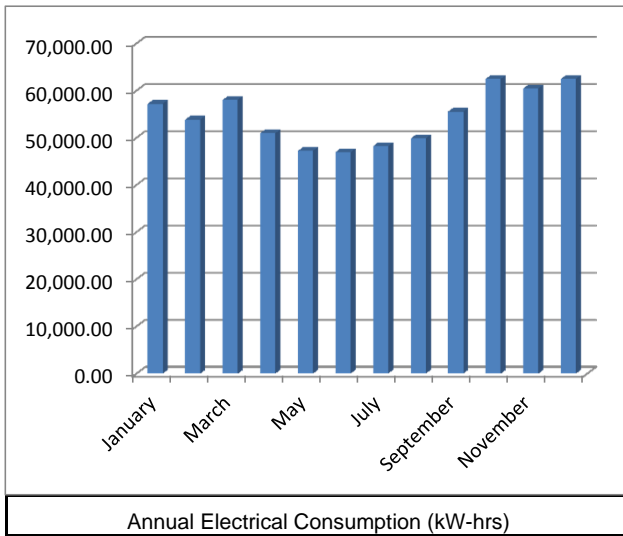


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Facilities Management - Bldg 57

Floors Above/Below Grade: 1 / 0      Year Built: 1978

Types of Spaces: Office





# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Facilities Management</u>	Surveyor:	<u>JD</u>
Building Key	<u>57</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>9,313 SF</u>		
Assigned Area	<u>5,515 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
57-4	Low Flush Urinals	0	-	-	-	-	\$ 130.10	\$ 2,000.00	\$ -	\$ 2,000.00	15.4
57-9-1	Prem Eff Mtr - Exhuast Fan #5	753	0.09	-	-	-	\$ 67.77	\$ 742.00	\$ 180.72	\$ 561.28	8.3
57-9	Prem Eff Mtr - Fan (AHU) Motor	336	0.04	-	-	-	\$ 30.24	\$ 455.00	\$ 80.64	\$ 374.36	12.4
57-11	Retrofit Light Fixtures	9,233	1.05	-	-	-	\$ 1,015.67	\$ 16,120.00	\$ 2,216.02	\$ 13,903.98	13.7
57-13	Cool Roof Equivalent PV	4,433	0.51	-	-	-	\$ 416.29	\$ 12,600.00	\$ 1,063.89	\$ 11,536.11	27.7
<b>Totals</b>		<b>14,755.26</b>	<b>1.68</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 1,660.07</b>	<b>\$ 31,917.00</b>	<b>\$ 3,541.26</b>	<b>\$ 28,375.74</b>	<b>17.09</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Corporation Yard</u>	Surveyor:	<u>JD</u>
Building Key	<u>58</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>51,833 SF</u>		
Assigned Area	<u>36,264 SF</u>		

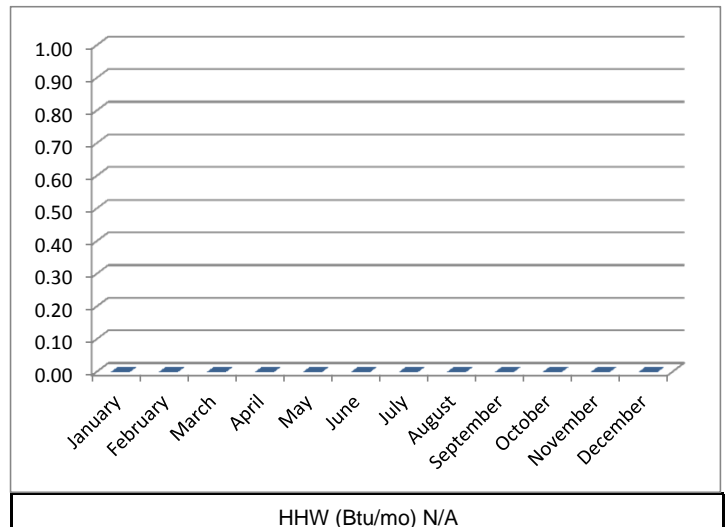
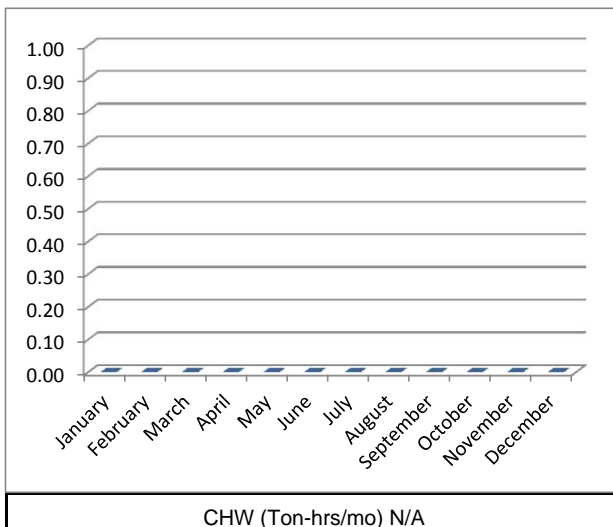
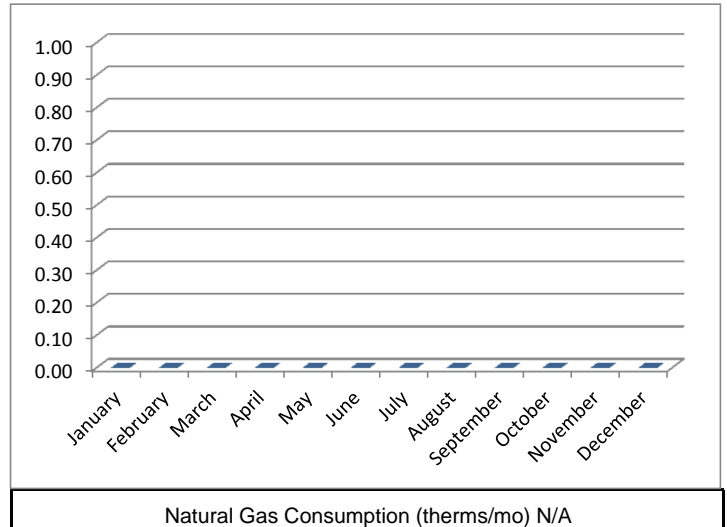
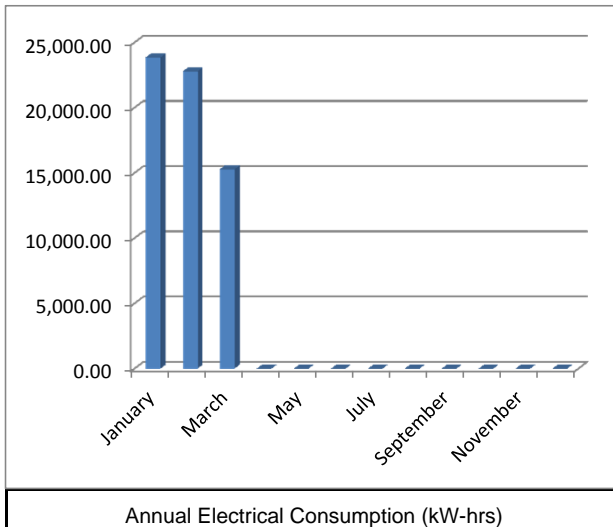


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Corporation Yard - Bldg 58

Floors Above/Below Grade: 1 / 0 Year Built: 1979

Types of Spaces: Offices, Various Shops, Storage, Warehouses, etc.



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name	<u>Corporation Yard</u>	Surveyor:	<u>JD</u>
Building Key	<u>58</u>	Date:	<u>10/5/2010</u>
Gross Area	<u>51,833 SF</u>		
Assigned Area	<u>36,264 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost				Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
58-9-1	Prem Eff Mtr - AC Fan	902	0.10				\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
58-10-1	VFD for AC Fan	2,274	0.26				\$ 204.69	\$ 2,575.00	\$ 545.85	\$ 2,029.15	9.9
58-12-1	High SEER Upgrades	3,580	0.41				\$ 322.16	\$ 6,562.50	\$ 859.09	\$ 5,703.41	17.7
58-13	Cool Roof Equivalent PV	38,418	4.39				\$ 3,607.81	\$ 109,200.00	\$ 9,220.35	\$ 99,979.65	27.7
<b>Totals</b>		<b>45,174.03</b>	<b>5.16</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 4,215.84</b>	<b>\$ 119,337.50</b>	<b>\$ 10,841.77</b>	<b>\$ 108,495.73</b>	<b>25.74</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

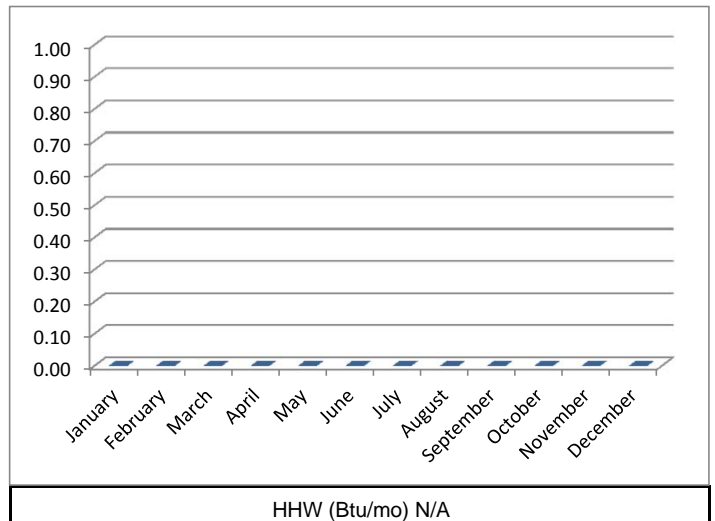
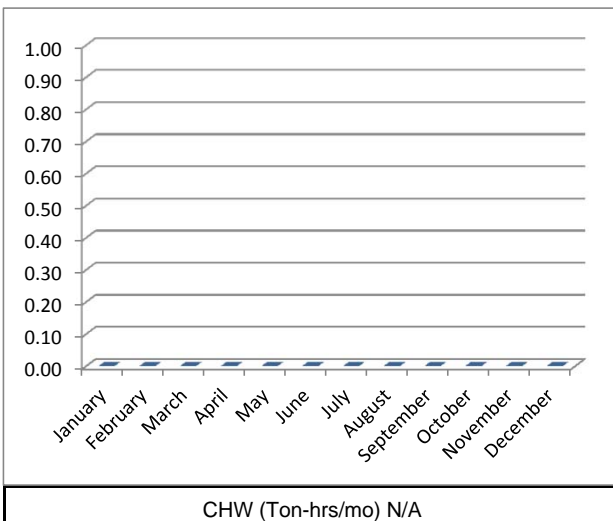
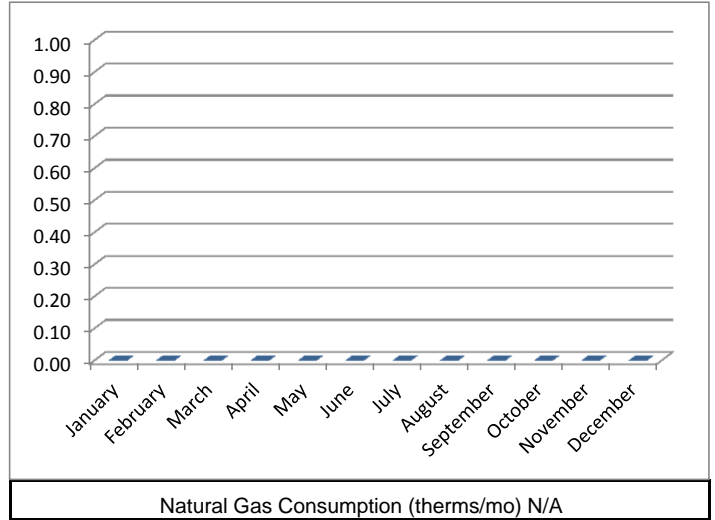
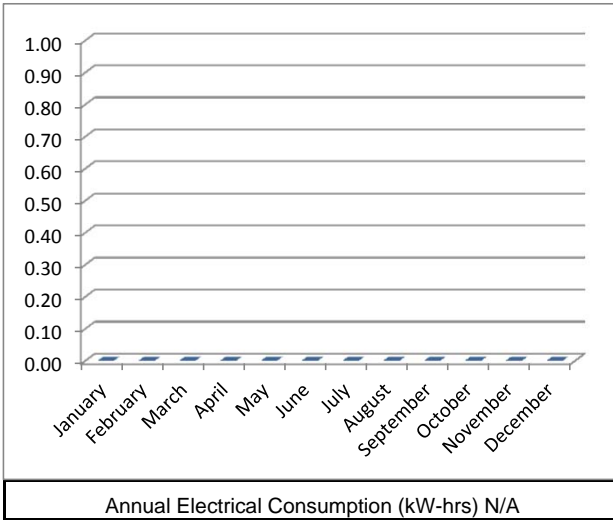
Building Name: Patterson Child Developmt      Surveyor: JD  
 Building Key: 59      Date: 10/27/2010  
 Gross Area: 14,544 SF  
 Assigned Area: 10,754 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Patterson Child Developmt - Bldg 59

Floors Above/Below Grade: 2 / 0      Year Built: #N/A

Types of Spaces: Newborn, Pre-school, School Age, and Office spaces



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Patterson Child Developmt Surveyor: JD  
 Building Key 59 Date: 10/27/2010  
 Gross Area 14,544 SF  
 Assigned Area 10,754 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
59-7	Energystar Clothes Washer	11,429	1.30		209		\$ 158.00	\$ 168	\$ 1.00	\$ 167.00	1.1
59-11	Retrofit Light Fixtures	25,832	2.95		0		\$ 2,841.56	\$ 18,005	\$ 6,199.78	\$ 11,805.22	4.2
59-13	Cool Roof Equivalent PV	8,866	1.01		0		\$ 832.57	\$ 25,200	\$ 2,127.77	\$ 23,072.23	27.7
<b>Totals</b>		<b>46,127.45</b>	<b>5.27</b>	<b>-</b>	<b>208.89</b>	<b>-</b>	<b>\$ 3,832.14</b>	<b>\$43,373.00</b>	<b>\$ 8,328.55</b>	<b>\$ 35,044.45</b>	<b>9.14</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Los Cerritos (RH2)</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>60</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>45,977 SF</u>		
Assigned Area	<u>43,500 SF</u>		

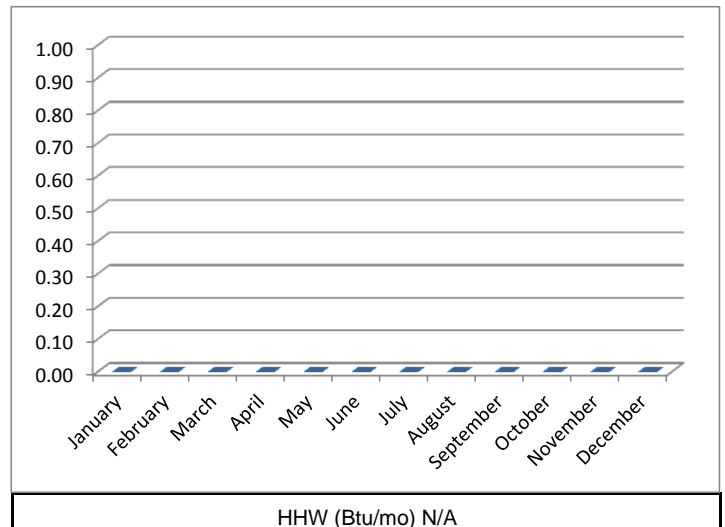
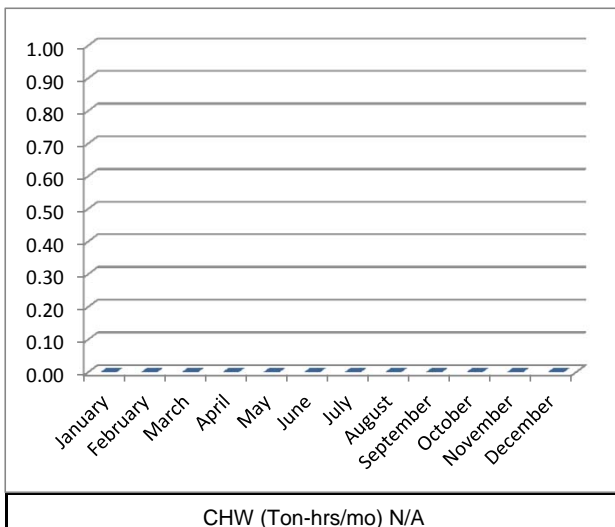
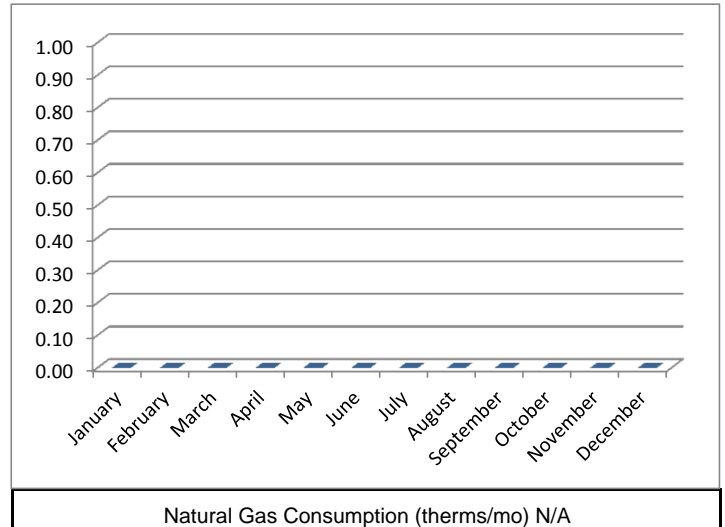
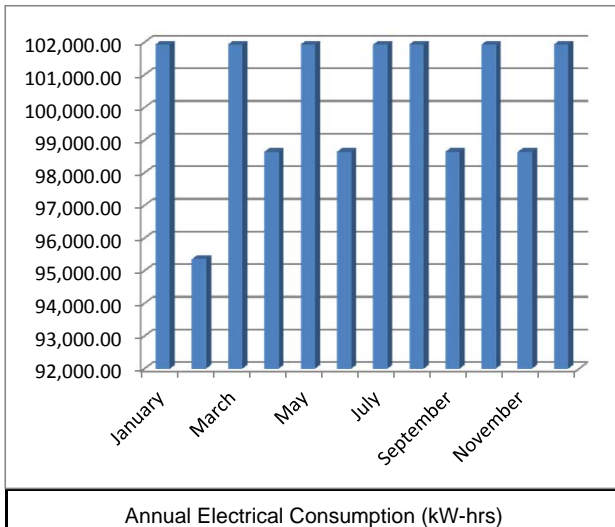


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: RH2 - Building 60

Floors Above/Below Grade: 5 / 0 Year Built: #N/A

Types of Spaces: Lecture Classroom, Lab Classroom, Offices



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Los Cerritos (RH2)</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>60</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>45,977 SF</u>		
Assigned Area	<u>43,500 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
60-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 404.92	\$ 8,900.00	\$ -	\$ 8,900.00	22.0
60-6	Demand Control Ventilation	23,442	2.68	-	1,315	-	\$ 3,293.28	\$ 8,396.00	\$ 5,626.08	\$ 2,769.92	0.8
60-7	Energystar Clothes Washer	4,183	0.48	-	1,880	-	\$ 359.00	\$ 42.00	\$ -	\$ 42.00	0.1
60-9-1	Prem Eff Mtr - AHU Fan	902	0.10	-	0	-	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
60-9-2	Prem Eff Mtr - Chiller Supply Pump	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
60-10-1	VFD for AHU Fan	4,549	0.52	-	0	-	\$ 409.39	\$ 5,150.00	\$ 1,091.70	\$ 4,058.30	9.9
60-10-2	VFD for Chiller Supply Pump	3,412	0.39	-	0	-	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
60-11	Retrofit Light Fixtures	10,468	1.19	-	0	-	\$ 1,151.44	\$ 23,985.00	\$ 2,512.22	\$ 21,472.78	18.6
60-13	Cool Roof Equivalent PV	33,985	3.88	-	0	-	\$ 3,191.53	\$ 96,600.00	\$ 8,156.46	\$ 88,443.54	27.7
60-17-EF-1	Exhaust Fan Setback	2,517	0.29	-	557	-	\$ 728.04	\$ 1,122.00	\$ 603.99	\$ 518.01	0.7
60-17-EF-2	Exhaust Fan Setback	2,517	0.29	-	557	-	\$ 728.04	\$ 1,122.00	\$ 603.99	\$ 518.01	0.7
60-18-1	Fan Efficiency Improvements	3,221	0.37	-	0	-	\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
<b>Totals</b>		<b>90,439.46</b>	<b>10.32</b>	<b>-</b>	<b>4,309.53</b>	<b>-</b>	<b>\$ 11,055.77</b>	<b>\$ 153,506.00</b>	<b>\$ 20,701.51</b>	<b>\$ 132,804.49</b>	<b>12.01</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Los Alamitos (RH3) SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 61 DATE: \_\_\_\_\_  
 GROSS AREA 45,399 SF  
 ASSIGNED AREA 25,206 SF

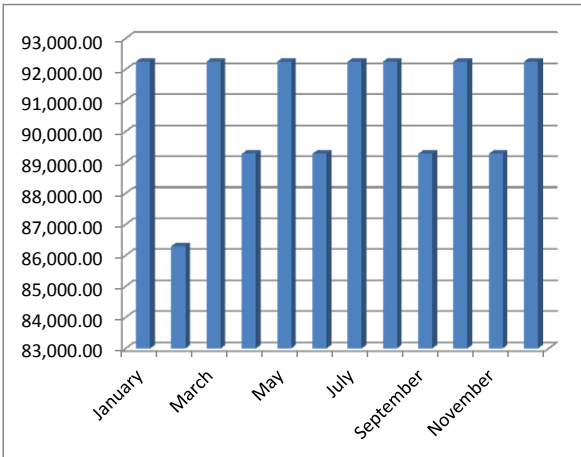
BUILDING DESCRIPTION / STATISTICS

Common Building Name

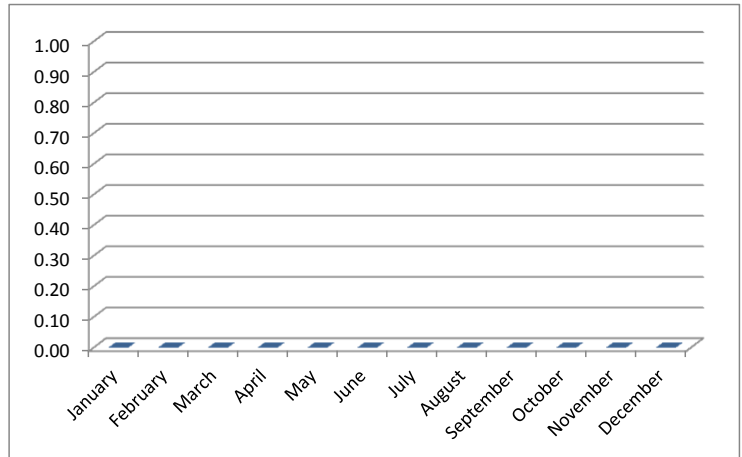
Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade  Year Built

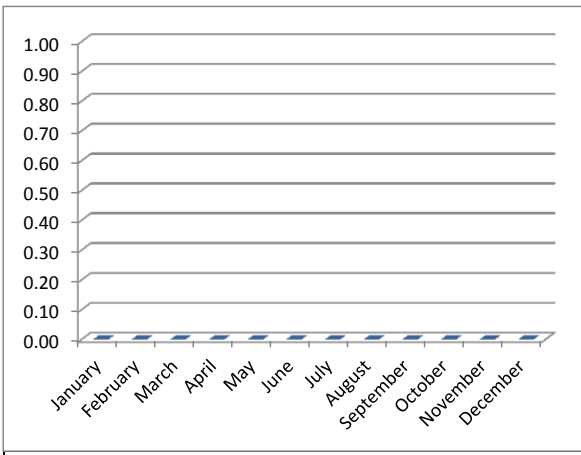
Types of Spaces:



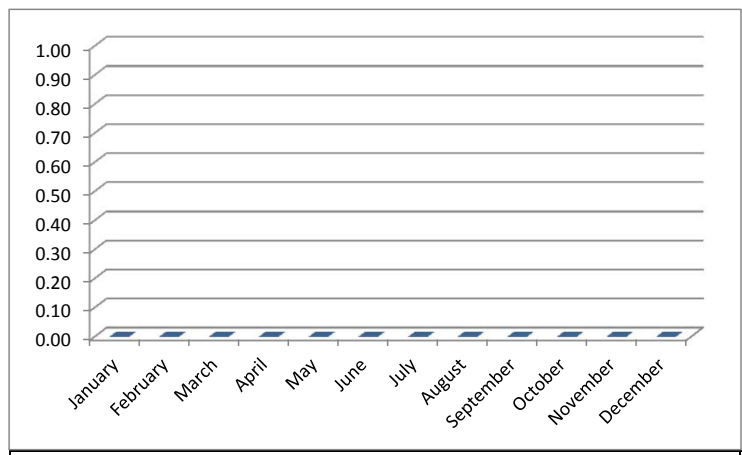
Annual Electrical Consumption (kW-hrs)



Natural Gas Consumption (therms/mo) N/A



CHW (Ton-hrs/mo) N/A



HHW (Btu/mo) N/A





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Los Alamitos (RH3) SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 61 DATE: \_\_\_\_\_  
 GROSS AREA 45,399 SF  
 ASSIGNED AREA 25,206 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name RH3 - Building 61

EUI: 147.48 kBtu/SF-yr

Carbon Footprint: 337.17 Tons CO2

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
61-1	Replace to Tankless Water Heaters	0	0.00	-	0	-	0	\$ 404.92	\$ 4,450.00	\$ -	\$ 4,450.00	11.0
61-6	Demand Control Ventilation	23,442	2.68	-	1,315	-	0	\$ 3,293.28	\$ 8,396.00	\$ 5,626.08	\$ 2,769.92	0.8
61-7	Energystar Clothes Washer	4,183	0.48	-	1,880	-	1,368	\$ 359.00	\$ 42.00	\$ -	\$ 42.00	0.1
61-9-1	Prem Eff Mtr - AHU Fan	902	0.10	-	0	-	0	\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
61-9-2	Prem Eff Mtr - Chiller Supply Pump	1,245	0.14	-	0	-	0	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
61-10-1	VFD for AHU Fan	4,549	0.52	-	0	-	0	\$ 409.39	\$ 5,150.00	\$ 1,091.70	\$ 4,058.30	9.9
61-10-2	VFD for Chiller Supply Pump	3,412	0.39	-	0	-	0	\$ 307.04	\$ 3,050.00	\$ 818.77	\$ 2,231.23	7.3
61-11	Retrofit Light Fixtures	10,511	1.20	-	0	-	0	\$ 1,156.16	\$ 24,082.50	\$ 2,522.52	\$ 21,559.98	18.6
61-13	Cool Roof Equivalent PV	33,985	3.88	-	0	-	0	\$ 3,191.53	\$ 96,600.00	\$ 8,156.46	\$ 88,443.54	27.7
61-17-EF-1	Exhaust Fan Setback	2,517	0.29	-	557	-	0	\$ 728.04	\$ 1,122.00	\$ 603.99	\$ 518.01	0.7
61-17-EF-2	Exhaust Fan Setback	2,517	0.29	-	557	-	0	\$ 728.04	\$ 1,122.00	\$ 603.99	\$ 518.01	0.7
61-18-1	Fan Efficiency Improvements	3,221	0.37	-	0	-	0	\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
<b>Totals</b>		<b>90,482.36</b>	<b>10.33</b>	<b>-</b>	<b>4,309.53</b>	<b>-</b>	<b>1,368.00</b>	<b>\$ 11,060.49</b>	<b>\$ 149,153.50</b>	<b>\$ 20,711.81</b>	<b>\$ 128,441.69</b>	<b>11.61</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME	Residence Commons Office	SURVEYOR	_____
BUILDING KEY	62A	DATE:	_____
GROSS AREA	4,893 SF		
ASSIGNED AREA	2,446 SF		

BUILDING DESCRIPTION / STATISTICS

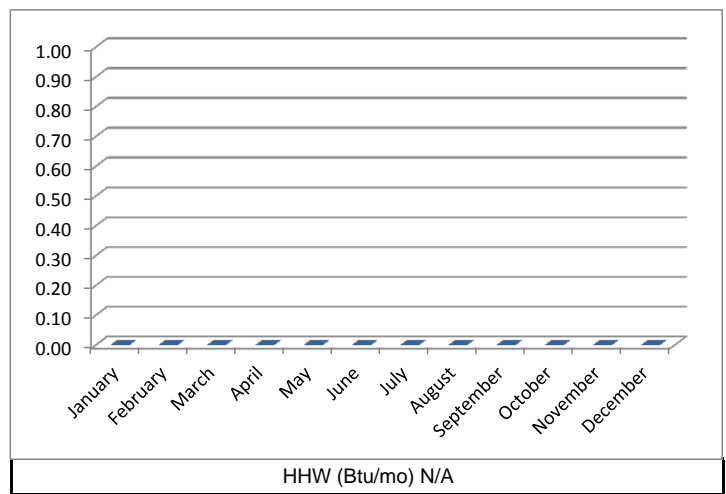
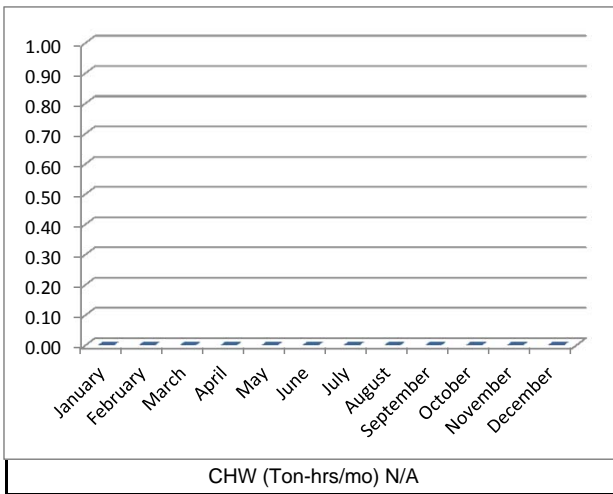
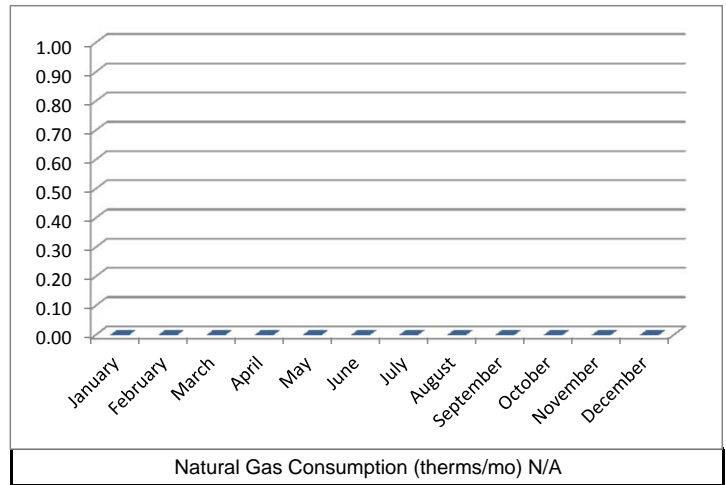
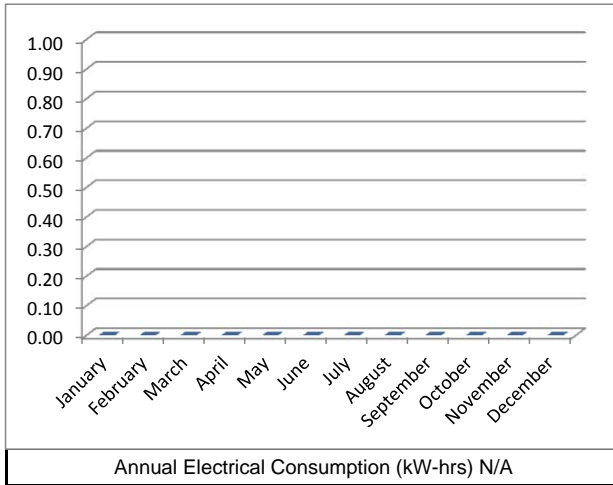
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade  /

Year Built  #N/A

Types of Spaces:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Residence Commons Office SURVEYOR \_\_\_\_\_  
 BUILDING KEY 62A DATE: \_\_\_\_\_  
 GROSS AREA 4,893 SF  
 ASSIGNED AREA 2,446 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  - kBtu/SF-yr

Carbon Footprint:  - Tons CO2

SEP ID Number	ECM Measures	Savings							Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
62A-4	Low Flush Urinals	0	0.00	-	0	-	28	\$ 116.16	\$ 1,000.00	\$ -	\$ 1,000.00	8.61
62A-9	Prem Eff Mtr - AC Supply Fan	753	0.09	-	0	-	0	\$ 67.77	\$ 742.00	\$ 180.72	\$ 561.28	8.28
62A-10-1	VFD for AC Supply Fan	910	0.10	-	0	-	0	\$ 81.88	\$ 2,450.00	\$ 218.34	\$ 2,231.66	27.26
62A-12-1	High SEER Upgrades	2,918	0.33	-	0	-	0	\$ 262.64	\$ 5,350.00	\$ 700.36	\$ 4,649.64	17.70
62A-12-2	High SEER Upgrades	1,602	0.18	-	0	-	0	\$ 144.18	\$ 2,225.00	\$ 384.48	\$ 1,840.52	12.77
62A-12-3	High SEER Upgrades	810	0.09	-	0	-	0	\$ 72.90	\$ 1,125.00	\$ 194.40	\$ 930.60	12.77
62A-12-4	High SEER Upgrades	810	0.09	-	0	-	0	\$ 72.90	\$ 1,125.00	\$ 194.40	\$ 930.60	12.77
62A-13	Cool Roof Equivalent PV	4,433	0.51	-	0	-	0	\$ 416.29	\$ 12,600.00	\$ 1,063.89	\$ 11,536.11	27.71
62A-17-EF-1	Exhaust Fan Setback	203	0.02	-	34	-	0	\$ 49.25	\$ 1,122.00	\$ 48.77	\$ 1,073.23	21.79
<b>Totals</b>		<b>12,438.99</b>	<b>1.42</b>	<b>-</b>	<b>34.40</b>	<b>-</b>	<b>27.66</b>	<b>\$ 1,283.95</b>	<b>\$ 27,739.00</b>	<b>\$ 2,985.36</b>	<b>\$ 24,753.64</b>	<b>19.28</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Parkside Commons Office</u>	Surveyor:	<u>AT</u>
Building Key	<u>62B</u>	Date:	<u>11/3/2010</u>
Gross Area	<u>3,980 SF</u>		
Assigned Area	<u>3,980 SF</u>		

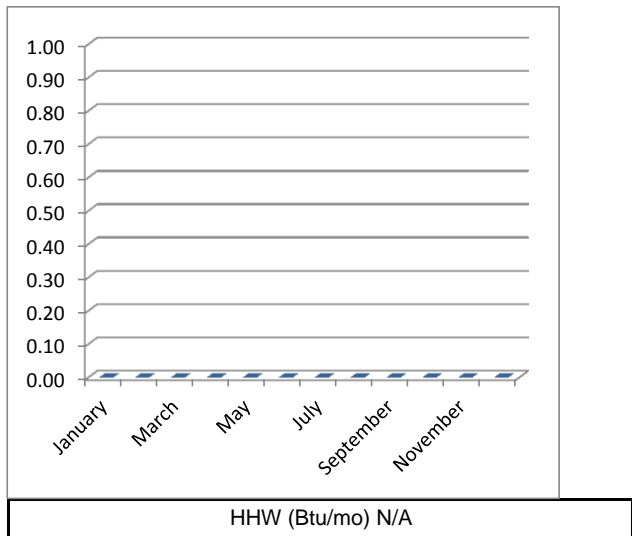
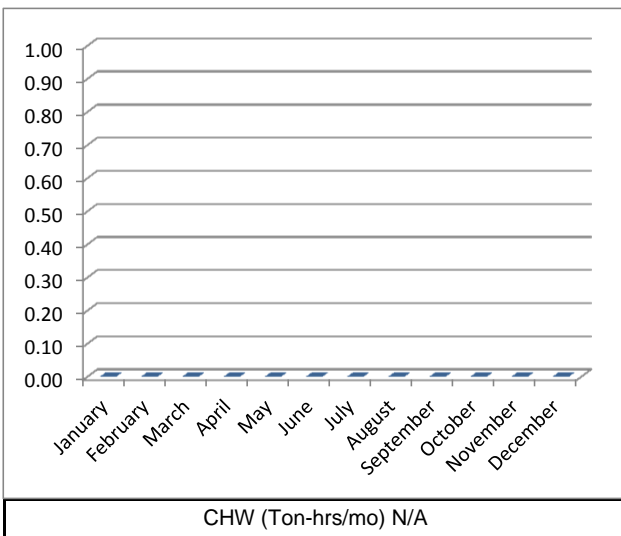
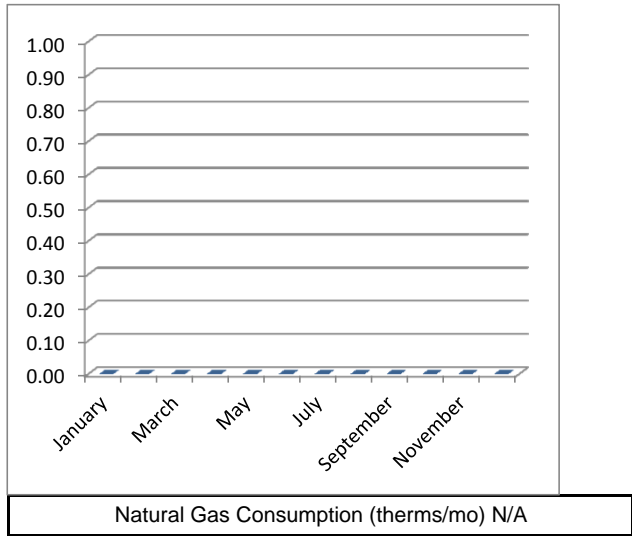
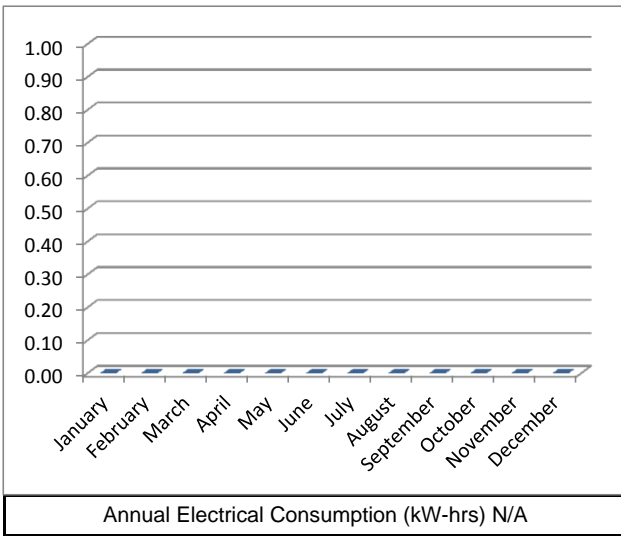


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Parkside Commons Office

Floors Above/Below Grade: 1 / 0      Year Built: #N/A

Types of Spaces: Offices, Lobby, Support Area



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name Parkside Commons Office      Surveyor: AT  
 Building Key 62B      Date: 11/3/2010  
 Gross Area 3,980 SF  
 Assigned Area 3,980 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name Parkside Commons Office

EUI: - kBtu/SF-yr

Carbon Footprint: - Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
62B-11	Retrofit Light Fixtures	8,323	0.95	-	0	-	\$ 915.49	\$ 19,045.00	\$ 1,997.42	\$ 17,047.58	18.62
62B-12-1	High SEER Upgrades	5,010	0.57	-	0	-	\$ 450.87	\$ 4,500.00	\$ 1,202.31	\$ 3,297.69	7.31
62B-12-2	High SEER Upgrades	5,010	0.57	-	0	-	\$ 450.87	\$ 4,500.00	\$ 1,202.31	\$ 3,297.69	7.31
62B-12-3	High SEER Upgrades	5,010	0.57	-	0	-	\$ 450.87	\$ 4,500.00	\$ 1,202.31	\$ 3,297.69	7.31
62B-12-4	High SEER Upgrades	5,010	0.57	-	0	-	\$ 450.87	\$ 4,500.00	\$ 1,202.31	\$ 3,297.69	7.31
62B-13	Cool Roof Equivalent PV	2,955	0.34	-	0	-	\$ 277.52	\$ 8,400.00	\$ 709.26	\$ 7,690.74	27.71
62B-17-EF-1	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.40
62B-17-EF-2	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.40
<b>Totals</b>		<b>32,129</b>	<b>4</b>	<b>0</b>	<b>138</b>	<b>0</b>	<b>\$ 3,193.47</b>	<b>\$47,689.00</b>	<b>\$ -</b>	<b>\$39,977.99</b>	<b>12.52</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME Reprographics SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 66 DATE: \_\_\_\_\_  
 GROSS AREA 2,400 SF  
 ASSIGNED AREA 2,213 SF

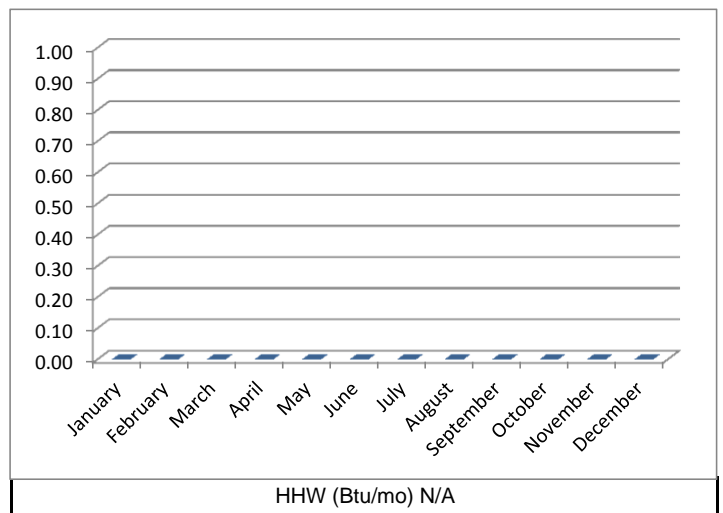
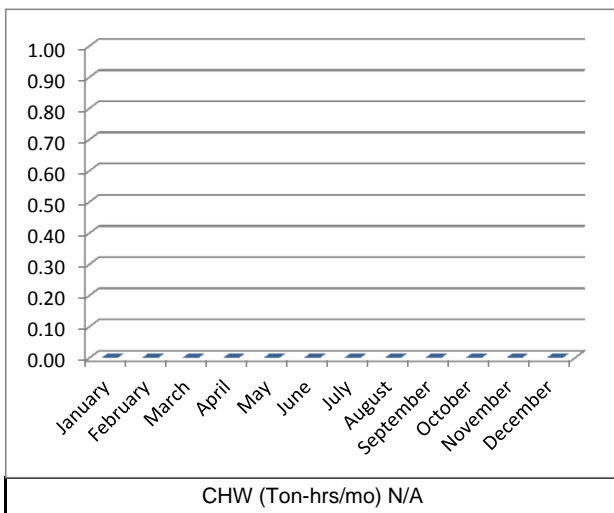
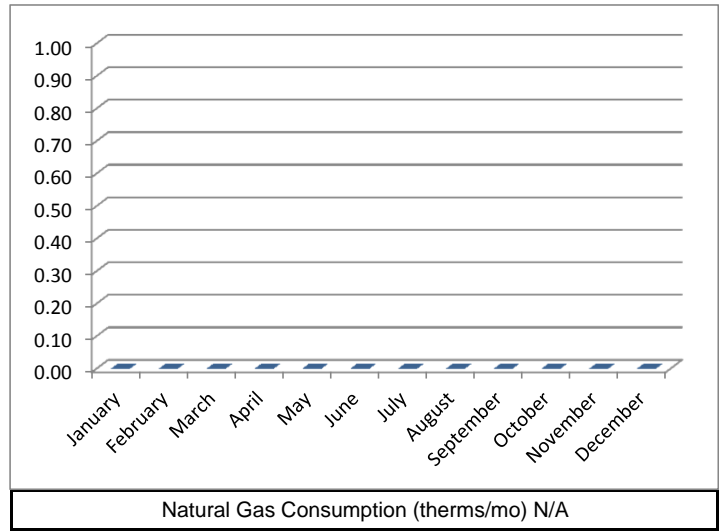
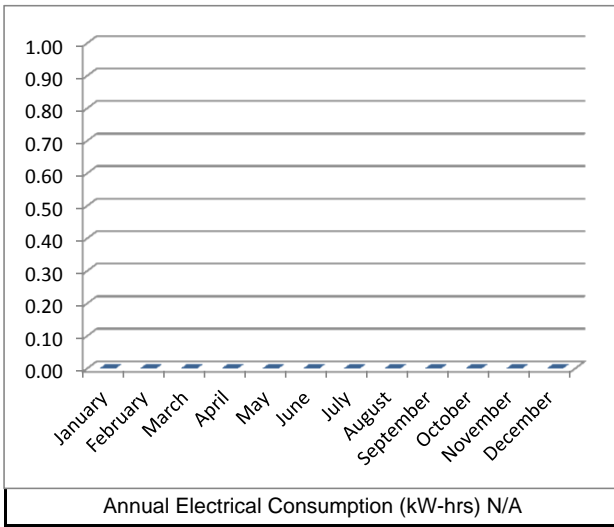
**BUILDING DESCRIPTION / STATISTICS**

Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade  /  Year Built

Types of Spaces:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME Reprographics SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 66 DATE: \_\_\_\_\_  
 GROSS AREA 2,400 SF  
 ASSIGNED AREA 2,213 SF

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name

EUI:

Carbon Footprint:

SEP ID Number	ECM Measures	Savings					Cost				Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
66-1	Replace to Tankless Water Heaters	1,564	0.18	-	-53	-	\$ 92.71	\$ 4,450.00	\$ 375.34	\$ 4,074.66	43.9
66-2	Insulate DHW Pipe	299	0.03	-	0	-	\$ 26.95	\$ 63.10	\$ 50.48	\$ 12.62	0.5
66-4	Low Flush Urinals	0	-	-	0	-	\$ 55.76	\$ 1,000.00	\$ -	\$ 1,000.00	17.9
66-11	Retrofit Light Fixtures	2,878	0.33	-	0	-	\$ 316.54	\$ 6,110.00	\$ 690.62	\$ 5,419.38	17.1
66-13	Cool Roof Equivalent PV	2,955	0.34	-	0	-	\$ 277.52	\$ 8,400.00	\$ 709.26	\$ 7,690.74	27.7
<b>Totals</b>		<b>7,696.19</b>	<b>0.88</b>	<b>-</b>	<b>(53.38)</b>	<b>-</b>	<b>\$ 769.48</b>	<b>\$ 20,023.10</b>	<b>\$ 1,825.70</b>	<b>\$ 18,197.40</b>	<b>23.65</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME: Comm Main Dist - A SURVEYOR: JD/JP  
 BUILDING KEY: Building - 67 (E8) DATE: 10/20/2010  
 GROSS AREA: 1,700 SF  
 ASSIGNED AREA: 1,700 SF



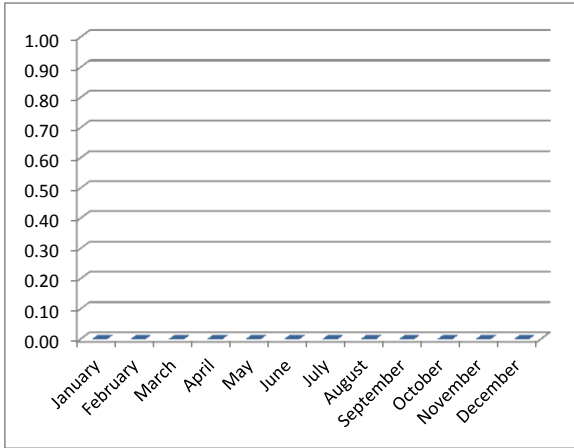
BUILDING DESCRIPTION / STATISTICS

Common Building Name: Comm Main Dist - Building 67

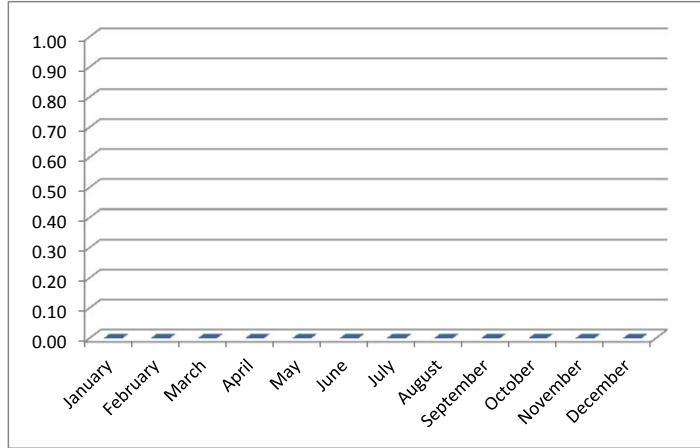
Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade: 1 / 0 Year Built: 2002

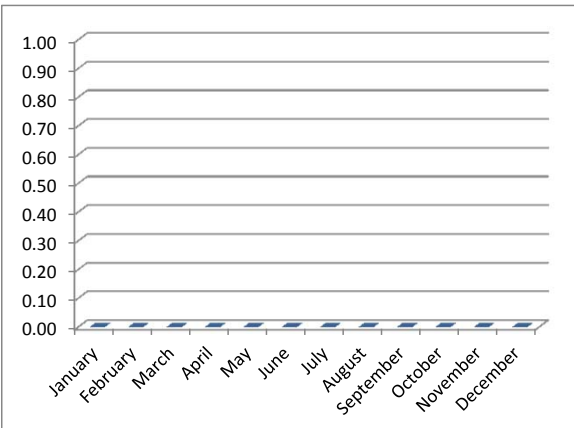
Types of Spaces: Communication Main Distribution (Telephone and Data)



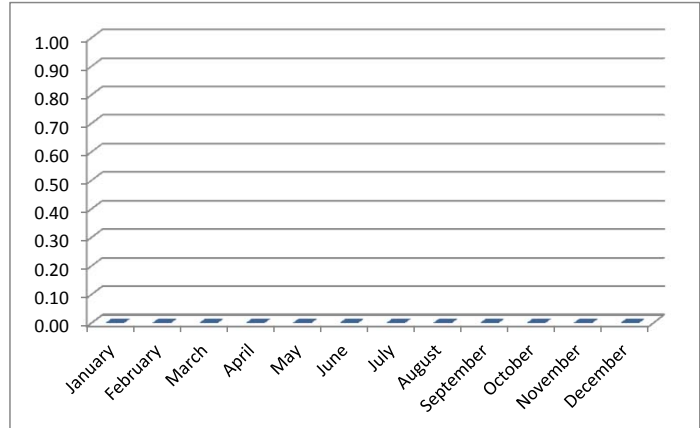
Annual Electrical Consumption (kW-hrs) N/A



Natural Gas Consumption (therms/mo) N/A



CHW (Ton-hrs/mo) N/A



HHW (Btu/mo) N/A

EUI:

Carbon Footprint:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME: Comm Main Dist - A SURVEYOR: JD/JP  
 BUILDING KEY: Building - 67 (E8) DATE: 10/20/2010  
 GROSS AREA: 1,700 SF  
 ASSIGNED AREA: 1,700 SF



BUILDING DESCRIPTION / STATISTICS

Common Building Name: Comm Main Dist - Building 67

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
67-11	Retrofit Light Fixtures	1,970.10	0.22	-	-	-	-	\$ 216.71	\$ 2,470.00	\$ 472.82	\$ 1,997.18	9.22
<b>Totals</b>		<b>1,970.10</b>	<b>0.22</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 216.71</b>	<b>\$ 2,470.00</b>	<b>\$ 472.82</b>	<b>\$ 1,997.18</b>	<b>9.22</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Carpenter Performing - Dance Ctr</u>	Surveyor:	<u>JD</u>
Building Key	<u>72</u>	Date:	<u>11/2/2010</u>
Gross Area	<u>143,897 SF</u>		
Assigned Area	<u>87,316 SF</u>		

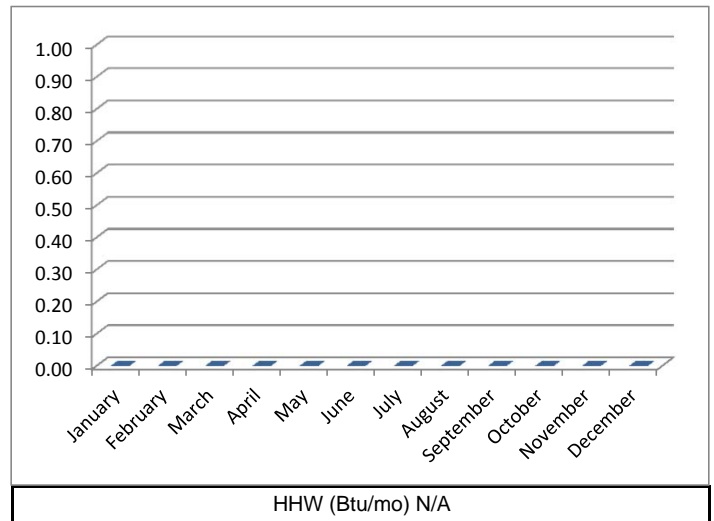
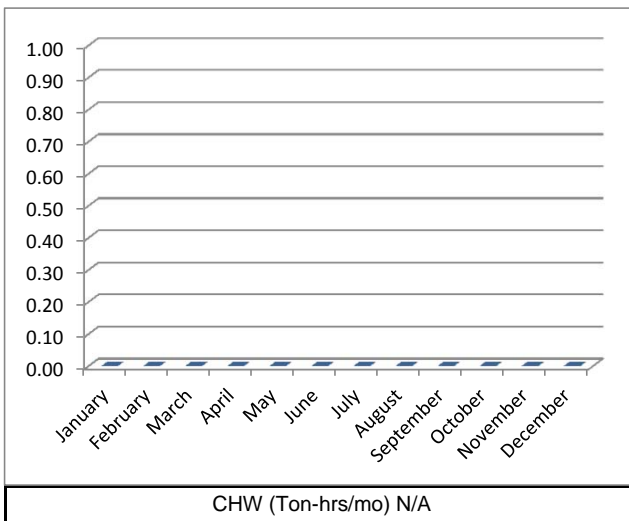
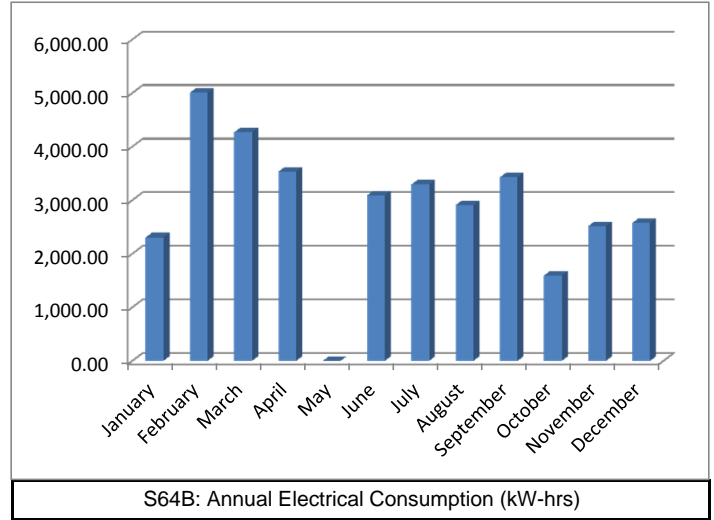
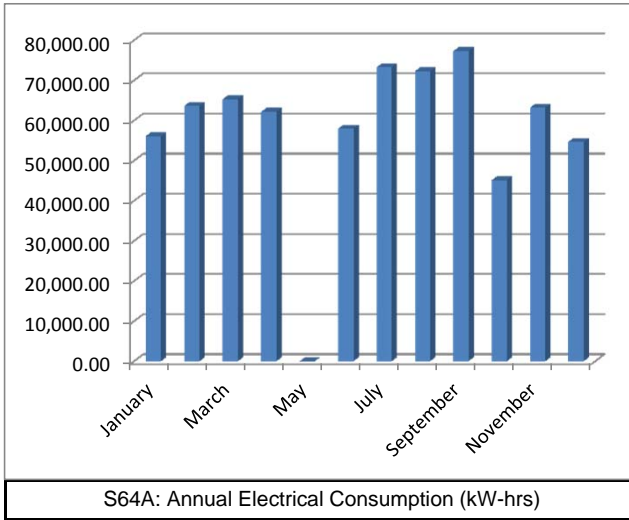


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Carpenter Performing - Dance Center

Floors Above/Below Grade: 4 / 0 Year Built: 1993

Types of Spaces: Auditorium & supporting space/Dance studio/Theater



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Carpenter Performing - Dance Ctr Surveyor: JD  
 Building Key 72 Date: 11/2/2010  
 Gross Area 143,897 SF  
 Assigned Area 87,316 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Carpenter Performing - Dance Center

EUI: 43.11 kBtu/SF-yr

Carbon Footprint: 341.42 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
72-6	Demand Control Ventilation	48,679	5.56		1,537		\$ 5,764.41	\$ 5,585.00	\$ 4,468.00	\$ 1,117.00	0.2
72-9-1	Prem Eff Mtr - AHU-1 Supply Fan	902	0.10		0		\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
72-9-2	Prem Eff Mtr - AHU-2 Supply Fan	902	0.10		0		\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
72-9-3	Prem Eff Mtr - AHU-3 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
72-9-4	Prem Eff Mtr - AHU-4 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
72-9-5	Prem Eff Mtr - AHU-5 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
72-9-6	Prem Eff Mtr - AHU-6 Supply Fan	1,245	0.14		0		\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
72-9-7	Prem Eff Mtr - AHU-6 Return Fan	902	0.10		0		\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
72-9-8	Prem Eff Mtr - AHU-7 Supply Fan	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
72-9-9	Prem Eff Mtr - AHU-7 Return Fan	1,245	0.14		0		\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
72-9-10	Prem Eff Mtr - AC-11 Fan	470	0.05		0		\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
72-9-11	Prem Eff Mtr - HV Fan	470	0.05		0		\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
72-9-12	Prem Eff Mtr - CHW Pumps	902	0.10		0		\$ 81.18	\$ 1,000.00	\$ 216.48	\$ 783.52	9.7
72-9-13	Prem Eff Mtr - CHW Pumps	829	0.09		0		\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
72-9-14	Prem Eff Mtr - HHW Pumps	470	0.05		0		\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
72-10-1	VFD for AC-11 Fan	1,365	0.16		0		\$ 122.82	\$ 2,450.00	\$ 327.51	\$ 2,122.49	17.3
72-10-2	VFD for HV Fan	12,282	1.40		0		\$ 1,105.34	\$ 22,050.00	\$ 2,947.58	\$ 19,102.42	17.3
72-10-3	VFD for CHW Pumps	4,549	0.52		0		\$ 409.39	\$ 5,150.00	\$ 1,091.70	\$ 4,058.30	9.9
72-10-4	VFD for CHW Pumps	13,646	1.56		0		\$ 1,228.16	\$ 7,650.00	\$ 3,275.09	\$ 4,374.91	3.6
72-10-5	VFD for HHW Pumps	2,274	0.26		0		\$ 204.69	\$ 4,900.00	\$ 545.85	\$ 4,354.15	21.3
72-11-1	Retrofit Light Fixtures	310,890	35.49		0		\$ 23,114.03	\$ 81,315.00	\$ 50,430.60	\$ 30,884.40	1.3
72-11-2	Retrofit Light Fixtures	68,706	7.84		0		\$ 1,649.84	\$ 32,435.00	\$ 3,599.64	\$ 28,835.36	17.5
72-12-1	High SEER Upgrades	2,333	0.27		0		\$ 210.00	\$ 2,500.00	\$ 560.00	\$ 1,940.00	9.2
72-12-2	High SEER Upgrades	3,479	0.40		0		\$ 313.10	\$ 3,125.00	\$ 834.94	\$ 2,290.06	7.3
72-12-3	High SEER Upgrades	4,960	0.57		0		\$ 446.41	\$ 4,743.75	\$ 1,190.43	\$ 3,553.32	8.0
72-12-4	High SEER Upgrades	2,438	0.28		0		\$ 219.45	\$ 2,612.50	\$ 585.20	\$ 2,027.30	9.2
72-12-5	High SEER Upgrades	3,553	0.41		0		\$ 319.73	\$ 3,806.25	\$ 852.60	\$ 2,953.65	9.2
72-12-6	High SEER Upgrades	1,394	0.16		0		\$ 125.48	\$ 1,493.75	\$ 334.60	\$ 1,159.15	9.2
72-12-7	High SEER Upgrades	4,950	0.57		0		\$ 445.53	\$ 5,581.25	\$ 1,188.08	\$ 4,393.17	9.9
72-12-8	High SEER Upgrades	2,088	0.24		0		\$ 187.95	\$ 2,237.50	\$ 501.20	\$ 1,736.30	9.2
72-12-9	High SEER Upgrades	2,433	0.28		0		\$ 218.93	\$ 2,606.25	\$ 583.80	\$ 2,022.45	9.2
72-12-10	High SEER Upgrades	3,137	0.36		0		\$ 282.32	\$ 3,000.00	\$ 752.84	\$ 2,247.16	8.0
72-12-11	High SEER Upgrades	7,690	0.88		0		\$ 692.12	\$ 7,637.50	\$ 1,845.64	\$ 5,791.86	8.4
72-12-12	High SEER Upgrades	4,764	0.54		0		\$ 428.77	\$ 4,556.25	\$ 1,143.38	\$ 3,412.87	8.0
72-12-13	High SEER Upgrades	740	0.08		0		\$ 66.64	\$ 950.00	\$ 177.70	\$ 772.30	11.6
72-12-14	High SEER Upgrades	593	0.07		0		\$ 53.38	\$ 668.75	\$ 142.36	\$ 526.39	9.9
72-12-15	High SEER Upgrades	1,832	0.21		0		\$ 164.85	\$ 1,962.50	\$ 439.60	\$ 1,522.90	9.2
72-12-16	High SEER Upgrades	1,989	0.23		0		\$ 179.03	\$ 2,131.25	\$ 477.40	\$ 1,653.85	9.2

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Carpenter Performing - Dance Ctr</u>	Surveyor:	<u>JD</u>
Building Key	<u>72</u>	Date:	<u>11/2/2010</u>
Gross Area	<u>143,897 SF</u>		
Assigned Area	<u>87,316 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name	Carpenter Performing - Dance Center
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72-12-17	High SEER Upgrades	3,442	0.39		0		\$ 309.75	\$ 3,687.50	\$ 826.00	\$ 2,861.50	9.2
72-12-18	High SEER Upgrades	3,131	0.36		0		\$ 281.79	\$ 2,812.50	\$ 751.45	\$ 2,061.05	7.3
72-12-19	High SEER Upgrades	3,201	0.37		0		\$ 288.05	\$ 2,875.00	\$ 768.14	\$ 2,106.86	7.3
72-12-20	High SEER Upgrades	5,470	0.62		0		\$ 492.29	\$ 5,231.25	\$ 1,312.77	\$ 3,918.48	8.0
72-13	Cool Roof Equivalent PV	106,389	12.14		0		\$ 9,990.86	\$ 302,400.00	\$ 25,533.27	\$ 276,866.73	27.7
72-13	Cool Roof Equivalent PV	106,389	12.14		0		\$ 9,990.86	\$ 302,400.00	\$ 25,533.27	\$ 276,866.73	27.7
72-18-1	Fan Efficiency Improvements	3,221	0.37		0		\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
72-18-2	Fan Efficiency Improvements	3,221	0.37		0		\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
72-18-3	Fan Efficiency Improvements	9,663	1.10		0		\$ 869.64	\$ 4,500.00	\$ 2,319.04	\$ 2,180.96	2.5
72-18-4	Fan Efficiency Improvements	9,663	1.10		0		\$ 869.64	\$ 4,500.00	\$ 2,319.04	\$ 2,180.96	2.5
72-18-5	Fan Efficiency Improvements	9,663	1.10		0		\$ 869.64	\$ 4,500.00	\$ 2,319.04	\$ 2,180.96	2.5
72-18-6	Fan Efficiency Improvements	6,442	0.74		0		\$ 579.76	\$ 4,250.00	\$ 1,546.02	\$ 2,703.98	4.7
72-18-7	Fan Efficiency Improvements	3,221	0.37		0		\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
72-18-8	Fan Efficiency Improvements	9,663	1.10		0		\$ 869.64	\$ 4,500.00	\$ 2,319.04	\$ 2,180.96	2.5
72-18-9	Fan Efficiency Improvements	3,221	0.37		0		\$ 289.88	\$ 3,000.00	\$ 773.01	\$ 2,226.99	7.7
<b>Totals</b>		<b>808,413.59</b>	<b>92.28</b>	<b>-</b>	<b>1,537.00</b>	<b>-</b>	<b>\$ 65,572.54</b>	<b>\$ 882,487.75</b>	<b>\$ 149,731.57</b>	<b>\$ 732,756.18</b>	<b>11.17</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



**DATABASE INFO:**

BUILDING NAME Pyramid (PYR)  
 BUILDING KEY 73  
 GROSS AREA 157,335 SF  
 ASSIGNED AREA 74,344 SF

SURVEYOR: JD/JP  
 DATE: 10/20/2010

**BUILDING DESCRIPTION / STATISTICS**

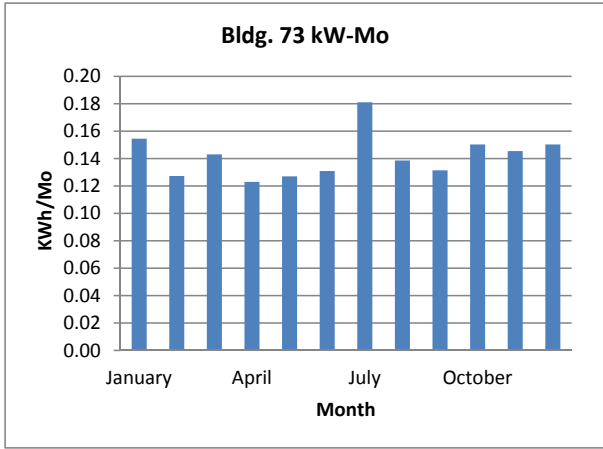
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

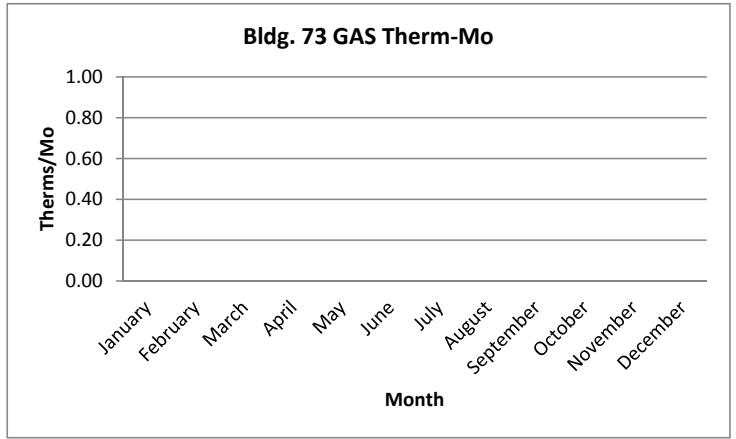
Floors Above/Below Grade  /

Year Built

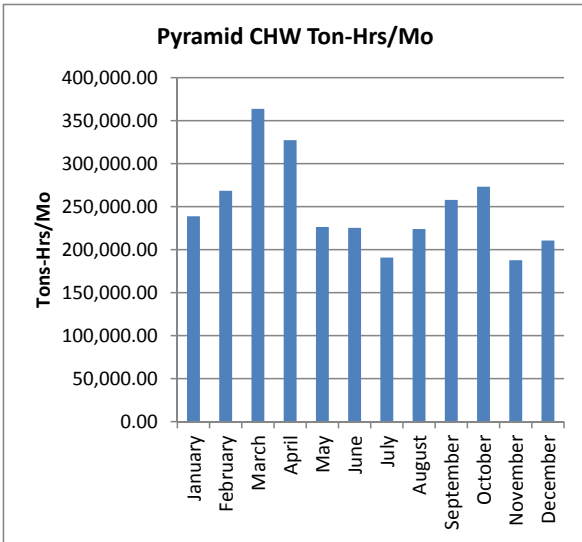
Types of Spaces:



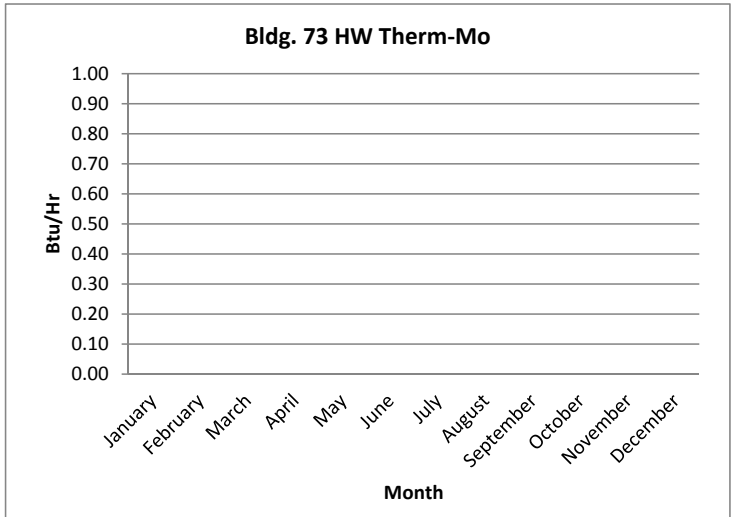
Annula Electric Consumption (kWh/Mo)



Annual Gas Consumption (Therms/Mo) N/A



CHW Tons-Hrs (Ton-Hrs/Mo)



Annual HHW (Btu/hr) N/A



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Pyramid (PYR)  
 BUILDING KEY 73  
 GROSS AREA 157,335 SF  
 ASSIGNED AREA 74,344 SF

SURVEYOR: JD/JP  
 DATE: 10/20/2010

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
73-1	Replace to Tankless Water Heaters	0	-		0	0.00	\$ 654.75	\$ 17,800.00	\$ -	\$ 17,800.00	27.2
73-2	Insulate DHW Pipe	0	-		237	0.00	\$ 213.26	\$ 677.00	\$ -	\$ 677.00	3.2
73-6	Demand Control Ventilation	54,822	6.26		863	0.00	\$ 5,710.26	\$ 8,396.00	\$ 6,716.80	\$ 1,679.20	0.3
73-7	Energystar Water coolers	19,684	2.25		0	0.00	\$ 232.00	\$ 264.00	\$ -	\$ 264.00	1.1
73-11	Retrofit Light Fixtures	78,121	8.92		0	0.00	\$ 8,593.30	\$ 70,590.00	\$ 18,749.02	\$ 51,840.98	6.0
73-12-1	High SEER Upgrades	1,305	0.15		0	0.00	\$ 117.45	\$ 1,812.50	\$ 313.20	\$ 1,499.30	12.8
73-13	Cool Roof Equivalent PV	116,732	13.33		0	0.00	\$ 10,962.20	\$ 331,800.00	\$ 28,015.68	\$ 303,784.32	27.7
73-17-EF-1	Exhaust Fan Setback	13	0.00		26	0.00	\$ 24.94	\$ 1,122.00	\$ 3.17	\$ 1,118.83	44.9
73-17-EF-2	Exhaust Fan Setback	16	0.00		31	0.00	\$ 29.69	\$ 1,122.00	\$ 3.77	\$ 1,118.23	37.7
73-17-EF-3	Exhaust Fan Setback	1,844	0.21		332	0.00	\$ 464.43	\$ 1,122.00	\$ 442.63	\$ 679.37	1.5
73-17-EF-4	Exhaust Fan Setback	2,475	0.28		475	0.00	\$ 650.02	\$ 1,122.00	\$ 594.08	\$ 527.92	0.8
73-17-EF-5	Exhaust Fan Setback	2,455	0.28		433	0.00	\$ 611.01	\$ 1,122.00	\$ 589.13	\$ 532.87	0.9
73-17-EF-6	Exhaust Fan Setback	4,800	0.55		648	0.00	\$ 1,015.27	\$ 1,122.00	\$ 897.60	\$ 224.40	0.2
73-17-EF-7	Exhaust Fan Setback	4,583	0.52		215	0.00	\$ 605.68	\$ 1,122.00	\$ 897.60	\$ 224.40	0.4
73-17-EF-8	Exhaust Fan Setback	1,233	0.14		228	0.00	\$ 316.56	\$ 1,122.00	\$ 295.97	\$ 826.03	2.6
73-17-EF-9	Exhaust Fan Setback	1,802	0.21		248	0.00	\$ 385.12	\$ 1,122.00	\$ 432.56	\$ 689.44	1.8
73-17-EF-10	Exhaust Fan Setback	1,763	0.20		169	0.00	\$ 311.00	\$ 1,122.00	\$ 423.15	\$ 698.85	2.2
73-17-EF-11	Exhaust Fan Setback	11	0.00		22	0.00	\$ 20.78	\$ 1,122.00	\$ 2.64	\$ 1,119.36	53.9
73-17-EF-12	Exhaust Fan Setback	112	0.01		0	0.00	\$ 10.07	\$ 1,122.00	\$ 26.86	\$ 1,095.14	108.7
73-17-EF-13	Exhaust Fan Setback	560	0.06		0	0.00	\$ 50.36	\$ 1,122.00	\$ 134.28	\$ 987.72	19.6
73-17-EF-14 & 15	Exhaust Fan Setback	31	0.01		63	0.00	\$ 59.37	\$ 1,122.00	\$ 7.54	\$ 1,114.46	18.8
73-17-EF-16	Exhaust Fan Setback	468	0.05		41	0.00	\$ 79.29	\$ 1,122.00	\$ 112.38	\$ 1,009.62	12.7
73-17-EF-17	Exhaust Fan Setback	9	0.00		19	0.00	\$ 17.81	\$ 1,122.00	\$ 2.26	\$ 1,119.74	62.9
73-17-EF-18	Exhaust Fan Setback	615	0.07		110	0.00	\$ 154.38	\$ 1,122.00	\$ 147.49	\$ 974.51	6.3
73-18-1S	Fan Efficiency Improvements	26,473	3.02		0	6,760.49	\$ 2,382.57	\$ 9,320.00	\$ 6,353.52	\$ 2,966.48	1.2
73-18-1R	Fan Efficiency Improvements	13,237	1.51		0	3,380.24	\$ 1,191.29	\$ 7,500.00	\$ 3,176.76	\$ 4,323.24	3.6
73-18-2S	Fan Efficiency Improvements	20,958	2.39		0	5,352.05	\$ 1,886.20	\$ 9,320.00	\$ 5,029.87	\$ 4,290.13	2.3
73-18-2R	Fan Efficiency Improvements	10,479	1.20		0	2,676.03	\$ 943.10	\$ 7,500.00	\$ 2,514.94	\$ 4,985.06	5.3
73-18-3S	Fan Efficiency Improvements	26,473	3.02		0	6,760.49	\$ 2,382.57	\$ 9,320.00	\$ 6,353.52	\$ 2,966.48	1.2
73-18-3R	Fan Efficiency Improvements	13,237	1.51		0	3,380.24	\$ 1,191.29	\$ 7,500.00	\$ 3,176.76	\$ 4,323.24	3.6
73-18-4S	Fan Efficiency Improvements	8,824	1.01		0	2,253.50	\$ 794.19	\$ 9,320.00	\$ 2,117.84	\$ 7,202.16	9.1
73-18-4R	Fan Efficiency Improvements	4,412	0.50		0	1,126.75	\$ 397.10	\$ 7,500.00	\$ 1,058.92	\$ 6,441.08	16.2
73-20	Behavior Based Utilization of Spaces	2,143,804	244.73		0	0.00	\$ 190,869.49	\$ -	\$ -	\$ -	0.0
Totals		2,561,350.82	292.40	-	4,160.14	31,689.78	\$ 233,326.80	\$ 517,693.50	\$ 88,589.94	\$ 429,103.56	1.84

Inputs:
Electricity: <input type="text" value="\$0.09/kWh"/>



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME Pyramid (PYR)  
BUILDING KEY 73  
GROSS AREA 157,335 SF  
ASSIGNED AREA 74,344 SF

SURVEYOR: JD/JP  
DATE: 10/20/2010



**BUILDING DESCRIPTION / STATISTICS**

Common Building Name	Mike and Arline Walter Pyramid
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



**DATABASE INFO:**

BUILDING NAME Parking and Transportation SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 74 DATE: \_\_\_\_\_  
 GROSS AREA 3,627 SF  
 ASSIGNED AREA 1,813 SF

**BUILDING DESCRIPTION / STATISTICS**

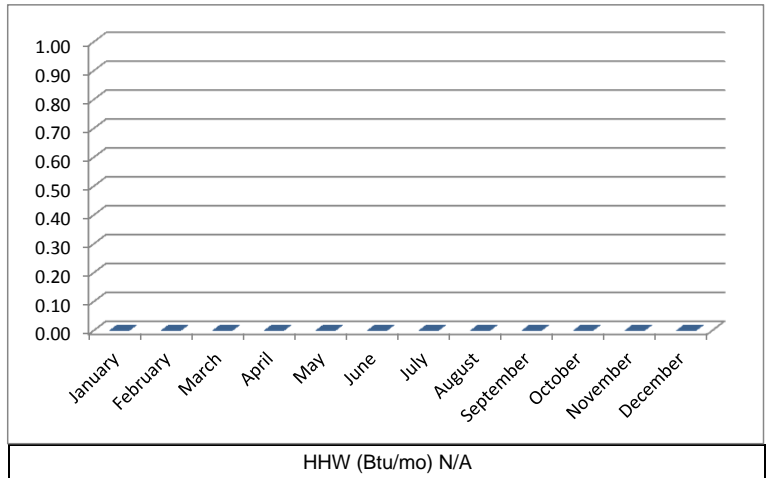
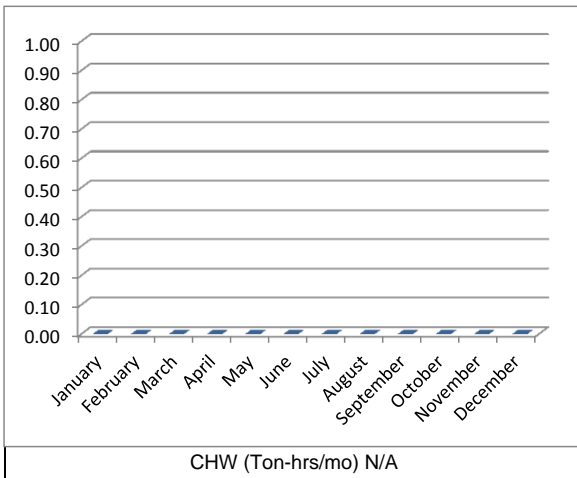
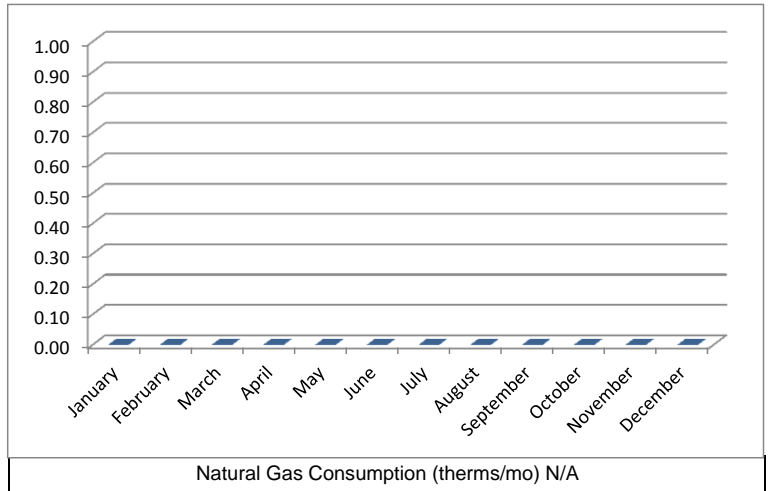
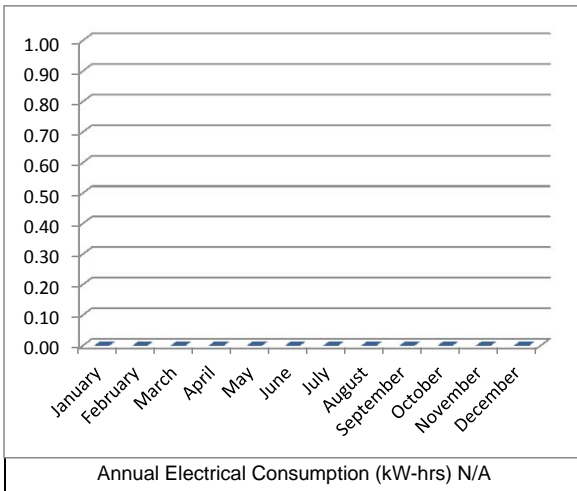
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade  /

Year Built  #N/A

Types of Spaces:







CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Parking and Transportation SURVEYOR: \_\_\_\_\_  
 BUILDING KEY 74 DATE: \_\_\_\_\_  
 GROSS AREA 3,627 SF  
 ASSIGNED AREA 1,813 SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  -  kBtu/SF-yr

Carbon Footprint:  -  Tons CO2

SEP ID Number	ECM Measures	Savings							Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
74-1	Replace to Tankless Water Heaters	2,593	0.30	-	-89	-	0	\$ 153.75	\$ 4,450.00	\$ 622.43	\$ 3,827.57	24.89
74-4	Low Flush Urinals	0	0.00	-	0	-	15	\$ 65.05	\$ 1,000.00	\$ -	\$ 1,000.00	15.37
74-7	EnergyStar Refrigerators	3,583	0.41	-	0	-	0	\$ 35.00	\$ 42.00	\$ -	\$ 42.00	1.20
74-11	Retrofit Light Fixtures	6,369	0.73	-	0	-	0	\$ 700.59	\$ 4,875.00	\$ 1,528.56	\$ 3,346.44	4.78
74-12-1	High SEER Upgrades	1,227	0.14	-	0	-	0	\$ 110.45	\$ 2,250.00	\$ 294.55	\$ 1,955.45	17.70
74-12-2	High SEER Upgrades	1,227	0.14	-	0	-	0	\$ 110.45	\$ 2,250.00	\$ 294.55	\$ 1,955.45	17.70
74-13	Cool Roof Equivalent PV	2,955	0.34	-	0	-	0	\$ 277.52	\$ 8,400.00	\$ 709.26	\$ 7,690.74	27.71
<b>Totals</b>		<b>17,955.42</b>	<b>2.05</b>	<b>-</b>	<b>(88.52)</b>	<b>-</b>	<b>15.49</b>	<b>\$ 1,452.82</b>	<b>\$ 23,267.00</b>	<b>\$ 3,449.34</b>	<b>\$ 19,817.66</b>	<b>13.64</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME International House SURVEYOR: JP  
 BUILDING KEY 75 DATE: \_\_\_\_\_  
 GROSS AREA 14,179 SF  
 ASSIGNED AREA - SF

BUILDING DESCRIPTION / STATISTICS

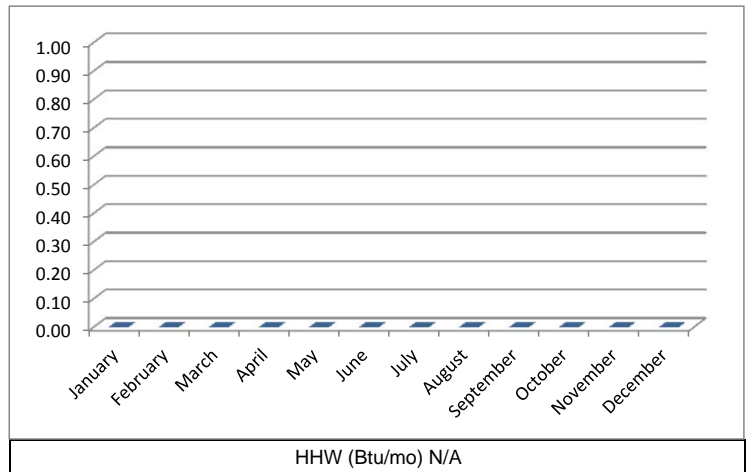
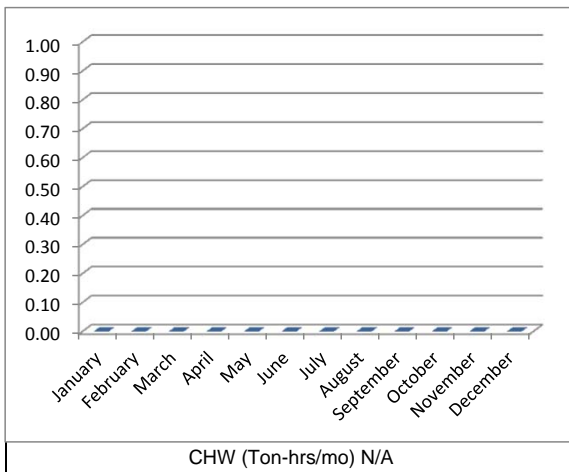
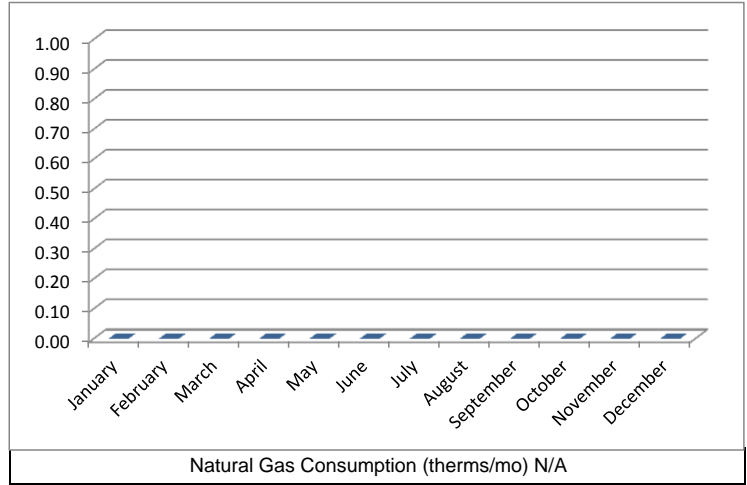
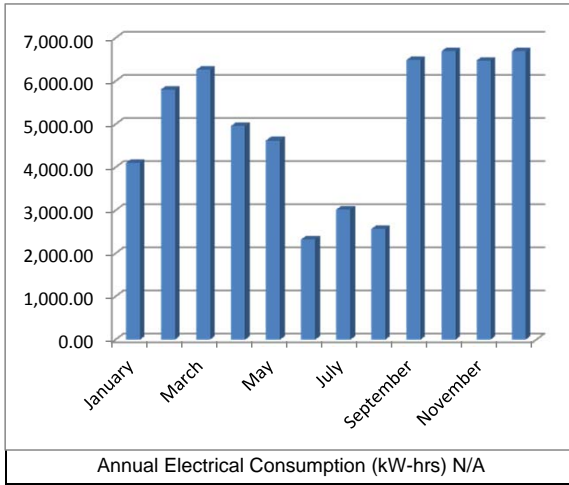
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade

Year Built

Types of Spaces:





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME International House SURVEYOR: JP  
 BUILDING KEY 75 DATE: \_\_\_\_\_  
 GROSS AREA 14,179 SF  
 ASSIGNED AREA - SF

BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
75-1	Replace to Tankless Water Heaters	725	0.08	-	315	-	0	\$ 369.51	\$ 4,450.00	\$ -	\$ 4,450.00	12.04
75-2	Insulate DHW Pipe	0	0.00	-	71	-	0	\$ 63.98	\$ 189.30	\$ -	\$ 189.30	2.96
75-7	Energystar Appliances	7,266	0.83	-	313	-	228	\$ 124.00	\$ 84.00	\$ -	\$ -	0.00
75-9-1	Prem Eff Mtr - Exhaust Fans	1,245	0.31	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-2	Prem Eff Mtr - Exhaust Fans	902	0.23	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-3	Prem Eff Mtr - Exhaust Fans	370	0.09	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-4	Prem Eff Mtr - Exhaust Fans	470	0.12	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-5	Prem Eff Mtr - Exhaust Fans	838	0.21	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-6	Prem Eff Mtr - Exhaust Fans	237	0.06	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-7	Prem Eff Mtr - Exhaust Fans	336	0.08	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-9-8	Prem Eff Mtr - Exhaust Fans	336	0.08	-	0	-	0	\$ 53.19	\$ 401.00	\$ 141.84	\$ 259.16	4.87
75-13	Cool Roof Equivalent PV	11,821	0.00	-	0	-	0	\$ 1,110.10	\$ 33,600.00	\$ 2,837.03	\$ 30,762.97	27.71
<b>Totals</b>		<b>24,546.71</b>	<b>2.10</b>	<b>-</b>	<b>699.27</b>	<b>-</b>	<b>228.00</b>	<b>\$ 2,093.10</b>	<b>\$ 41,531.30</b>	<b>\$ 3,971.75</b>	<b>\$ 37,475.55</b>	<b>17.90</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Comm Main Dist - B SURVEYOR: JD/JP  
 BUILDING KEY 79 DATE: 10/20/2010  
 GROSS AREA 1,200 SF  
 ASSIGNED AREA 1,200 SF

BUILDING DESCRIPTION / STATISTICS

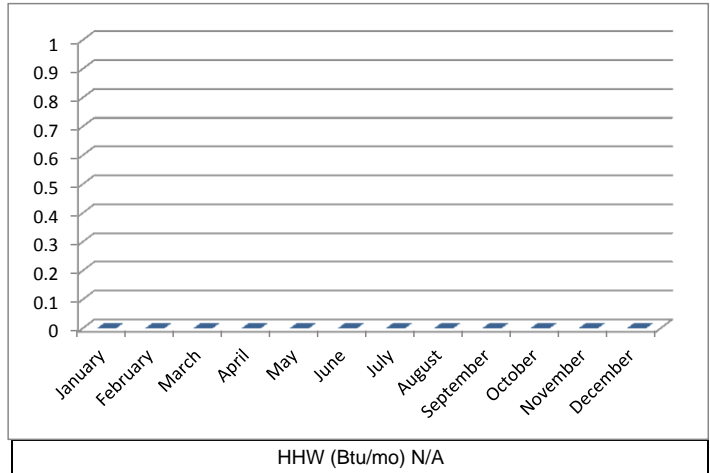
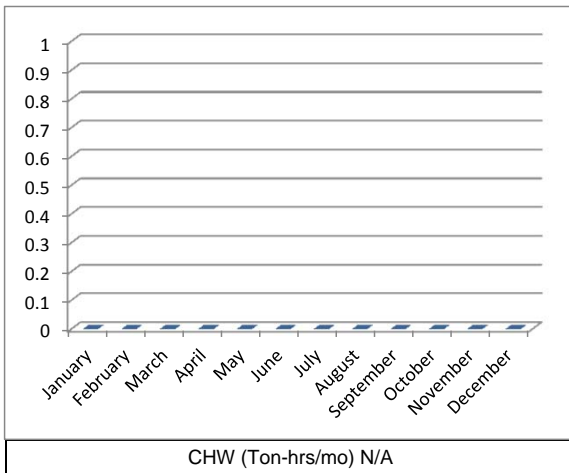
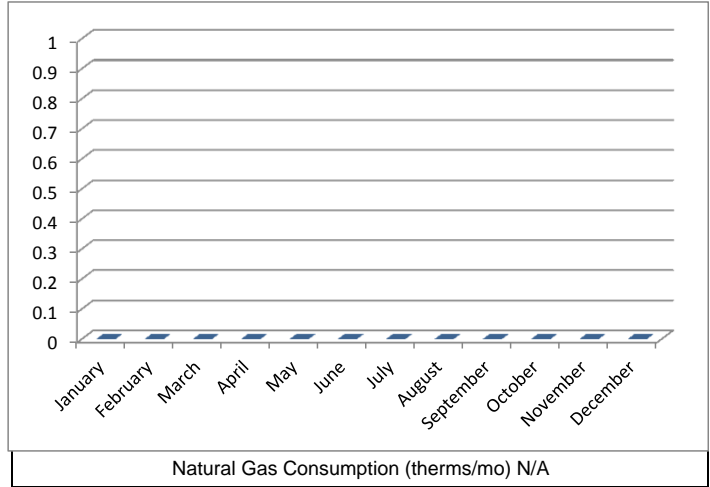
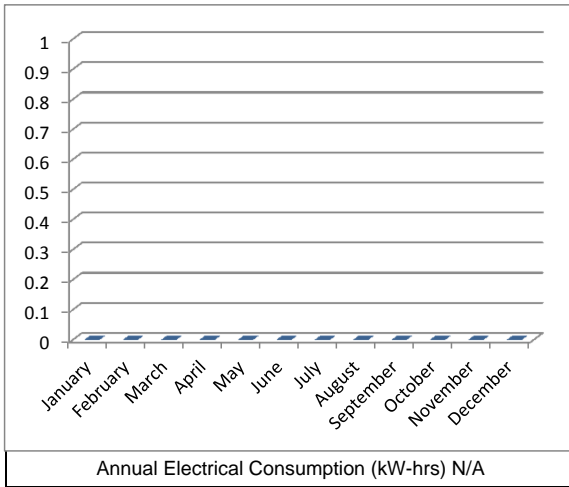
Common Building Name

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade

Year Built

Types of Spaces:



EUI:



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME Comm Main Dist - B SURVEYOR: JD/JP  
 BUILDING KEY 79 DATE: 10/20/2010  
 GROSS AREA 1,200 SF  
 ASSIGNED AREA 1,200 SF



BUILDING DESCRIPTION / STATISTICS

Common Building Name Comm Main Dist B - Building 79  
 Carbon Footprint: -

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
79-11	Retrofit Light Fixtures	6,059	0.69	-	-	-	-	\$ 666.47	\$ 3,380.00	\$ 1,454.11	\$ 1,925.89	2.9
<b>Totals</b>		<b>6,059</b>	<b>0.69</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 666.47</b>	<b>\$ 3,380.00</b>	<b>\$ 1,454.11</b>	<b>\$ 1,925.89</b>	<b>2.9</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME: Pyramid Annex SURVEYOR: JD/JP  
 BUILDING KEY: 81 (E2) DATE: 10/20/2010  
 GROSS AREA: 19,150 SF  
 ASSIGNED AREA: 19,510 SF

BUILDING DESCRIPTION / STATISTICS

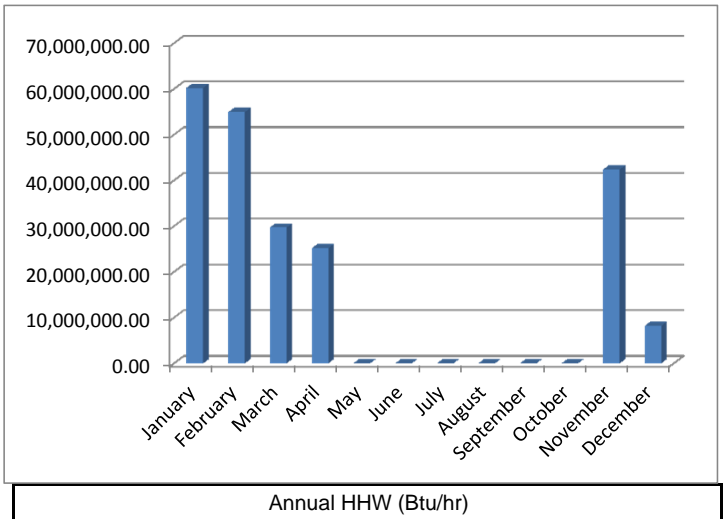
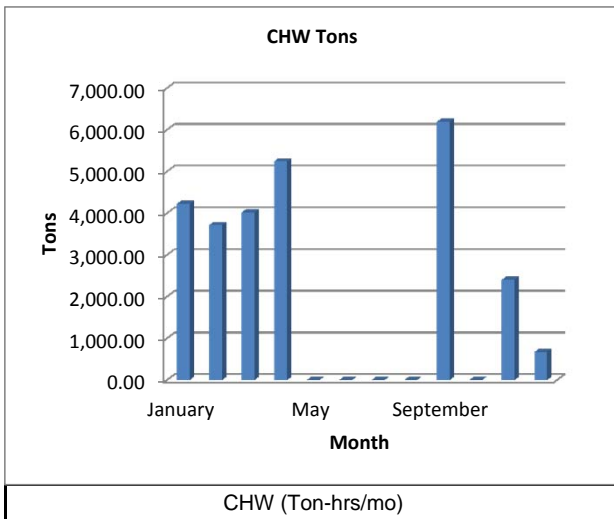
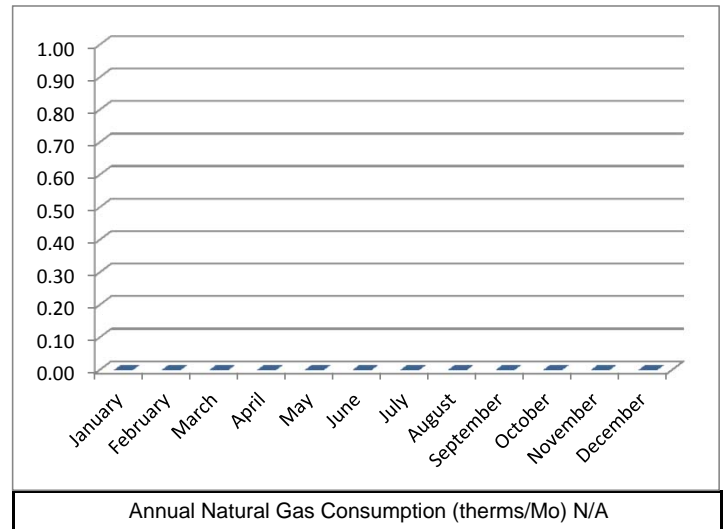
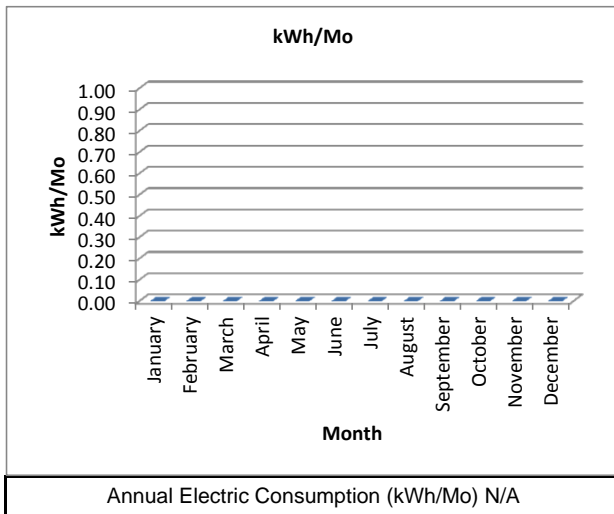
Common Building Name: PA - Building 81

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade: 2 / 0

Year Built: #N/A

Types of Spaces: University Police Department, Parking Administration division, Pyramid Annex Conference Center & Special Events





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Pyramid Annex SURVEYOR: JD/JP  
 BUILDING KEY 81 (E2) DATE: 10/20/2010  
 GROSS AREA 19,150 SF  
 ASSIGNED AREA 19,510 SF

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name

EUI:

Carbon Footprint:

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
81-1	Replace to Tankless Water Heaters	12,479	1.42	-	-426	-	\$ 739.77	\$ 4,450.00	\$ 2,994.87	\$ 1,455.13	2.0
81-2	Insulate DHW Pipe	299	0.03	-	0	-	\$ 26.95	\$ 63.10	\$ 50.48	\$ 12.62	0.5
81-4	Low Flush Urinals	0	-	-	0	-	\$ 455.33	\$ 3,000.00	\$ -	\$ 3,000.00	6.6
81-6	Demand Control Ventilation	6,120	0.70	-	33	-	\$ 580.19	\$ 28,825.00	\$ 1,468.70	\$ 27,356.30	47.2
81-7	EnergyStar Refrigerators	3,678	0.42	-	0	-	\$ 44.00	\$ 72.00	\$ -	\$ 72.00	1.6
81-11	Retrofit Light Fixtures	19,622	2.24	-	0	-	\$ 2,158.40	\$ 22,945.00	\$ 4,709.23	\$ 18,235.77	8.4
81-12-1	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
81-12-2	High SEER Upgrades	801	0.09	-	0	-	\$ 72.10	\$ 1,468.75	\$ 192.27	\$ 1,276.48	17.7
81-13	Cool Roof Equivalent PV	7,388	0.84	-	0	-	\$ 693.81	\$ 21,000.00	\$ 1,773.14	\$ 19,226.86	27.7
81-17-EF-1	Exhaust Fan Setback	414	0.05	-	83	-	\$ 111.59	\$ 1,122.00	\$ 99.43	\$ 1,022.57	9.2
81-17-EF-2	Exhaust Fan Setback	414	0.05	-	83	-	\$ 111.59	\$ 1,122.00	\$ 99.43	\$ 1,022.57	9.2
81-18-1S	Fan Efficiency Improvements	4,412	0.50	-	0	-	\$ 397.10	\$ 5,250.00	\$ 1,058.92	\$ 4,191.08	10.6
81-18-1R	Fan Efficiency Improvements	1,655	0.19	-	0	-	\$ 148.91	\$ 3,500.00	\$ 397.10	\$ 3,102.90	20.8
<b>Totals</b>		<b>58,083.48</b>	<b>6.63</b>	<b>-</b>	<b>(228.08)</b>	<b>-</b>	<b>\$ 5,611.84</b>	<b>\$ 94,286.60</b>	<b>\$ 13,035.85</b>	<b>\$ 81,250.75</b>	<b>14.48</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME	Foundation Office	SURVEYOR	JP/PL
BUILDING KEY	82	DATE:	11/17/2010
GROSS AREA	67,500 SF		
ASSIGNED AREA	63,464 SF		

BUILDING DESCRIPTION / STATISTICS

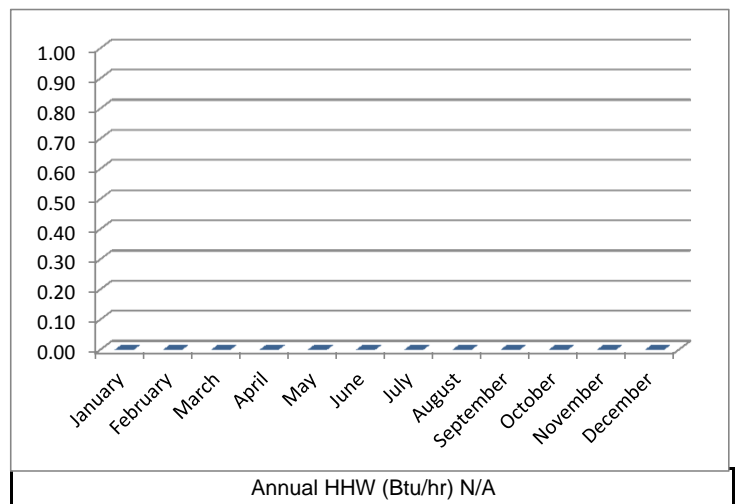
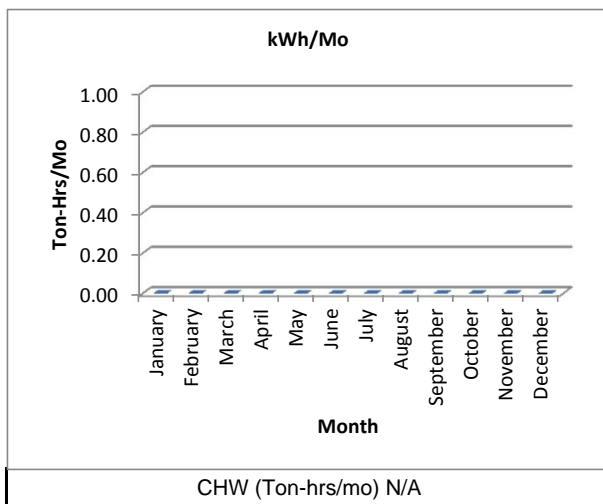
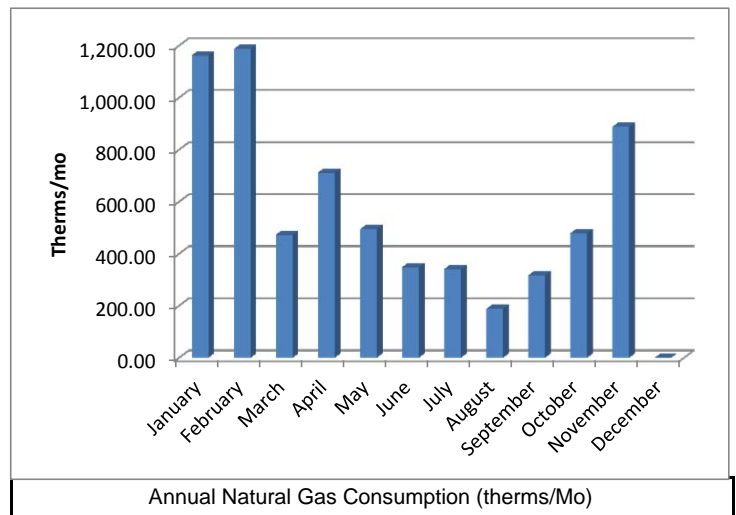
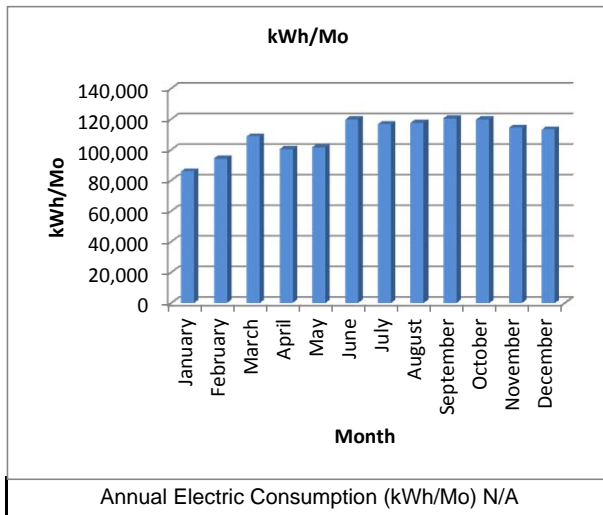
Common Building Name:

Note: May be different than database name above; use building name as it appears on map or is known to campus

Floors Above/Below Grade:  /

Year Built:

Types of Spaces:



EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO2





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION

DATABASE INFO:

BUILDING NAME	<u>Foundation Office</u>	SURVEYOR	<u>JP/PL</u>
BUILDING KEY	<u>82</u>	DATE:	<u>11/17/2010</u>
GROSS AREA	<u>67,500 SF</u>		
ASSIGNED AREA	<u>63,464 SF</u>		

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name





CSULB – STRATEGIC ENERGY PLAN  
GENERAL BUILDING INFORMATION



DATABASE INFO:

BUILDING NAME Foundation Office SURVEYOR JP/PL  
 BUILDING KEY 82 DATE: 11/17/2010  
 GROSS AREA 67,500 SF  
 ASSIGNED AREA 63,464 SF

**BUILDING DESCRIPTION / STATISTICS**

Common Building Name

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
82-1	Replace to Tankless Water Heaters	4,366	0.50	-	(149)	-	\$ 258.82	\$ 4,450.00	\$ 1,047.81	\$ 3,402.19	13.1
82-4	Low Flush Urinals	0	-	-	0	-	\$ 1,510.03	\$ 3,000.00	\$ -	\$ 3,000.00	2.0
82-11	Retrofit Light Fixtures	33,851	3.86	-	0	-	\$ 3,723.65	\$ 46,540.00	\$ 8,124.34	\$ 38,415.66	10.3
82-12-1	High SEER Upgrades	1,350	0.15	-	0	-	\$ 121.50	\$ 1,875.00	\$ 324.00	\$ 1,551.00	12.8
82-13	Cool Roof Equivalent PV	11,821	1.35	-	0	-	\$ 1,110.10	\$ 33,600.00	\$ 2,837.03	\$ 30,762.97	27.7
82-17-EF-1	Exhaust Fan Setback	75	0.02	-	151	-	\$ 142.50	\$ 1,122.00	\$ 18.09	\$ 1,103.91	7.7
82-17-EF-2	Exhaust Fan Setback	63	0.02	-	126	-	\$ 118.75	\$ 1,122.00	\$ 15.08	\$ 1,106.92	9.3
82-17-EF-3	Exhaust Fan Setback	628	0.16	-	1,257	-	\$ 1,187.48	\$ 1,122.00	\$ 150.79	\$ 971.21	0.8
82-17-EF-4	Exhaust Fan Setback	628	0.16	-	1,257	-	\$ 1,187.48	\$ 1,122.00	\$ 150.79	\$ 971.21	0.8
82-17-EF-8	Exhaust Fan Setback	19	0.00	-	38	-	\$ 35.62	\$ 1,122.00	\$ 4.52	\$ 1,117.48	31.4
82-17-EF-9	Exhaust Fan Setback	24	0.01	-	48	-	\$ 45.12	\$ 1,122.00	\$ 5.73	\$ 1,116.27	24.7
<b>Totals</b>		<b>52,825.79</b>	<b>6.23</b>	<b>-</b>	<b>2,726.06</b>	<b>-</b>	<b>\$ 9,441.05</b>	<b>\$ 96,197.00</b>	<b>\$ 12,678.19</b>	<b>\$ 83,518.81</b>	<b>8.85</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Business Administration</u>	Surveyor:	<u>JD/AT</u>
Building Key	<u>85</u>	Date:	<u>9/20/2010</u>
Gross Area	<u>87,531 SF</u>		
Assigned Area	<u>56,178 SF</u>		

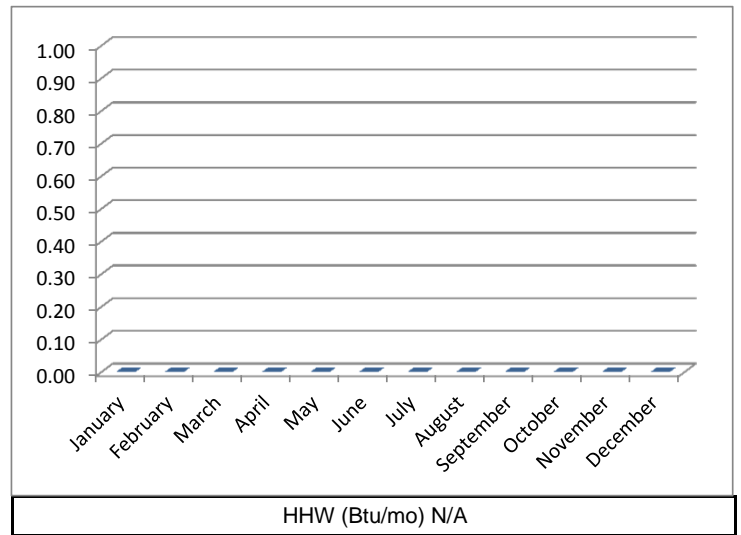
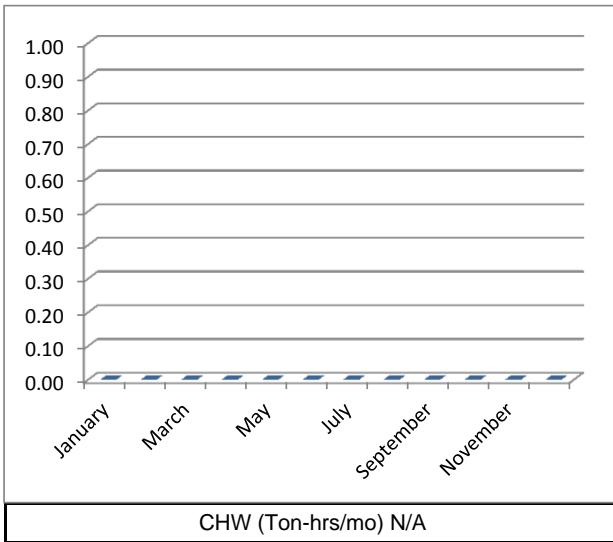
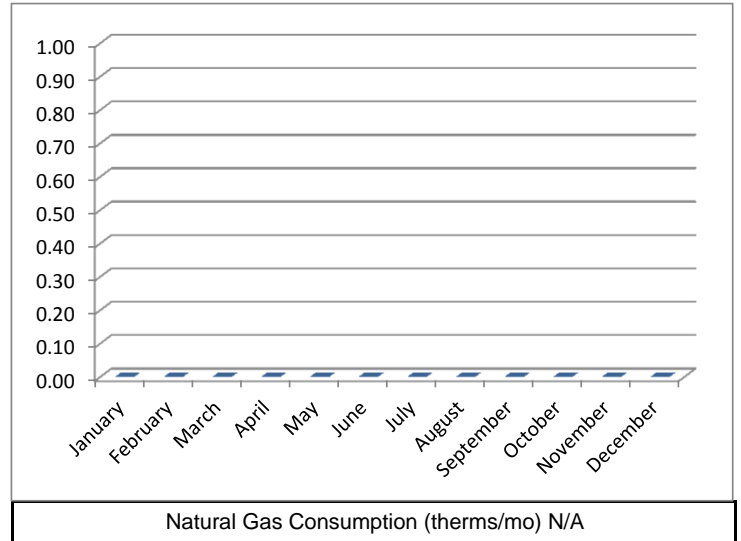
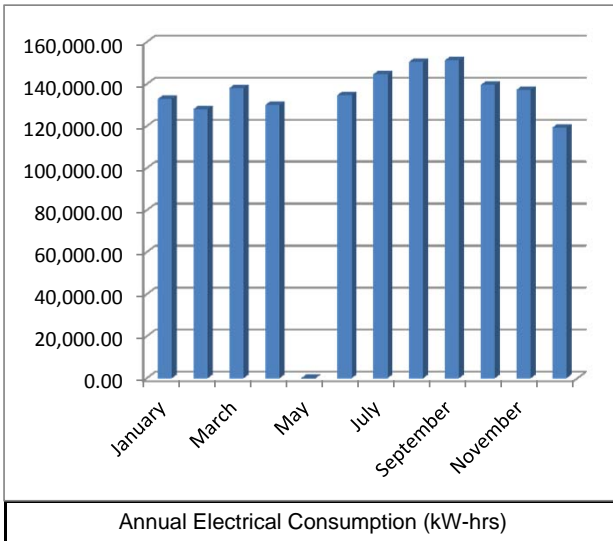


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Business Administration - Bldg 85

Floors Above/Below Grade: 3 / 0 Year Built: 1993

Types of Spaces: Lecture classrooms, laboratory spaces, offices



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name: Business Administration      Surveyor: JD/AT  
 Building Key: 85      Date: 9/20/2010  
 Gross Area: 87,531 SF  
 Assigned Area: 56,178 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Business Administration - Bldg 85

EUI: 130.13 kBtu/SF-yr

Carbon Footprint: 663.05 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
85-9-1	Prem Eff Mtr - HP-10 Fan	470	0.05	-	-	-	\$ 42.30	\$ 742.00	\$ 112.80	\$ 629.20	14.9
85-9-2	Prem Eff Mtr - Cooling Tower Fan Motor	753	0.09	-	-	-	\$ 67.77	\$ 742.00	\$ 180.72	\$ 561.28	8.3
85-9-3	Prem Eff Mtr - Cooling Tower Fan Motor	1,245	0.14	-	-	-	\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
85-9-4	Prem Eff Mtr - Tower Pumps	829	0.09	-	-	-	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
85-9-5	Prem Eff Mtr - Condenser Water Pumps	829	0.09	-	-	-	\$ 74.61	\$ 1,836.00	\$ 198.96	\$ 1,637.04	21.9
85-10-1	VFD for HP-10 Fan	5,004	0.57	-	-	-	\$ 450.32	\$ 4,900.00	\$ 1,200.87	\$ 3,699.13	8.2
85-10-2	VFD for Cooling Tower Fan Motor	2,502	0.29	-	-	-	\$ 225.16	\$ 2,450.00	\$ 600.43	\$ 1,849.57	8.2
85-10-3	VFD for Cooling Tower Fan Motor	8,339	0.95	-	-	-	\$ 750.54	\$ 3,050.00	\$ 2,001.44	\$ 1,048.56	1.4
85-10-4	VFD for Tower Pumps	25,018	2.86	-	-	-	\$ 2,251.62	\$ 7,650.00	\$ 6,004.33	\$ 1,645.67	0.7
85-10-5	VFD for Condenser Water Pumps	33,357	3.81	-	-	-	\$ 3,002.17	\$ 10,170.00	\$ 8,005.77	\$ 2,164.23	0.7
85-13	Cool Roof Equivalent PV	65,015	7.42	-	-	-	\$ 6,105.53	\$ 184,800.00	\$ 15,603.67	\$ 169,196.33	27.7
85-18-1	Fan Efficiency Improvements	1,933	0.22	-	-	-	\$ 173.93	\$ 3,000.00	\$ 463.81	\$ 2,536.19	14.6
<b>Totals</b>		<b>145,294.00</b>	<b>16.59</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 13,330.61</b>	<b>\$ 222,315.00</b>	<b>\$ 34,870.56</b>	<b>\$ 187,444.44</b>	<b>14.06</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Central Plant</u>	Surveyor:	<u>JP</u>
Building Key	<u>86</u>	Date:	<u>9/20/2010</u>
Gross Area	<u>42,000 SF</u>		
Assigned Area	<u>42,000 SF</u>		

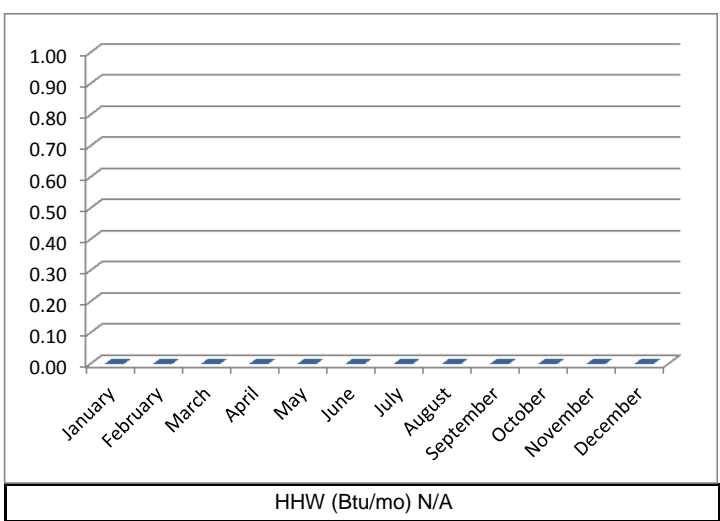
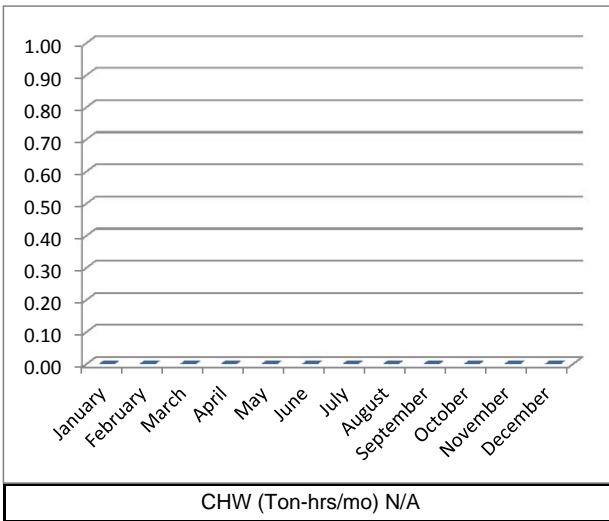
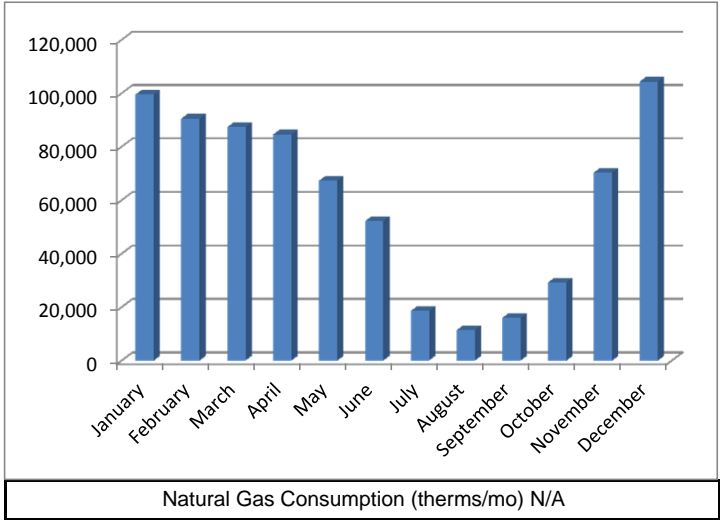
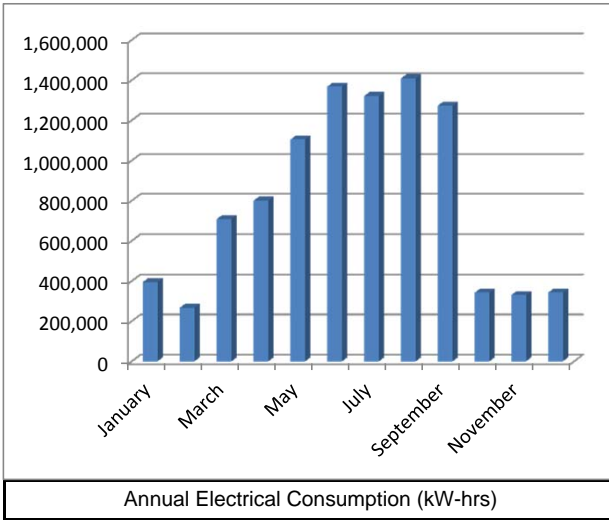


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Central Plant- Bldg 85

Floors Above/Below Grade: 1 / 0 Year Built: 1997

Types of Spaces: Chiller room, Boiler Room



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Central Plant Surveyor: JP  
 Building Key 86 Date: 9/20/2010  
 Gross Area 42,000 SF  
 Assigned Area 42,000 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Central Plant- Bldg 85

EUI: 2,526.74 kBtu/SF-yr

Carbon Footprint: 6,648.52 Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
86-8	Replace Desiccant Dryer with Refrigerated	5,601	0.64	-	-	-	\$ 504.13	\$ 7,500.00	\$ 1,344.35	\$ 6,155.65	12.2
86-9-1	Rewound Premium Efficiency Motors	2,215	0.55	-	-	-	\$ 199.35	\$ 791.00	\$ 531.60	\$ 259.40	1.3
86-9-2	Rewound Premium Efficiency Motors	768	0.19	-	-	-	\$ 69.12	\$ 350.00	\$ 184.32	\$ 165.68	2.4
86-9-3	Rewound Premium Efficiency Motors	768	0.19	-	-	-	\$ 69.12	\$ 350.00	\$ 184.32	\$ 165.68	2.4
86-10-1	Varibale Frequency Drive	4,549	3.03	-	-	-	\$ 409.39	\$ 3,825.00	\$ 1,091.70	\$ 2,733.30	6.7
86-10-2	Varibale Frequency Drive	1,456	0.49	-	-	-	\$ 131.00	\$ 2,450.00	\$ 349.34	\$ 2,100.66	16.0
86-10-3	Varibale Frequency Drive	97,040	32.35	-	-	-	\$ 8,733.57	\$ 20,100.00	\$ 16,080.00	\$ 4,020.00	0.5
86-10-4	Varibale Frequency Drive	48,520	16.17	-	-	-	\$ 4,366.79	\$ 13,000.00	\$ 10,400.00	\$ 2,600.00	0.6
86-10-5	Varibale Frequency Drive	97,040	32.35	-	-	-	\$ 8,733.57	\$ 20,100.00	\$ 16,080.00	\$ 4,020.00	0.5
86-11	Retrofit Light Fixtures	6,138	1.86	-	-	-	\$ 675.18	\$ 7,085.00	\$ 1,473.12	\$ 5,611.88	8.3
86-13	Cool Roof Equivalent PV	7,388	4.05	-	-	-	\$ 693.81	\$ 21,000.00	\$ 1,773.14	\$ 19,226.86	27.7
<b>Totals</b>		<b>271,482.11</b>	<b>91.87</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 24,585.03</b>	<b>\$ 96,551.00</b>	<b>\$ 49,491.90</b>	<b>\$ 47,059.10</b>	<b>1.91</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Housing & Residential Life Office      Surveyor: JD  
 Building Key: 89      Date: 10/27/2010  
 Gross Area: 3,814 SF  
 Assigned Area: 2,364 SF

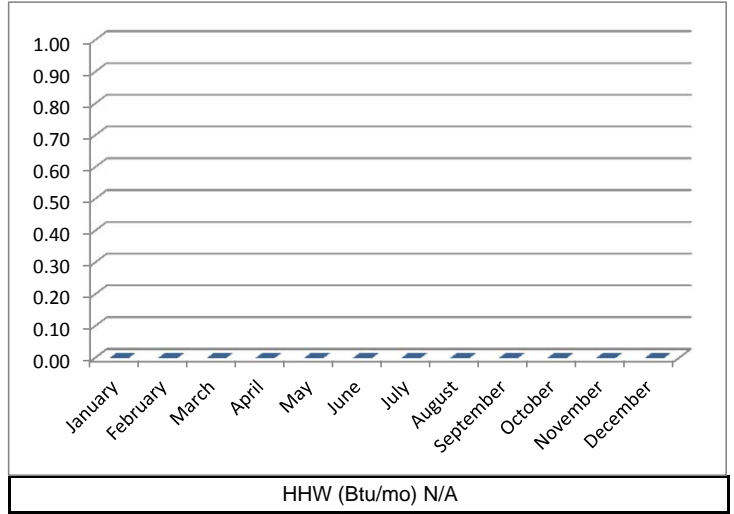
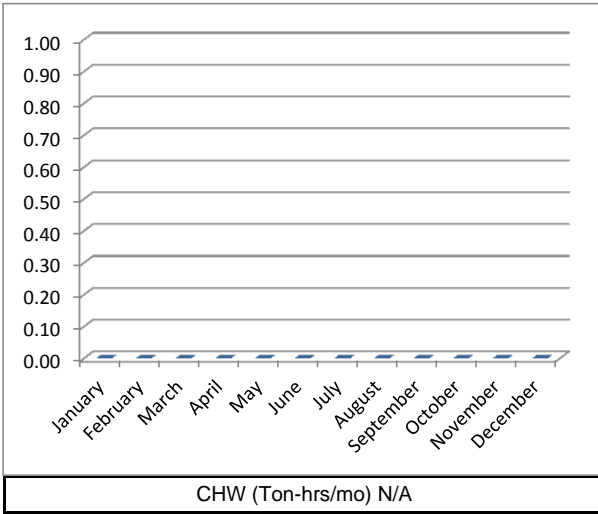
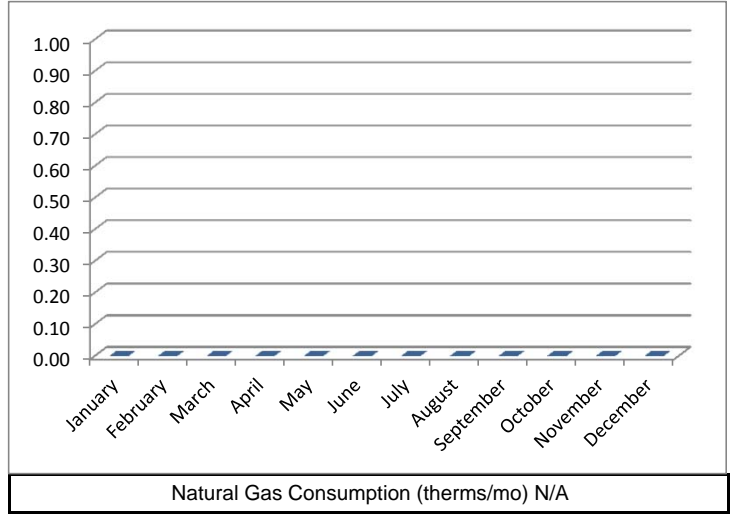
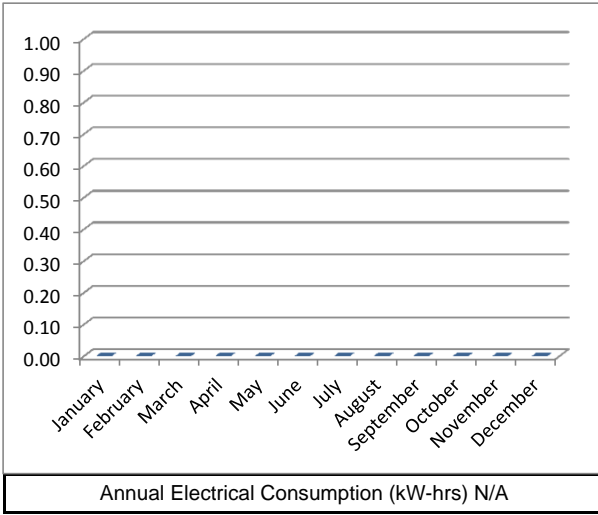


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Housing & Residential Life Office - Bldg 89

Floors Above/Below Grade: 1 / 0      Year Built: #N/A

Types of Spaces: Offices & Conference Room



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Housing & Residential Life Office Surveyor: JD  
 Building Key 89 Date: 10/27/2010  
 Gross Area 3,814 SF  
 Assigned Area 2,364 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name Housing & Residential Life Office - Bldg 89

EUI:                      -                      kBtu/SF-yr

Carbon Footprint:                      -                      Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
89-12-1	High SEER Upgrades	1,038	0.12	-	-	-	\$ 93.46	\$ 3,750.00	\$ 249.23	\$ 3,500.77	37.5
89-12-2	High SEER Upgrades	2,700	0.31	-	-	-	\$ 243.00	\$ 3,750.00	\$ 648.00	\$ 3,102.00	12.8
89-13	Cool Roof Equivalent PV	2,955	0.34	-	-	-	\$ 277.52	\$ 8,400.00	\$ 709.26	\$ 7,690.74	27.7
<b>Totals</b>		<b>6,693.70</b>	<b>0.76</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$ 613.99</b>	<b>\$ 15,900.00</b>	<b>\$ 1,606.49</b>	<b>\$ 14,293.51</b>	<b>23.28</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Commons Dining Hall</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>104</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,473 SF</u>		
Assigned Area	<u>4,736 SF</u>		

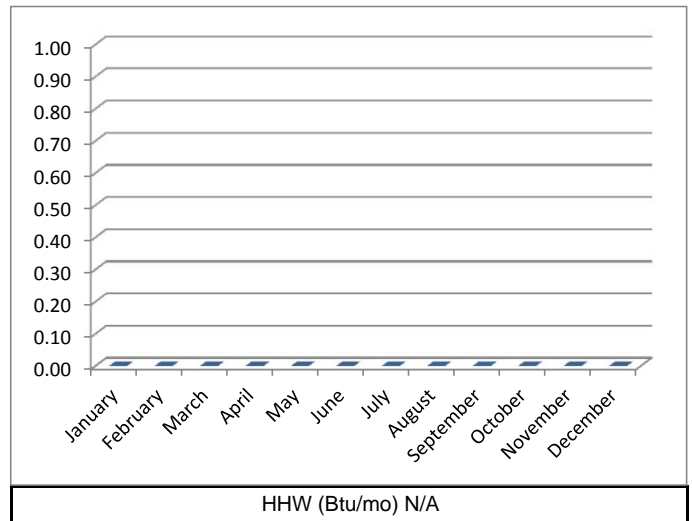
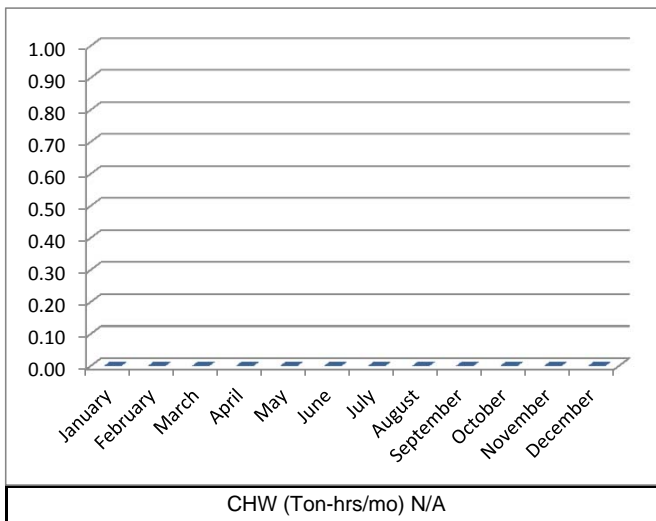
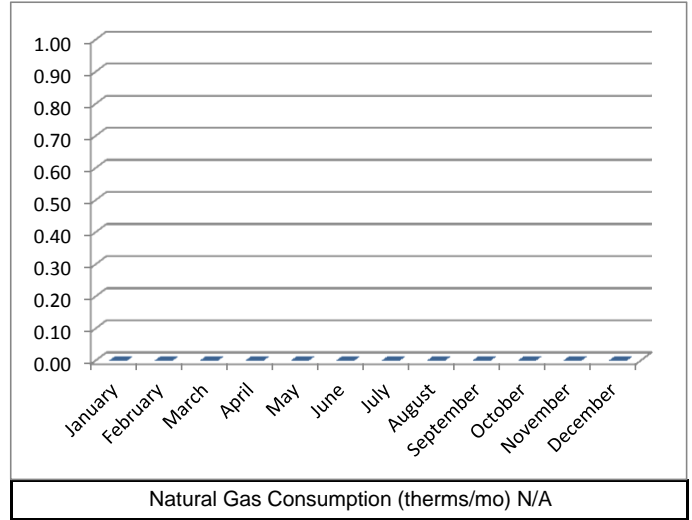
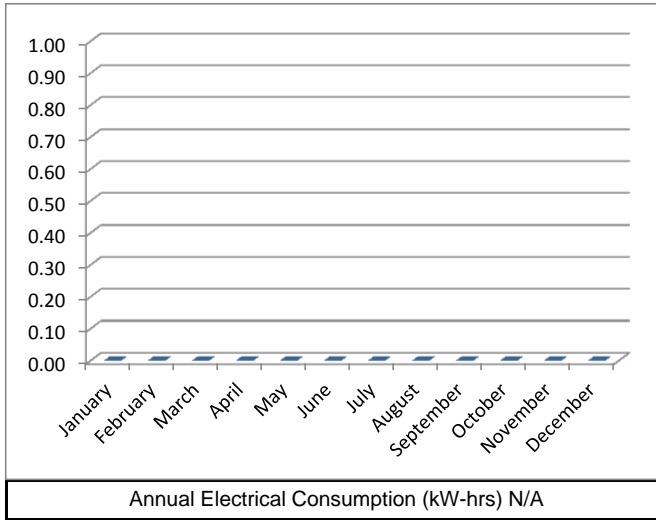


## BUILDING DESCRIPTION / STATISTICS

Common Building Name

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Commons Dining Hall</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>104</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,473 SF</u>		
Assigned Area	<u>4,736 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Unmetered Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
104-2-1	Insulate DHW Pipe	0	-		237		\$ 213.26	\$ 677.00	\$ -	\$ 677.00	3.2
104-2-2	Insulate DHW Pipe	0	-		195		\$ 175.20	\$ 677.00	\$ -	\$ 677.00	3.9
104-6	Demand Control Ventilation	69,414	7.92		15		\$ 6,260.76	\$ 8,396.00	\$ 6,716.80	\$ 1,679.20	0.5
104-9	Prem Eff Mtr - AHU Supply Fan	1,245	0.14		0		\$ 112.05	\$ 1,139.00	\$ 298.80	\$ 840.20	7.5
104-10-1	VFD for AHU Supply Fan	4,549	0.52		0		\$ 409.39	\$ 3,050.00	\$ 1,091.70	\$ 1,958.30	4.8
104-11	Retrofit Light Fixtures	1,775	0.20		0		\$ 195.29	\$ 3,217.50	\$ 426.10	\$ 2,791.40	14.3
104-12-1	High SEER Upgrades	21,060	2.40		0		\$ 1,895.40	\$ 29,250.00	\$ 5,054.40	\$ 24,195.60	12.8
104-12-2	High SEER Upgrades	796	0.09		0		\$ 71.64	\$ 1,105.63	\$ 191.05	\$ 914.57	12.8
104-13	Cool Roof Equivalent PV	7,388	0.84		0		\$ 693.81	\$ 21,000.00	\$ 1,773.14	\$ 19,226.86	27.7
104-17-EF-1	Exhaust Fan Setback	2,809	0.32		1,142		\$ 1,280.66	\$ 1,122.00	\$ 674.17	\$ 447.83	0.3
104-17-EF-12	Exhaust Fan Setback	2,665	0.30		853		\$ 1,007.60	\$ 1,122.00	\$ 639.49	\$ 482.51	0.5
104-17-EF-14	Exhaust Fan Setback	1,284	0.15		330		\$ 412.78	\$ 1,122.00	\$ 308.19	\$ 813.81	2.0
104-18-1	Fan Efficiency Improvements	6,442	0.74		0		\$ 579.76	\$ 4,250.00	\$ 1,546.02	\$ 2,703.98	4.7
<b>Totals</b>		<b>119,426.74</b>	<b>13.63</b>	<b>-</b>	<b>2,772.00</b>	<b>-</b>	<b>\$ 13,307.59</b>	<b>\$ 76,128.13</b>	<b>\$18,719.86</b>	<b>\$ 57,408.27</b>	<b>4.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall A</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>105</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		

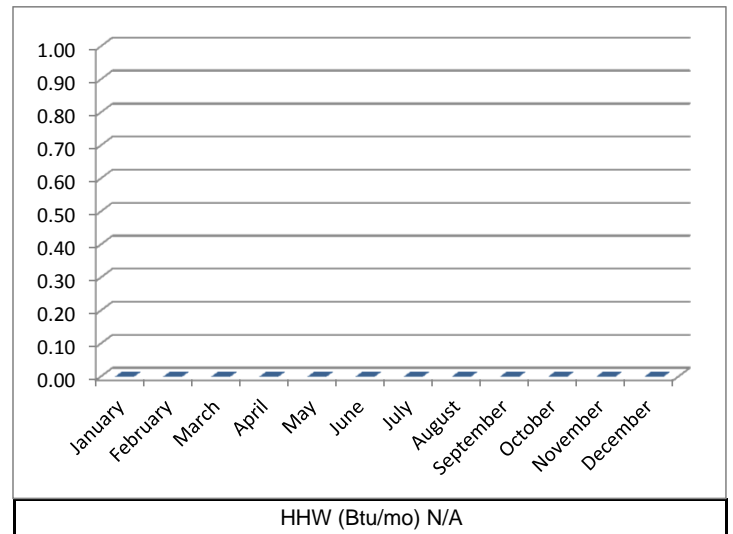
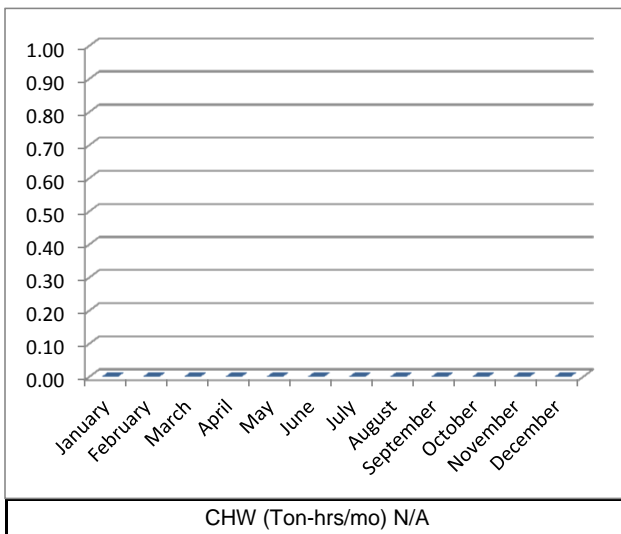
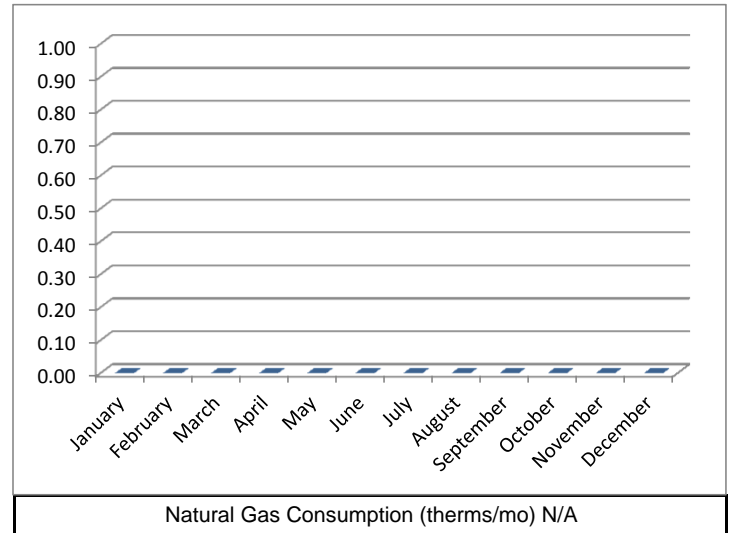
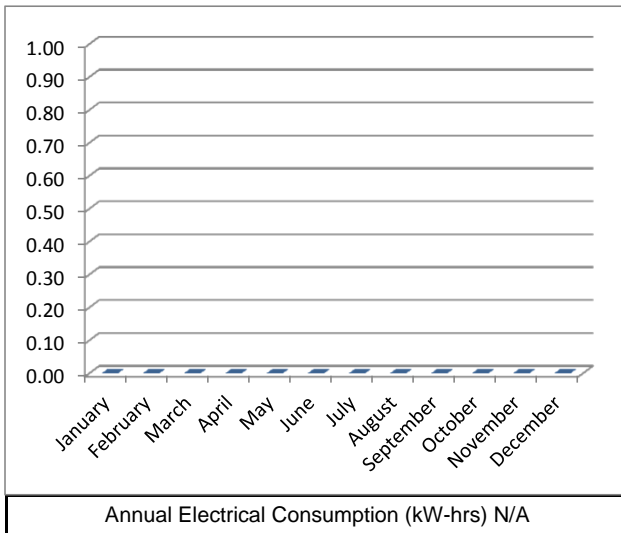


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name: Residence Hall A      Surveyor: JD/JP  
 Building Key: 105      Date: 9/13/2010  
 Gross Area: 19,121 SF  
 Assigned Area: 9,560 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
105-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 168.40	\$ 4,450.00	\$ -	\$ 4,450.00	26.4
105-2	Insulate DHW Pipe	0	-	-	97	-	\$ 87.60	\$ 338.50	\$ -	\$ 338.50	3.9
105-7	EnergyStar Refrigerators	828	0.09	-	209	-	\$ 108.00	\$ 240.00	\$ -	\$ 240.00	2.2
105-11	Retrofit Light Fixtures	8,709	0.99	-	0	-	\$ 957.96	\$ 19,922.50	\$ 2,090.09	\$ 17,832.41	18.6
105-13	Cool Roof Equivalent PV	14,776	1.69	-	0	-	\$ 1,387.62	\$ 42,000.00	\$ 3,546.29	\$ 38,453.71	27.7
105-17-EF-1	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
105-17-EF-2	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
105-17-EF-3	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
105-17-EF-4	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
<b>Totals</b>		<b>24,722.98</b>	<b>2.82</b>	<b>-</b>	<b>526.38</b>	<b>-</b>	<b>\$ 2,944.62</b>	<b>\$ 71,439.00</b>	<b>\$ 5,734.79</b>	<b>\$ 65,704.21</b>	<b>22.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall B</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>106</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		

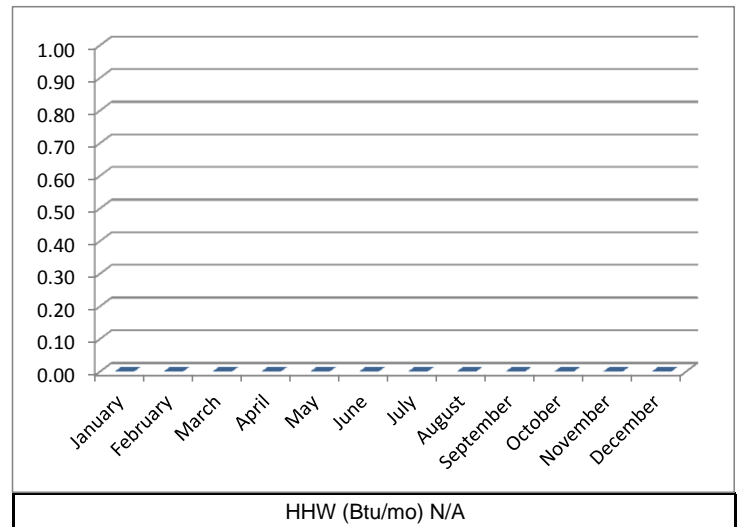
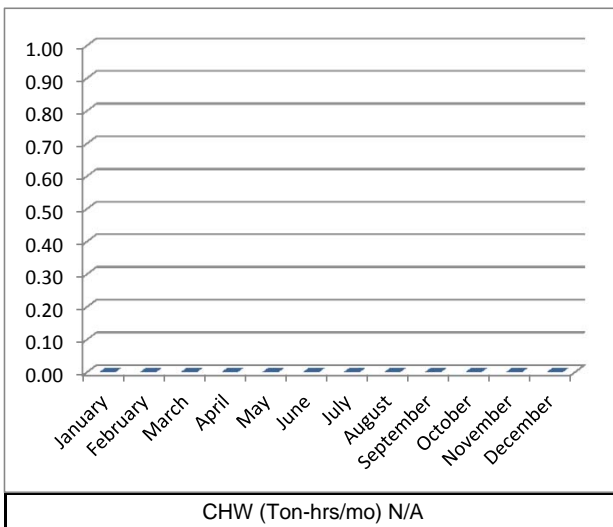
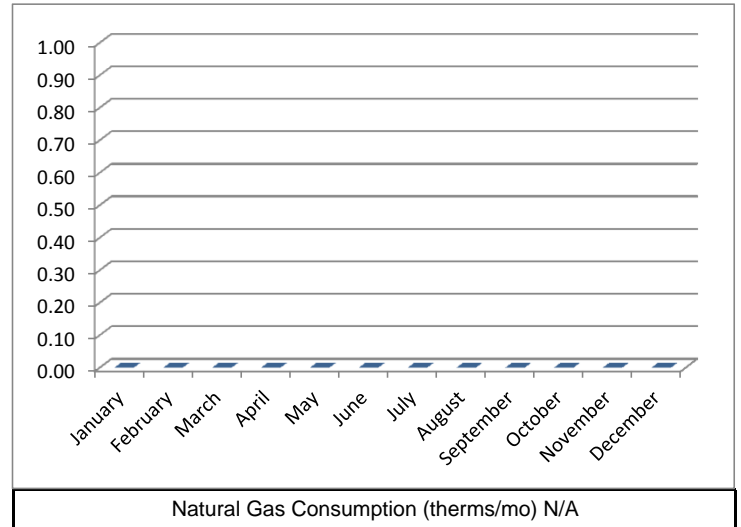
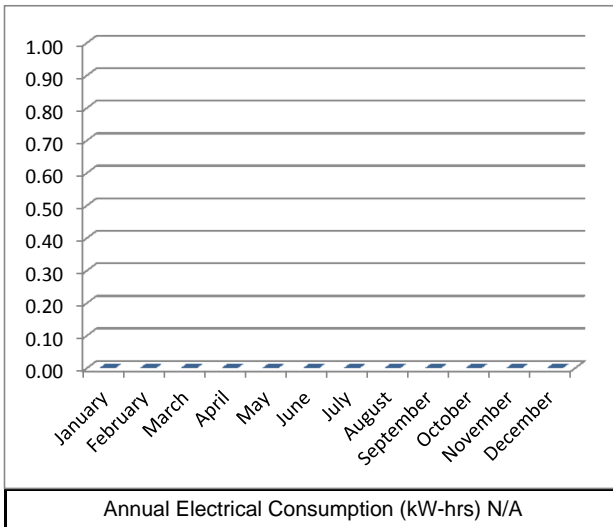


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall B</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>106</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
106-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 168.40	\$ 4,450.00	\$ -	\$ 4,450.00	26.4
106-2	Insulate DHW Pipe	0	-	-	97	-	\$ 87.60	\$ 338.50	\$ -	\$ 338.50	3.9
106-7	EnergyStar Refrigerators	828	0.09	-	209	-	\$ 108.00	\$ 240.00	\$ -	\$ 240.00	2.2
106-11	Retrofit Light Fixtures	8,709	0.99	-	0	-	\$ 957.96	\$ 19,922.50	\$ 2,090.09	\$ 17,832.41	18.6
106-13	Cool Roof Equivalent PV	14,776	1.69	-	0	-	\$ 1,387.62	\$ 42,000.00	\$ 3,546.29	\$ 38,453.71	27.7
106-17-EF-1	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
106-17-EF-2	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
106-17-EF-3	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
106-17-EF-4	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
<b>Totals</b>		<b>24,722.98</b>	<b>2.82</b>	<b>-</b>	<b>526.38</b>	<b>-</b>	<b>\$ 2,944.62</b>	<b>\$ 71,439.00</b>	<b>\$ 5,734.79</b>	<b>\$ 65,704.21</b>	<b>22.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall D</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>107</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		

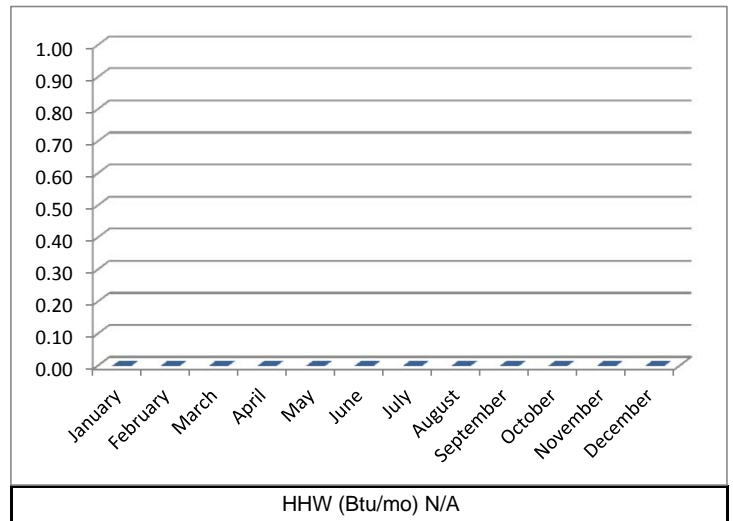
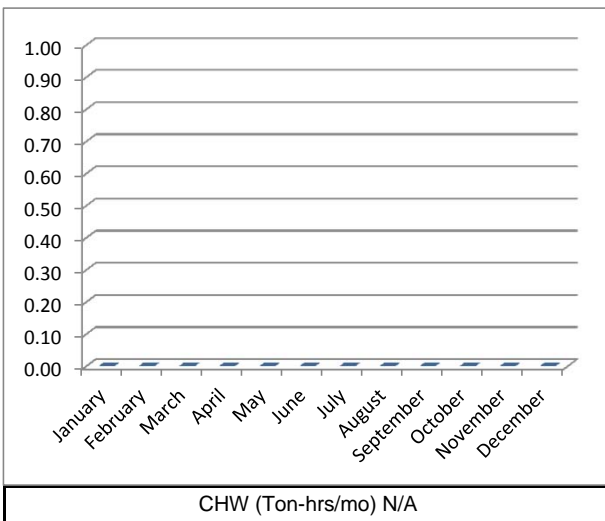
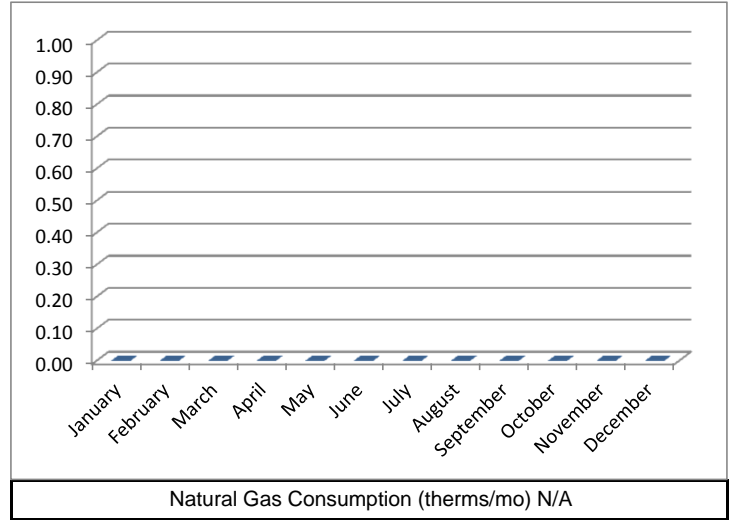
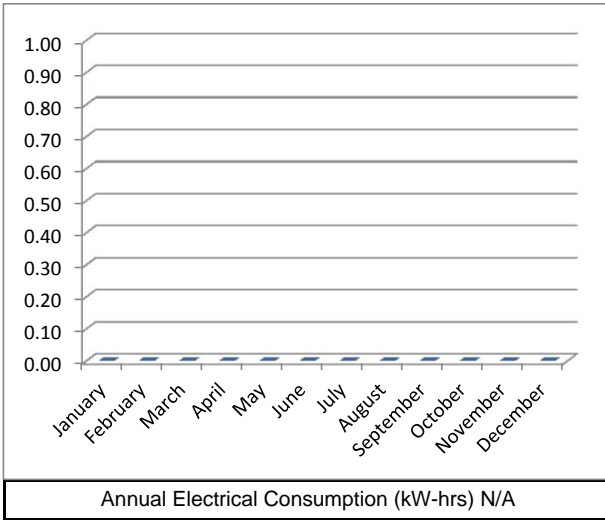


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name: Residence Hall D      Surveyor: JD/JP  
 Building Key: 107      Date: 9/13/2010  
 Gross Area: 19,121 SF  
 Assigned Area: 9,560 SF

## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
107-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 168.40	\$ 4,450.00	\$ 4,450.00	\$ 4,450.00	26.4
107-2	Insulate DHW Pipe	0	-	-	97	-	\$ 87.60	\$ 338.50	\$ 338.50	\$ 338.50	3.9
107-7	Energystar Water coolers	828	0.09	-	209	-	\$ 108.00	\$ 240.00	\$ 240.00	\$ 240.00	2.2
107-11	Retrofit Light Fixtures	8,709	0.99	-	0	-	\$ 957.96	\$ 19,922.50	\$ 19,922.50	\$ 17,832.41	18.6
107-13	Cool Roof Equivalent PV	14,776	1.69	-	0	-	\$ 1,387.62	\$ 42,000.00	\$ 42,000.00	\$ 38,453.71	27.7
107-17-EF-1	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 1,122.00	\$ 1,097.40	18.7
107-17-EF-2	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 1,122.00	\$ 1,097.40	18.7
107-17-EF-3	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 1,122.00	\$ 1,097.40	18.7
107-17-EF-4	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 1,122.00	\$ 1,097.40	18.7
<b>Totals</b>		<b>24,722.98</b>	<b>2.82</b>	<b>-</b>	<b>526.38</b>	<b>-</b>	<b>\$ 2,944.62</b>	<b>\$ 71,439.00</b>	<b>\$ 71,439.00</b>	<b>\$ 65,704.21</b>	<b>22.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall E</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>108</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		

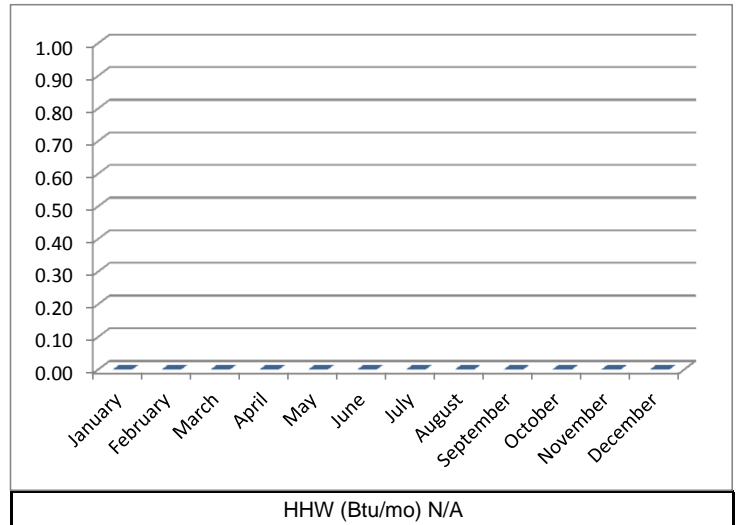
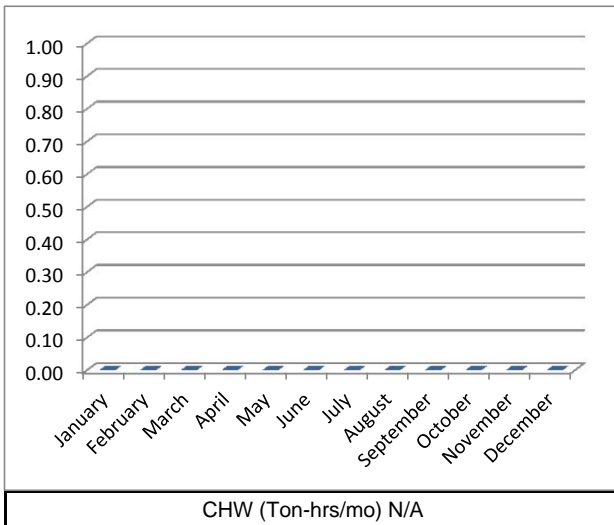
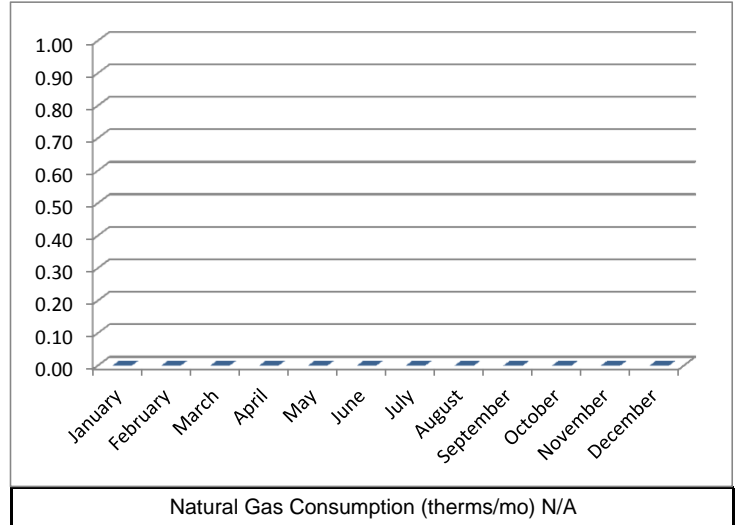
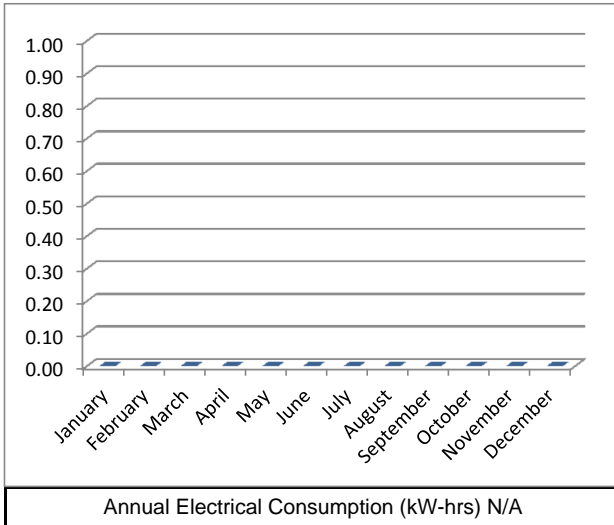


## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall E</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>108</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>19,121 SF</u>		
Assigned Area	<u>9,560 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name:

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
108-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 168.40	\$ 4,450.00	\$ -	\$ 4,450.00	26.4
108-2	Insulate DHW Pipe	0	-	-	97	-	\$ 87.60	\$ 338.50	\$ -	\$ 338.50	3.9
108-7	EnergyStar Refrigerators	828	0.09	-	209	-	\$ 108.00	\$ 240.00	\$ -	\$ 240.00	2.2
108-11	Retrofit Light Fixtures	8,709	0.99	-	0	-	\$ 957.96	\$ 19,922.50	\$ 2,090.09	\$ 17,832.41	18.6
108-13	Cool Roof Equivalent PV	14,776	1.69	-	0	-	\$ 1,387.62	\$ 42,000.00	\$ 3,546.29	\$ 38,453.71	27.7
108-17-EF-1	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
108-17-EF-2	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
108-17-EF-3	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
108-17-EF-4	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
<b>Totals</b>		<b>24,722.98</b>	<b>2.82</b>	<b>-</b>	<b>526.38</b>	<b>-</b>	<b>\$ 2,944.62</b>	<b>\$ 71,439.00</b>	<b>\$ 5,734.79</b>	<b>\$ 65,704.21</b>	<b>22.31</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN



## GENERAL BUILDING INFORMATION:

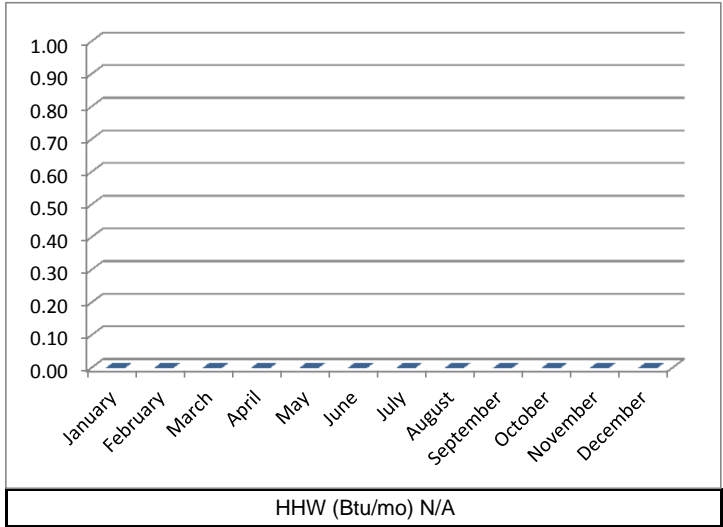
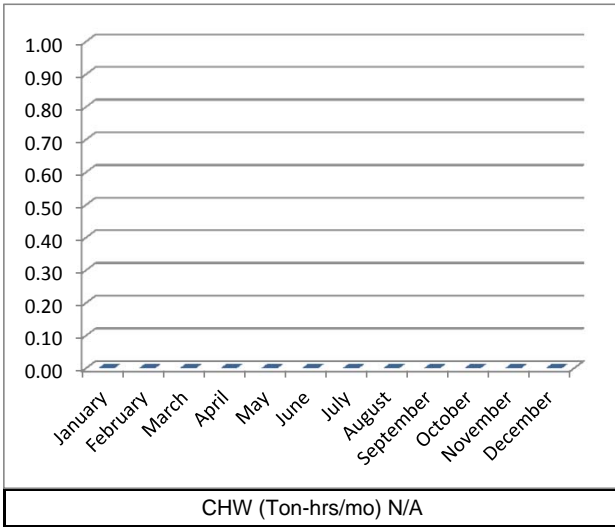
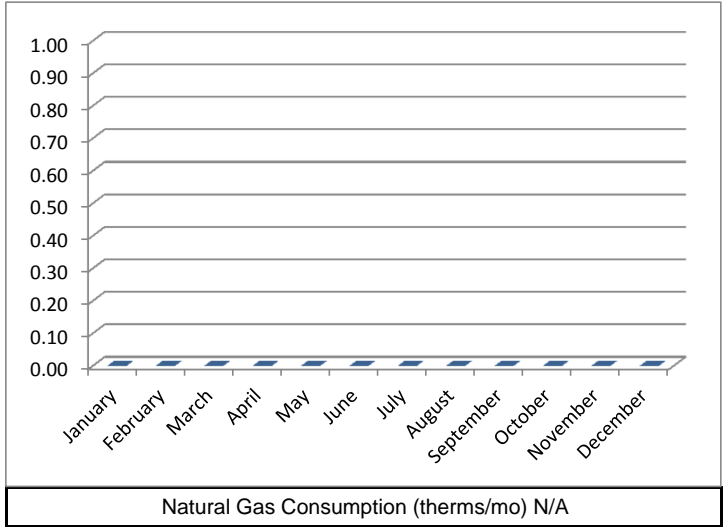
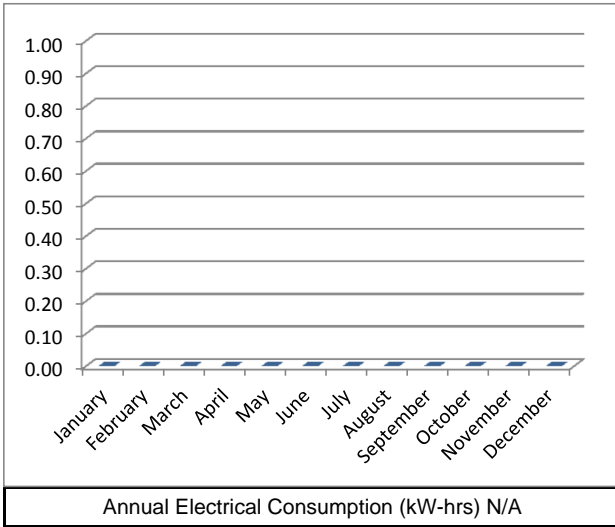
Building Name	<u>Residence Hall F</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>109</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,820 SF</u>		
Assigned Area	<u>4,910 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall F</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>109</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,820 SF</u>		
Assigned Area	<u>4,910 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings						Cost			Simple Payback (yr)
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)	Net Cost (\$)	
109-2-1	Insulate DHW Pipe	0	-	-	58	-	\$ 52.56	\$ 203.10	\$ -	\$ 203.10	3.9
109-2-2	Insulate DHW Pipe	0	-	-	118	-	\$ 106.63	\$ 338.50	\$ -	\$ 338.50	3.2
109-7	Energystar Clothes Washer	414	0.05	-	104	-	\$ 54.00	\$ 120.00	\$ -	\$ 120.00	2.2
109-11	Retrofit Light Fixtures	4,976	0.57	-	0	-	\$ 547.40	\$11,440.00	\$ 1,194.34	\$ 10,245.66	18.7
109-13	Cool Roof Equivalent PV	7,388	0.84	-	0	-	\$ 693.81	\$21,000.00	\$ 1,773.14	\$ 19,226.86	27.7
109-17-EF-7	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
109-17-EF-8	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
109-17-EF-10	Exhaust Fan Setback	208	0.02	-	45	-	\$ 59.00	\$ 1,122.00	\$ 50.01	\$ 1,071.99	18.2
<b>Totals</b>		<b>13,191.90</b>	<b>1.51</b>	<b>-</b>	<b>436.12</b>	<b>-</b>	<b>\$ 1,630.92</b>	<b>\$36,467.60</b>	<b>\$ 3,066.70</b>	<b>\$ 33,400.90</b>	<b>20.48</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall C</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>110</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,820 SF</u>		
Assigned Area	<u>4,910 SF</u>		

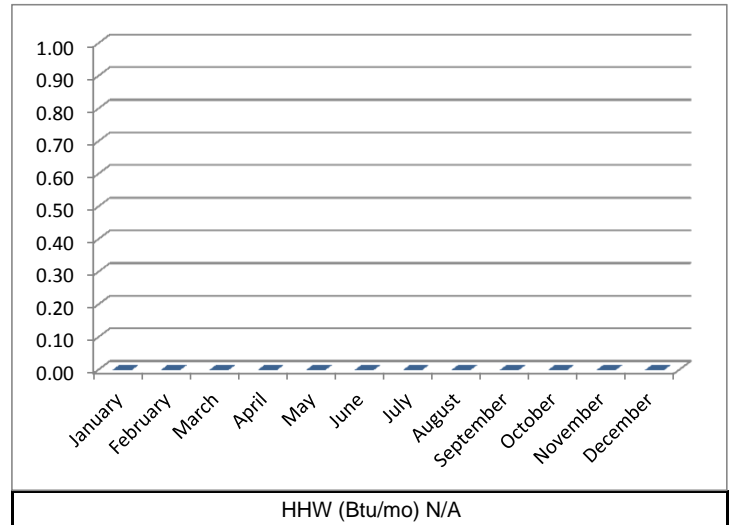
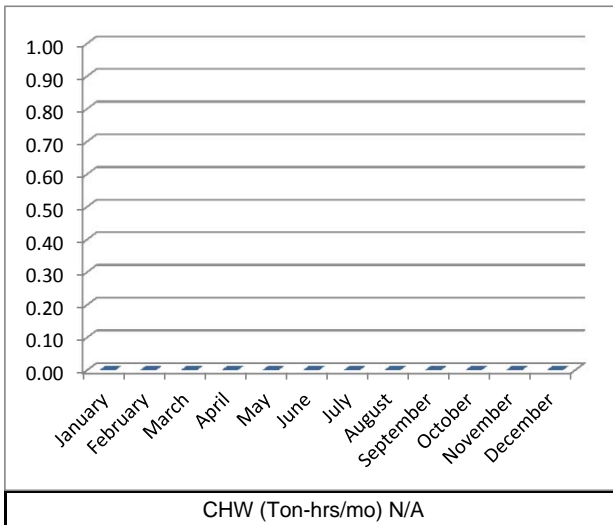
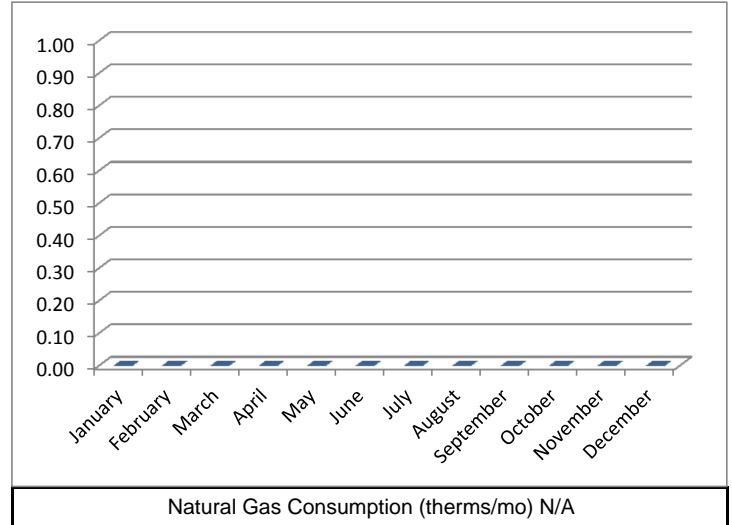
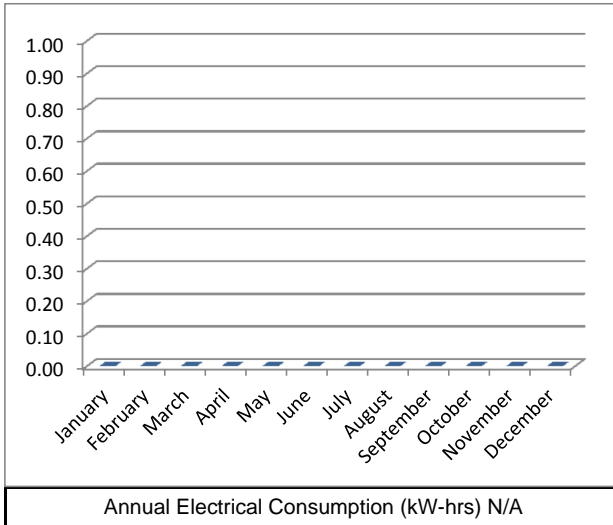


## BUILDING DESCRIPTION / STATISTICS

Common Building Name

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Residence Hall C</u>	Surveyor:	<u>JD/JP</u>
Building Key	<u>110</u>	Date:	<u>9/13/2010</u>
Gross Area	<u>9,820 SF</u>		
Assigned Area	<u>4,910 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
110-2-1	Insulate DHW Pipe	0	-	-	58	-	\$ 52.56	\$ 203.10	\$ -	\$ 203.10	3.9
110-2-2	Insulate DHW Pipe	0	-	-	118	-	\$ 106.63	\$ 338.50	\$ -	\$ 338.50	3.2
110-7	Energystar Clothes Washer	414	0.05	-	104	-	\$ 54.00	\$ 120.00	\$ -	\$ 120.00	2.2
110-11	Retrofit Light Fixtures	4,976	0.57	-	0	-	\$ 547.40	\$ 11,440.00	\$ 1,194.34	\$ 10,245.66	18.7
110-13	Cool Roof Equivalent PV	7,388	0.84	-	0	-	\$ 693.81	\$ 21,000.00	\$ 1,773.14	\$ 19,226.86	27.7
110-17-EF-7	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
110-17-EF-8	Exhaust Fan Setback	103	0.01	-	55	-	\$ 58.76	\$ 1,122.00	\$ 24.60	\$ 1,097.40	18.7
110-17-EF-10	Exhaust Fan Setback	208	0.02	-	45	-	\$ 59.00	\$ 1,122.00	\$ 50.01	\$ 1,071.99	18.2
<b>Totals</b>		<b>13,191.90</b>	<b>1.51</b>	<b>-</b>	<b>436.12</b>	<b>-</b>	<b>\$ 1,630.92</b>	<b>\$ 36,467.60</b>	<b>\$ 3,066.70</b>	<b>\$ 33,400.90</b>	<b>20.48</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Parkside Residence Hall G</u>	Surveyor:	<u>AT</u>
Building Key	<u>111</u>	Date:	<u>12/15/2010</u>
Gross Area	<u>19,102 SF</u>		
Assigned Area	<u>9,551 SF</u>		

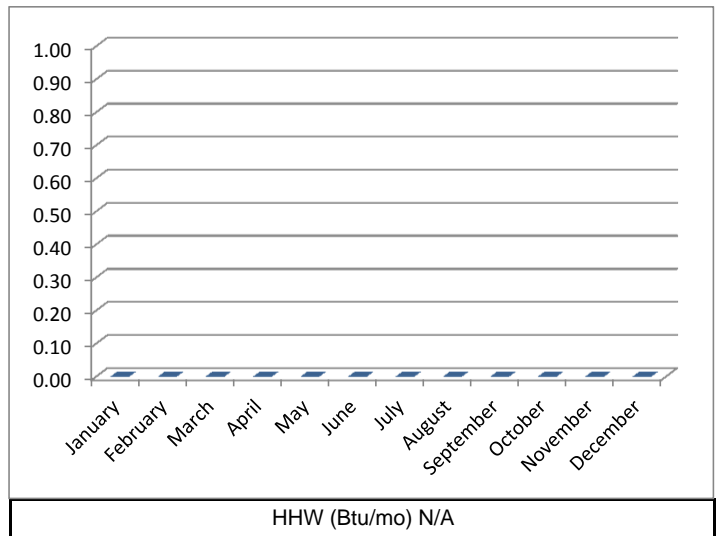
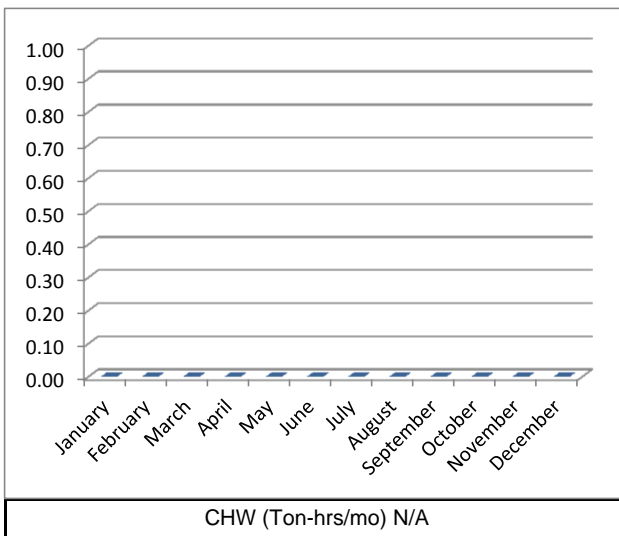
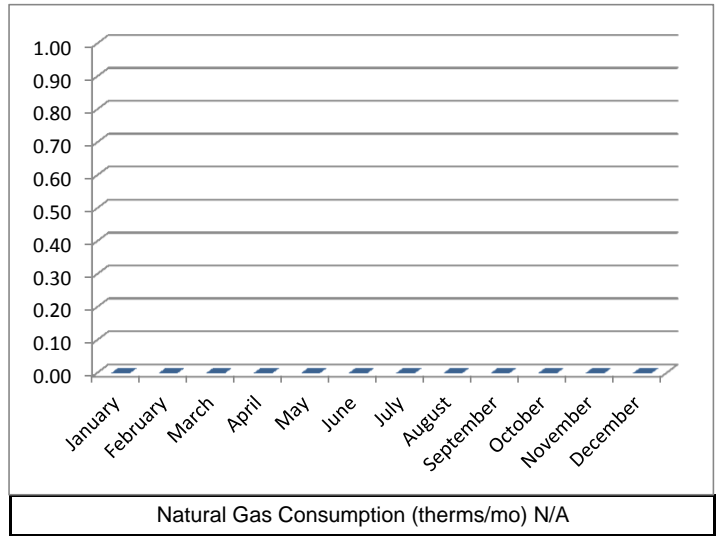
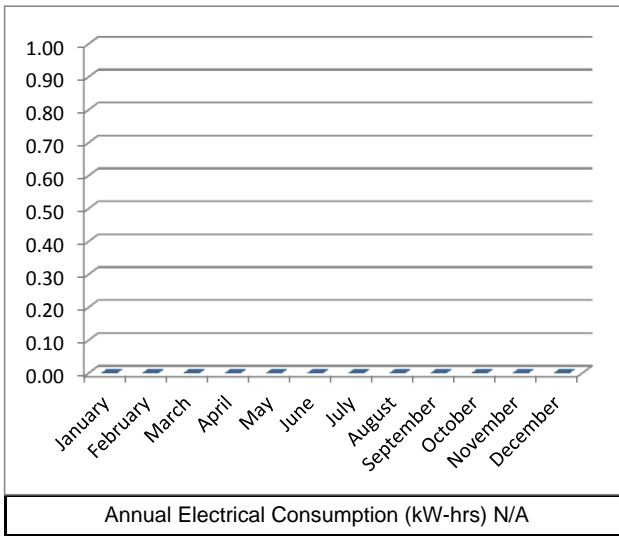


## BUILDING DESCRIPTION / STATISTICS

Common Building Name: Parkside Residence Hall G

Floors Above/Below Grade: 2 / 0 Year Built: #N/A

Types of Spaces: Student and Faculty Residences & Support Area



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name Parkside Residence Hall G      Surveyor: AT  
 Building Key 111      Date: 12/15/2010  
 Gross Area 19,102 SF  
 Assigned Area 9,551 SF



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
111-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 168.21	\$ 4,450.00	\$ -	\$ 4,450.00	26.5
111-13	Cool Roof Equivalent PV	14,776	1.69	-	0	-	\$ 1,387.62	\$ 42,000.00	\$ 3,546.29	\$ 38,453.71	27.7
111-17-EF-1	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.4
111-17-EF-2	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.4
111-17-EF-3	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.4
111-17-EF-4	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 97.54	\$ 1,024.46	10.4
<b>Totals</b>		<b>16,401.80</b>	<b>1.87</b>	<b>-</b>	<b>275.19</b>	<b>-</b>	<b>\$ 1,949.81</b>	<b>\$50,938.00</b>	<b>\$ 3,936.43</b>	<b>\$47,001.57</b>	<b>24.11</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

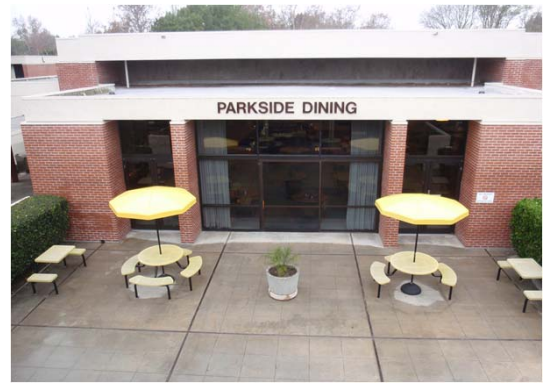
Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Parkside Dining Hall</u>	Surveyor:	<u>AT</u>
Building Key	<u>120</u>	Date:	<u>11/3/2010</u>
Gross Area	<u>13,358 SF</u>		
Assigned Area	<u>6,679 SF</u>		

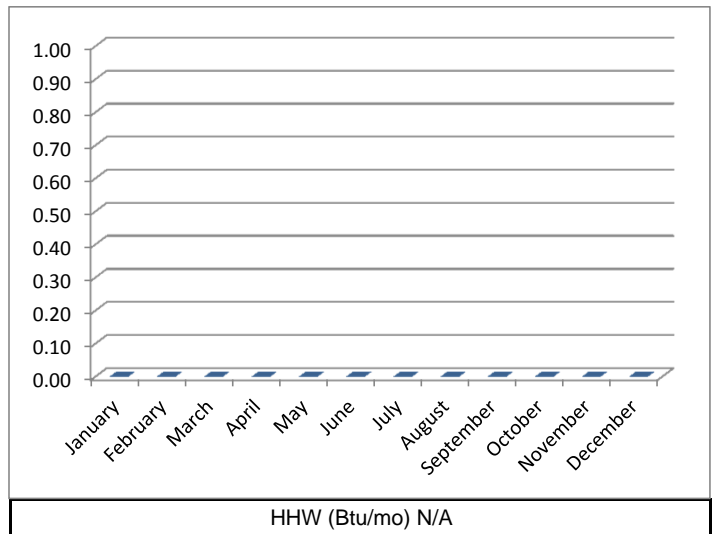
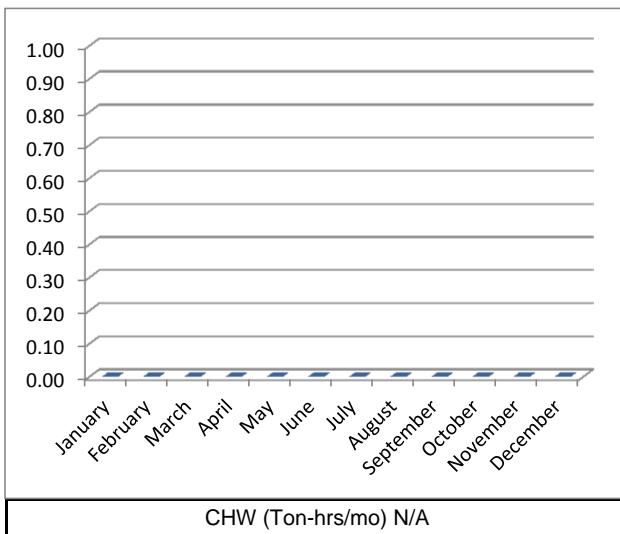
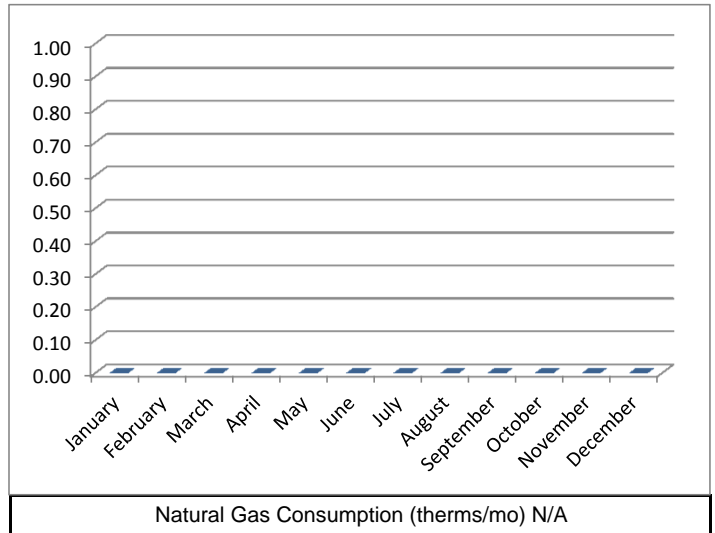
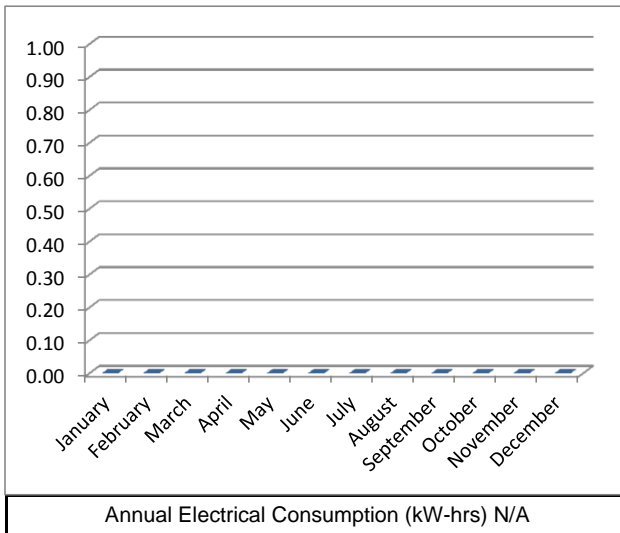


## BUILDING DESCRIPTION / STATISTICS

Common Building Name

Floors Above/Below Grade:  Year Built:

Types of Spaces:



# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Parkside Dining Hall</u>	Surveyor:	<u>AT</u>
Building Key	<u>120</u>	Date:	<u>11/3/2010</u>
Gross Area	<u>13,358 SF</u>		
Assigned Area	<u>6,679 SF</u>		



## BUILDING DESCRIPTION / STATISTICS

Common Building Name

EUI:  kBtu/SF-yr

Carbon Footprint:  Tons CO<sub>2</sub>

SEP ID Number	ECM Measures	Savings					Cost			Simple Payback (yr)	
		Electric (kWh/yr)	Peak Demand (kW)	HW (MBTU/yr)	Gas (th/yr)	Chilled Water (ton-hr/yr)	Total Cost Savings (\$/yr)	Project Cost (\$)	Incentive (\$)		Net Cost (\$)
120-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 117.64	\$ 4,450.00	\$ 4,450.00	\$ 4,450.00	37.8
120-1	Replace to Tankless Water Heaters	0	-	-	0	-	\$ 117.64	\$ 4,450.00	\$ 4,450.00	\$ 4,450.00	37.8
120-5-1	Static Pressure Reset	2,507	0.29	-	0	-	\$ 225.59	\$ 1,419.60	\$ 1,419.60	\$ 818.03	3.6
120-5-2	Static Pressure Reset	2,507	0.29	-	0	-	\$ 225.59	\$ 1,419.60	\$ 1,419.60	\$ 818.03	3.6
120-7	EnergyStar Refrigerators	21,912	2.50	-	104	-	\$ 206.00	\$ 192.00	\$ 192.00	\$ 192.00	0.9
120-9-1	Prem Eff Mtr - AHU Supply Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 1,139.00	\$ 840.20	7.5
120-9-2	Prem Eff Mtr - AHU Return Fan	1,245	0.14	-	0	-	\$ 112.05	\$ 1,139.00	\$ 1,139.00	\$ 840.20	7.5
120-10-1	VFD for AHU Supply Fan	4,549	0.52	-	0	-	\$ 409.39	\$ 3,050.00	\$ 3,050.00	\$ 1,958.30	4.8
120-10-2	VFD for AHU Return Fan	4,549	0.52	-	0	-	\$ 409.39	\$ 3,050.00	\$ 3,050.00	\$ 1,958.30	4.8
120-12-1	High SEER Upgrades	12,524	1.43	-	0	-	\$ 1,127.17	\$ 11,250.00	\$ 11,250.00	\$ 8,244.22	7.3
120-12-2	High SEER Upgrades	9,184	1.05	-	0	-	\$ 826.59	\$ 8,250.00	\$ 8,250.00	\$ 6,045.76	7.3
120-12-3	High SEER Upgrades	1,670	0.19	-	0	-	\$ 150.29	\$ 1,500.00	\$ 1,500.00	\$ 1,099.23	7.3
120-12-4	High SEER Upgrades	2,505	0.29	-	0	-	\$ 225.43	\$ 2,250.00	\$ 2,250.00	\$ 1,648.84	7.3
120-13	Cool Roof Equivalent PV	10,343	1.18	-	0	-	\$ 971.33	\$ 29,400.00	\$ 29,400.00	\$ 26,917.60	27.7
120-17-EF-1	Exhaust Fan Setback	799	0.09	-	110	-	\$ 170.98	\$ 1,122.00	\$ 1,122.00	\$ 930.23	5.4
120-17-EF-2	Exhaust Fan Setback	799	0.09	-	110	-	\$ 170.98	\$ 1,122.00	\$ 1,122.00	\$ 930.23	5.4
120-17-EF-3	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-17-EF-4	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-17-EF-5	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-17-EF-6	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-17-EF-7	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-17-EF-8	Exhaust Fan Setback	406	0.05	-	69	-	\$ 98.49	\$ 1,122.00	\$ 1,122.00	\$ 1,024.46	10.4
120-18-1	Fan Efficiency Improvements	6,442	0.74	-	0	-	\$ 579.76	\$ 4,250.00	\$ 4,250.00	\$ 2,703.98	4.7
120-18-2	Fan Efficiency Improvements	6,442	0.74	-	0	-	\$ 579.76	\$ 4,250.00	\$ 4,250.00	\$ 2,703.98	4.7
<b>Totals</b>		<b>91,659.40</b>	<b>10.46</b>	<b>-</b>	<b>737.39</b>	<b>-</b>	<b>\$ 7,328.61</b>	<b>\$90,435.20</b>	<b>\$90,435.20</b>	<b>\$73,695.90</b>	<b>10.06</b>

Inputs:	
Electricity:	\$0.09/kWh
Natural Gas:	\$0.91/Therm

Central Plant Efficiencies:	
Therms/MMBTU:	1.2
kWh/ton-hr:	0.8

# CSULB – STRATEGIC ENERGY PLAN

## GENERAL BUILDING INFORMATION:

Building Name	<u>Parkside Dining Hall</u>	Surveyor:	<u>AT</u>
Building Key	<u>120</u>	Date:	<u>11/3/2010</u>
Gross Area	<u>13,358 SF</u>		
Assigned Area	<u>6,679 SF</u>		

## BUILDING DESCRIPTION / STATISTICS

Common Building Name



# 10

## Project Description Reports

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	83,082	Incentive Rates	
Peak Demand (kW)	9.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-2,836	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,925.37		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,900.00
Rebates (\$)	\$7,120.00
Net Project Cost (\$)	\$1,780.00
Cost Savings (\$/Yr)	\$4,925.37
Simple Payback (Yrs)	0.36
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	599	Incentive Rates	
Peak Demand (kW)	0.07	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$53.90		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$126.20
Rebates (\$)	\$100.96
Net Project Cost (\$)	\$25.24
Cost Savings (\$/Yr)	\$53.90
Simple Payback (Yrs)	0.47
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-3-1		
PROJECT	CRAC AC system to Central Plant		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	65,525	Incentive Rates	
Peak Demand (kW)	16.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,897.23		
PROJECT SUMMARY			
Total Project Cost (\$)	\$66,250.00		
Rebates (\$)	\$15,725.95		
Net Project Cost (\$)	\$50,524.05		
Cost Savings (\$/Yr)	\$5,897.23		
Simple Payback (Yrs)	8.57		
Calculation File	\\5871\ECMS\ECM-3		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-3-2		
PROJECT	CRAC AC system Condenser with Fount		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,104	Incentive Rates	
Peak Demand (kW)	3.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,384.98		
PROJECT SUMMARY			
Total Project Cost (\$)	\$29,750.00		
Rebates (\$)	\$3,384.98		
Net Project Cost (\$)	\$26,365.02		
Cost Savings (\$/Yr)	\$3,384.98		
Simple Payback (Yrs)	7.79		
Calculation File	\\5871\ECMS\ECM-3		

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	1-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$2,955.02
PROJECT SUMMARY	
Total Project Cost (\$)	\$9,000.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$9,000.00
Cost Savings (\$/Yr)	\$2,955.02
Simple Payback (Yrs)	3.05
Calculation File	\\5871\ECMS\ECM-4

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	1-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	38,310 Incentive Rates
Peak Demand (kW)	9.58 Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$3,552.43
PROJECT SUMMARY	
Total Project Cost (\$)	\$19,566.00
Rebates (\$)	\$9,194.33
Net Project Cost (\$)	\$10,371.67
Cost Savings (\$/Yr)	\$3,552.43
Simple Payback (Yrs)	2.92
Calculation File	\\5871\ECMS\ECM-6

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,517	Incentive Rates	
Peak Demand (kW)	1.20	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$124.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$204.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$204.00
Cost Savings (\$/Yr)	\$124.00
Simple Payback (Yrs)	1.65
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,575.00
Rebates (\$)	\$545.85
Net Project Cost (\$)	\$2,029.15
Cost Savings (\$/Yr)	\$204.69
Simple Payback (Yrs)	9.91
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,575.00		
Rebates (\$)	\$545.85		
Net Project Cost (\$)	\$2,029.15		
Cost Savings (\$/Yr)	\$204.69		
Simple Payback (Yrs)	9.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-10-3		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,575.00		
Rebates (\$)	\$545.85		
Net Project Cost (\$)	\$2,029.15		
Cost Savings (\$/Yr)	\$204.69		
Simple Payback (Yrs)	9.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-10-4		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,575.00		
Rebates (\$)	\$545.85		
Net Project Cost (\$)	\$2,029.15		
Cost Savings (\$/Yr)	\$204.69		
Simple Payback (Yrs)	9.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	124,430	Incentive Rates	
Peak Demand (kW)	37.98	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$13,687.28		
PROJECT SUMMARY			
Total Project Cost (\$)	\$269,165.00		
Rebates (\$)	\$29,863.15		
Net Project Cost (\$)	\$239,301.85		
Cost Savings (\$/Yr)	\$13,687.28		
Simple Payback (Yrs)	17.48		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-16		
PROJECT	Self Generation with Micro Turbine & A		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,752,000	Incentive Rates	
Peak Demand (kW)	200.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54,041.86		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593,750.00		
Rebates (\$)	\$49,220.91		
Net Project Cost (\$)	\$544,529.09		
Cost Savings (\$/Yr)	\$54,041.86		
Simple Payback (Yrs)	10.08		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,357	Incentive Rates	
Peak Demand (kW)	0.84	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$302.13		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$805.68		
Net Project Cost (\$)	\$316.32		
Cost Savings (\$/Yr)	\$302.13		
Simple Payback (Yrs)	1.05		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,707	Incentive Rates	
Peak Demand (kW)	0.93	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$963.85		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$889.71		
Net Project Cost (\$)	\$232.29		
Cost Savings (\$/Yr)	\$963.85		
Simple Payback (Yrs)	0.24		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,679	Incentive Rates	
Peak Demand (kW)	0.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$151.07		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$402.84		
Net Project Cost (\$)	\$719.16		
Cost Savings (\$/Yr)	\$151.07		
Simple Payback (Yrs)	4.76		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-4		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,679	Incentive Rates	
Peak Demand (kW)	0.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$151.07		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$402.84		
Net Project Cost (\$)	\$719.16		
Cost Savings (\$/Yr)	\$151.07		
Simple Payback (Yrs)	4.76		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-5		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,460	Incentive Rates	
Peak Demand (kW)	0.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$621.15		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$590.42		
Net Project Cost (\$)	\$531.58		
Cost Savings (\$/Yr)	\$621.15		
Simple Payback (Yrs)	0.86		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-17-E-6		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	373	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$33.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$89.52		
Net Project Cost (\$)	\$1,032.48		
Cost Savings (\$/Yr)	\$33.57		
Simple Payback (Yrs)	30.76		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,767	Incentive Rates	
Peak Demand (kW)	6.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,319.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$6,184.10		
Net Project Cost (\$)	\$1,315.90		
Cost Savings (\$/Yr)	\$2,319.04		
Simple Payback (Yrs)	0.57		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,767	Incentive Rates	
Peak Demand (kW)	6.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,319.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$6,184.10		
Net Project Cost (\$)	\$1,315.90		
Cost Savings (\$/Yr)	\$2,319.04		
Simple Payback (Yrs)	0.57		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,767	Incentive Rates	
Peak Demand (kW)	6.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,319.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$6,184.10		
Net Project Cost (\$)	\$1,315.90		
Cost Savings (\$/Yr)	\$2,319.04		
Simple Payback (Yrs)	0.57		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,767	Incentive Rates	
Peak Demand (kW)	6.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,319.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$6,184.10		
Net Project Cost (\$)	\$1,315.90		
Cost Savings (\$/Yr)	\$2,319.04		
Simple Payback (Yrs)	0.57		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-21
PROJECT	Commissioning
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	721,140	Incentive Rates	
Peak Demand (kW)	82.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$64,902.60		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$150,740.37
Rebates (\$)	\$120,592.29
Net Project Cost (\$)	\$30,148.07
Cost Savings (\$/Yr)	\$64,902.60
Simple Payback (Yrs)	0.46
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	1-23-1
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Brotman Hall (1)
BASIC GROSS AREA (S	127,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,238.00
Rebates (\$)	\$1,102.92
Net Project Cost (\$)	\$2,135.08
Cost Savings (\$/Yr)	\$413.59
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-23-2		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,238.00		
Rebates (\$)	\$1,102.92		
Net Project Cost (\$)	\$2,135.08		
Cost Savings (\$/Yr)	\$413.59		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-23-3		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,238.00		
Rebates (\$)	\$1,102.92		
Net Project Cost (\$)	\$2,135.08		
Cost Savings (\$/Yr)	\$413.59		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-23-4		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,238.00		
Rebates (\$)	\$1,102.92		
Net Project Cost (\$)	\$2,135.08		
Cost Savings (\$/Yr)	\$413.59		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	1-23-5		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Brotman Hall (1)		
BASIC GROSS AREA (S	127,050		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,238.00		
Rebates (\$)	\$1,102.92		
Net Project Cost (\$)	\$2,135.08		
Cost Savings (\$/Yr)	\$413.59		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	2-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Student Health Services
BASIC GROSS AREA (S	38,629

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	274	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$246.60		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$246.60
Simple Payback (Yrs)	18.05
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	2-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Student Health Services
BASIC GROSS AREA (S	38,629

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	47	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$42.65		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$126.20
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$126.20
Cost Savings (\$/Yr)	\$42.65
Simple Payback (Yrs)	2.96
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	86,846	Incentive Rates	
Peak Demand (kW)	26.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$9,553.07		
PROJECT SUMMARY			
Total Project Cost (\$)	\$65,422.50		
Rebates (\$)	\$20,843.06		
Net Project Cost (\$)	\$44,579.44		
Cost Savings (\$/Yr)	\$9,553.07		
Simple Payback (Yrs)	4.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	28,075	Incentive Rates	
Peak Demand (kW)	15.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,636.48		
PROJECT SUMMARY			
Total Project Cost (\$)	\$79,800.00		
Rebates (\$)	\$6,737.95		
Net Project Cost (\$)	\$73,062.05		
Cost Savings (\$/Yr)	\$2,636.48		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,883	Incentive Rates	
Peak Demand (kW)	1.47	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$529.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,250.00		
Rebates (\$)	\$1,411.89		
Net Project Cost (\$)	\$3,838.11		
Cost Savings (\$/Yr)	\$529.46		
Simple Payback (Yrs)	7.25		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	92,077	Incentive Rates	
Peak Demand (kW)	10.51	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,286.94		
PROJECT SUMMARY			
Total Project Cost (\$)	\$38,700.00		
Rebates (\$)	\$22,098.50		
Net Project Cost (\$)	\$16,601.50		
Cost Savings (\$/Yr)	\$8,286.94		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	2-1-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Student Health Services		
BASIC GROSS AREA (S	38,629		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,013	Incentive Rates	
Peak Demand (kW)	1.25	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$451.18		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,135.68		
Net Project Cost (\$)	\$283.92		
Cost Savings (\$/Yr)	\$451.18		
Simple Payback (Yrs)	0.63		
Calculation File	\\5871\ECMS\ECM-5		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	2-2-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Student Health Services
BASIC GROSS AREA (S	38,629

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,760	Incentive Rates	
Peak Demand (kW)	0.94	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$338.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$902.36
Net Project Cost (\$)	\$517.24
Cost Savings (\$/Yr)	\$338.39
Simple Payback (Yrs)	1.53
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	46-1-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Student Health Services
BASIC GROSS AREA (S	38,629

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,016	Incentive Rates	
Peak Demand (kW)	1.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$541.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$541.42
Simple Payback (Yrs)	0.52
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	431	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$38.79		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$279.00
Rebates (\$)	\$103.44
Net Project Cost (\$)	\$175.56
Cost Savings (\$/Yr)	\$38.79
Simple Payback (Yrs)	4.53
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	3-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Nursing		
BASIC GROSS AREA (S	17,527		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,065	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$545.85		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,150.00		
Rebates (\$)	\$1,455.60		
Net Project Cost (\$)	\$3,694.40		
Cost Savings (\$/Yr)	\$545.85		
Simple Payback (Yrs)	6.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	3-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Nursing		
BASIC GROSS AREA (S	17,527		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	29,680	Incentive Rates	
Peak Demand (kW)	8.99	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,264.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$25,090.00		
Rebates (\$)	\$7,123.25		
Net Project Cost (\$)	\$17,966.75		
Cost Savings (\$/Yr)	\$3,264.82		
Simple Payback (Yrs)	5.50		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,299	Incentive Rates	
Peak Demand (kW)	7.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,248.86		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$37,800.00
Rebates (\$)	\$3,191.66
Net Project Cost (\$)	\$34,608.34
Cost Savings (\$/Yr)	\$1,248.86
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	3-18-1	
PROJECT	Fan Efficiency	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Nursing	
BASIC GROSS AREA (S	17,527	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,471	Incentive Rates
Peak Demand (kW)	0.37	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$132.37	
PROJECT SUMMARY		
Total Project Cost (\$)	\$3,000.00	
Rebates (\$)	\$352.97	
Net Project Cost (\$)	\$2,647.03	
Cost Savings (\$/Yr)	\$132.37	
Simple Payback (Yrs)	20.00	
Calculation File	\\5871\ECMS\ECM-1	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	3-18-2	
PROJECT	Fan Efficiency	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Nursing	
BASIC GROSS AREA (S	17,527	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,471	Incentive Rates
Peak Demand (kW)	0.37	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$132.37	
PROJECT SUMMARY		
Total Project Cost (\$)	\$3,000.00	
Rebates (\$)	\$352.97	
Net Project Cost (\$)	\$2,647.03	
Cost Savings (\$/Yr)	\$132.37	
Simple Payback (Yrs)	20.00	
Calculation File	\\5871\ECMS\ECM-1	



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-1-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,507	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$601.57
Net Project Cost (\$)	\$818.03
Cost Savings (\$/Yr)	\$225.59
Simple Payback (Yrs)	3.63
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	3-2-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Nursing
BASIC GROSS AREA (S	17,527

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,507	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$601.57
Net Project Cost (\$)	\$818.03
Cost Savings (\$/Yr)	\$225.59
Simple Payback (Yrs)	3.63
Calculation File	\\5871\ECMS\ECM-5

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	5-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Family & Consumer Sciences		
BASIC GROSS AREA (S	39,860		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	390	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$351.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$351.05		
Simple Payback (Yrs)	12.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	5-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Family & Consumer Sciences		
BASIC GROSS AREA (S	39,860		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	47	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$42.65		
PROJECT SUMMARY			
Total Project Cost (\$)	\$126.20		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$126.20		
Cost Savings (\$/Yr)	\$42.65		
Simple Payback (Yrs)	2.96		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,160	Incentive Rates	
Peak Demand (kW)	0.36	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$36.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$60.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$60.00
Cost Savings (\$/Yr)	\$36.00
Simple Payback (Yrs)	1.67
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	5-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Family & Consumer Sciences		
BASIC GROSS AREA (S	39,860		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	431	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$38.79		
PROJECT SUMMARY			
Total Project Cost (\$)	\$279.00		
Rebates (\$)	\$103.44		
Net Project Cost (\$)	\$175.56		
Cost Savings (\$/Yr)	\$38.79		
Simple Payback (Yrs)	4.53		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	5-9-3		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Family & Consumer Sciences		
BASIC GROSS AREA (S	39,860		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,494	Incentive Rates	
Peak Demand (kW)	4.70	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,704.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$13,487.50
Rebates (\$)	\$3,718.44
Net Project Cost (\$)	\$9,769.06
Cost Savings (\$/Yr)	\$1,704.29
Simple Payback (Yrs)	5.73
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	29,552	Incentive Rates	
Peak Demand (kW)	16.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,775.24		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$84,000.00
Rebates (\$)	\$7,092.58
Net Project Cost (\$)	\$76,907.42
Cost Savings (\$/Yr)	\$2,775.24
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-E-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,194	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$242.44		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$286.56
Net Project Cost (\$)	\$835.44
Cost Savings (\$/Yr)	\$242.44
Simple Payback (Yrs)	3.45
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-E-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,194	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$242.44		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$286.56
Net Project Cost (\$)	\$835.44
Cost Savings (\$/Yr)	\$242.44
Simple Payback (Yrs)	3.45
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-E-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,194	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$242.44		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$286.56
Net Project Cost (\$)	\$835.44
Cost Savings (\$/Yr)	\$242.44
Simple Payback (Yrs)	3.45
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,121	Incentive Rates	
Peak Demand (kW)	1.78	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,374.03		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,374.03
Simple Payback (Yrs)	0.16
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,549	Incentive Rates	
Peak Demand (kW)	0.89	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$664.91		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$851.75
Net Project Cost (\$)	\$270.25
Cost Savings (\$/Yr)	\$664.91
Simple Payback (Yrs)	0.41
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	40	Incentive Rates	
Peak Demand (kW)	0.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$18.48		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$9.65
Net Project Cost (\$)	\$1,112.35
Cost Savings (\$/Yr)	\$18.48
Simple Payback (Yrs)	60.19
Calculation File	\\5871\ECMS\ECM-1



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-EF-7
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	884	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$327.20		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$212.06
Net Project Cost (\$)	\$909.94
Cost Savings (\$/Yr)	\$327.20
Simple Payback (Yrs)	2.78
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-17-EF-8
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	40	Incentive Rates	
Peak Demand (kW)	0.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$18.48		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$9.65
Net Project Cost (\$)	\$1,112.35
Cost Savings (\$/Yr)	\$18.48
Simple Payback (Yrs)	60.19
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$705.95
Net Project Cost (\$)	\$3,544.05
Cost Savings (\$/Yr)	\$264.73
Simple Payback (Yrs)	13.39
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	5-23-1
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Family & Consumer Sciences
BASIC GROSS AREA (S	39,860

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$809.50
Rebates (\$)	\$275.73
Net Project Cost (\$)	\$533.77
Cost Savings (\$/Yr)	\$103.40
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	6-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	1,578	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,420.58		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$17,800.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$17,800.00
Cost Savings (\$/Yr)	\$1,420.58
Simple Payback (Yrs)	12.53
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	6-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	118	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$106.63		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$338.50
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$338.50
Cost Savings (\$/Yr)	\$106.63
Simple Payback (Yrs)	3.17
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	6-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$4,181.63
PROJECT SUMMARY	
Total Project Cost (\$)	\$16,000.00
Rebates (\$)	\$3.00
Net Project Cost (\$)	\$15,997.00
Cost Savings (\$/Yr)	\$4,181.63
Simple Payback (Yrs)	3.83
Calculation File	\\5871\ECMS\ECM-4

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	6-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	98,003 Incentive Rates
Peak Demand (kW)	29.70 Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$10,780.37
PROJECT SUMMARY	
Total Project Cost (\$)	\$53,202.50
Rebates (\$)	\$23,520.82
Net Project Cost (\$)	\$29,681.68
Cost Savings (\$/Yr)	\$10,780.37
Simple Payback (Yrs)	2.75
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,277	Incentive Rates	
Peak Demand (kW)	1.90	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.95		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,562.50		
Rebates (\$)	\$546.53		
Net Project Cost (\$)	\$4,015.97		
Cost Savings (\$/Yr)	\$204.95		
Simple Payback (Yrs)	19.59		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		
PROJECT SUMMARY			
Total Project Cost (\$)	\$42,000.00		
Rebates (\$)	\$3,546.29		
Net Project Cost (\$)	\$38,453.71		
Cost Savings (\$/Yr)	\$1,387.62		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	597	Incentive Rates	
Peak Demand (kW)	0.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$121.22		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$143.28		
Net Project Cost (\$)	\$978.72		
Cost Savings (\$/Yr)	\$121.22		
Simple Payback (Yrs)	8.07		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	884	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$327.20		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$212.06		
Net Project Cost (\$)	\$909.94		
Cost Savings (\$/Yr)	\$327.20		
Simple Payback (Yrs)	2.78		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,017	Incentive Rates	
Peak Demand (kW)	0.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$790.81		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$484.08		
Net Project Cost (\$)	\$637.92		
Cost Savings (\$/Yr)	\$790.81		
Simple Payback (Yrs)	0.81		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-4		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,017	Incentive Rates	
Peak Demand (kW)	0.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$790.81		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$484.08		
Net Project Cost (\$)	\$637.92		
Cost Savings (\$/Yr)	\$790.81		
Simple Payback (Yrs)	0.81		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	6-17-EF-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,006	Incentive Rates	
Peak Demand (kW)	0.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$770.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$481.44
Net Project Cost (\$)	\$640.57
Cost Savings (\$/Yr)	\$770.00
Simple Payback (Yrs)	0.83
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	6-17-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Student Union
BASIC GROSS AREA (S	161,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,017	Incentive Rates	
Peak Demand (kW)	0.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$790.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$484.08
Net Project Cost (\$)	\$637.92
Cost Savings (\$/Yr)	\$790.81
Simple Payback (Yrs)	0.81
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-7		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,956	Incentive Rates	
Peak Demand (kW)	0.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$674.95		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$469.37		
Net Project Cost (\$)	\$652.63		
Cost Savings (\$/Yr)	\$674.95		
Simple Payback (Yrs)	0.97		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-8		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	865	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$292.09		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$207.61		
Net Project Cost (\$)	\$914.40		
Cost Savings (\$/Yr)	\$292.09		
Simple Payback (Yrs)	3.13		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-9		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	462	Incentive Rates	
Peak Demand (kW)	0.12	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$202.61		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$110.99		
Net Project Cost (\$)	\$1,011.02		
Cost Savings (\$/Yr)	\$202.61		
Simple Payback (Yrs)	4.99		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-10		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,431	Incentive Rates	
Peak Demand (kW)	0.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$565.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$583.35		
Net Project Cost (\$)	\$538.65		
Cost Savings (\$/Yr)	\$565.50		
Simple Payback (Yrs)	0.95		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-11		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,696	Incentive Rates	
Peak Demand (kW)	1.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$818.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$897.60		
Net Project Cost (\$)	\$224.40		
Cost Savings (\$/Yr)	\$818.93		
Simple Payback (Yrs)	0.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-12		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	782	Incentive Rates	
Peak Demand (kW)	0.20	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$134.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$187.63		
Net Project Cost (\$)	\$934.37		
Cost Savings (\$/Yr)	\$134.75		
Simple Payback (Yrs)	6.93		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-13		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,844	Incentive Rates	
Peak Demand (kW)	0.46	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$463.13		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$442.47		
Net Project Cost (\$)	\$679.53		
Cost Savings (\$/Yr)	\$463.13		
Simple Payback (Yrs)	1.47		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-17-EF-14		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	209	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$59.69		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$50.21		
Net Project Cost (\$)	\$1,071.79		
Cost Savings (\$/Yr)	\$59.69		
Simple Payback (Yrs)	17.95		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	6-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Student Union		
BASIC GROSS AREA (S	161,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	383,773	Incentive Rates	
Peak Demand (kW)	43.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$34,539.61		
PROJECT SUMMARY			
Total Project Cost (\$)	\$161,300.00		
Rebates (\$)	\$92,105.64		
Net Project Cost (\$)	\$69,194.36		
Cost Savings (\$/Yr)	\$34,539.61		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	7-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Cafeteria		
BASIC GROSS AREA (S	35,305		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	22,220	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,363.84		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$3,560.00		
Net Project Cost (\$)	\$890.00		
Cost Savings (\$/Yr)	\$1,363.84		
Simple Payback (Yrs)	0.65		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	7-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Cafeteria		
BASIC GROSS AREA (S	35,305		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	37,359	Incentive Rates	
Peak Demand (kW)	11.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,109.52		
PROJECT SUMMARY			
Total Project Cost (\$)	\$26,422.50		
Rebates (\$)	\$8,966.23		
Net Project Cost (\$)	\$17,456.27		
Cost Savings (\$/Yr)	\$4,109.52		
Simple Payback (Yrs)	4.25		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	7-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Cafeteria		
BASIC GROSS AREA (S	35,305		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,597	Incentive Rates	
Peak Demand (kW)	14.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,497.72		
PROJECT SUMMARY			
Total Project Cost (\$)	\$75,600.00		
Rebates (\$)	\$6,383.32		
Net Project Cost (\$)	\$69,216.68		
Cost Savings (\$/Yr)	\$2,497.72		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	8-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,148	Incentive Rates	
Peak Demand (kW)	0.25	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-73	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$127.33		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$515.48
Net Project Cost (\$)	\$3,934.52
Cost Savings (\$/Yr)	\$127.33
Simple Payback (Yrs)	30.90
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	8-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,658	Incentive Rates	
Peak Demand (kW)	7.77	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,822.33		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$35,522.50
Rebates (\$)	\$6,157.80
Net Project Cost (\$)	\$29,364.70
Cost Savings (\$/Yr)	\$2,822.33
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	8-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	500	Incentive Rates	
Peak Demand (kW)	0.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$45.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$562.50		
Rebates (\$)	\$120.00		
Net Project Cost (\$)	\$442.50		
Cost Savings (\$/Yr)	\$45.00		
Simple Payback (Yrs)	9.83		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	8-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,120	Incentive Rates	
Peak Demand (kW)	13.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,358.95		
PROJECT SUMMARY			
Total Project Cost (\$)	\$71,400.00		
Rebates (\$)	\$6,028.69		
Net Project Cost (\$)	\$65,371.31		
Cost Savings (\$/Yr)	\$2,358.95		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	490	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$441.23		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$441.23
Simple Payback (Yrs)	10.09
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,160	Incentive Rates	
Peak Demand (kW)	0.36	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$36.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$60.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$60.00
Cost Savings (\$/Yr)	\$36.00
Simple Payback (Yrs)	1.67
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	106,174	Incentive Rates	
Peak Demand (kW)	32.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$11,679.16		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$118,365.00
Rebates (\$)	\$25,481.81
Net Project Cost (\$)	\$92,883.19
Cost Savings (\$/Yr)	\$11,679.16
Simple Payback (Yrs)	7.95
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	16,254	Incentive Rates	
Peak Demand (kW)	8.91	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,526.38		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$46,200.00
Rebates (\$)	\$3,900.92
Net Project Cost (\$)	\$42,299.08
Cost Savings (\$/Yr)	\$1,526.38
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-17-EF 2-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,481	Incentive Rates	
Peak Demand (kW)	0.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$536.18		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$835.40		
Net Project Cost (\$)	\$286.60		
Cost Savings (\$/Yr)	\$536.18		
Simple Payback (Yrs)	0.53		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$2,970.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	14.96		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$705.95		
Net Project Cost (\$)	\$3,544.05		
Cost Savings (\$/Yr)	\$264.73		
Simple Payback (Yrs)	13.39		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$705.95		
Net Project Cost (\$)	\$3,544.05		
Cost Savings (\$/Yr)	\$264.73		
Simple Payback (Yrs)	13.39		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-18-6
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,972	Incentive Rates	
Peak Demand (kW)	3.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,257.47		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,500.00
Rebates (\$)	\$3,353.25
Net Project Cost (\$)	\$4,146.75
Cost Savings (\$/Yr)	\$1,257.47
Simple Payback (Yrs)	3.30
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	9-18-7
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Bookstore
BASIC GROSS AREA (S	65,922

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,972	Incentive Rates	
Peak Demand (kW)	3.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,257.47		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,500.00
Rebates (\$)	\$3,353.25
Net Project Cost (\$)	\$4,146.75
Cost Savings (\$/Yr)	\$1,257.47
Simple Payback (Yrs)	3.30
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	9-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Bookstore		
BASIC GROSS AREA (S	65,922		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	202,712	Incentive Rates	
Peak Demand (kW)	23.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$18,244.11		
PROJECT SUMMARY			
Total Project Cost (\$)	\$85,200.00		
Rebates (\$)	\$48,650.96		
Net Project Cost (\$)	\$36,549.04		
Cost Savings (\$/Yr)	\$18,244.11		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	379	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$341.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$341.50		
Simple Payback (Yrs)	13.03		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	47	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$42.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$151.44		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$151.44		
Cost Savings (\$/Yr)	\$42.05		
Simple Payback (Yrs)	3.60		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	54,084	Incentive Rates	
Peak Demand (kW)	16.39	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,949.21		
PROJECT SUMMARY			
Total Project Cost (\$)	\$128,147.50		
Rebates (\$)	\$12,980.09		
Net Project Cost (\$)	\$115,167.41		
Cost Savings (\$/Yr)	\$5,949.21		
Simple Payback (Yrs)	19.36		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	10-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 5
BASIC GROSS AREA (S	63,220

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,343	Incentive Rates	
Peak Demand (kW)	5.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$971.33		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$29,400.00
Rebates (\$)	\$2,482.40
Net Project Cost (\$)	\$26,917.60
Cost Savings (\$/Yr)	\$971.33
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	10-21
PROJECT	Commissioning
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 5
BASIC GROSS AREA (S	63,220

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	150,607	Incentive Rates	
Peak Demand (kW)	17.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$13,554.60		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$63,300.00
Rebates (\$)	\$36,145.61
Net Project Cost (\$)	\$27,154.39
Cost Savings (\$/Yr)	\$13,554.60
Simple Payback (Yrs)	2.00
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	93,677	Incentive Rates	
Peak Demand (kW)	23.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,430.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$422,500.00		
Rebates (\$)	\$22,482.49		
Net Project Cost (\$)	\$400,017.51		
Cost Savings (\$/Yr)	\$8,430.93		
Simple Payback (Yrs)	47.45		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-1-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,812	Incentive Rates	
Peak Demand (kW)	5.95	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,143.11		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,135.68		
Net Project Cost (\$)	\$283.92		
Cost Savings (\$/Yr)	\$2,143.11		
Simple Payback (Yrs)	0.13		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	10-2-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 5		
BASIC GROSS AREA (S	63,220		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,812	Incentive Rates	
Peak Demand (kW)	5.95	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,143.11		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,135.68		
Net Project Cost (\$)	\$283.92		
Cost Savings (\$/Yr)	\$2,143.11		
Simple Payback (Yrs)	0.13		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	14-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 1		
BASIC GROSS AREA (S	14,210		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	16,682	Incentive Rates	
Peak Demand (kW)	1.90	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-569	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$14,501.06		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,900.00		
Rebates (\$)	\$4,003.59		
Net Project Cost (\$)	\$4,896.41		
Cost Savings (\$/Yr)	\$14,501.06		
Simple Payback (Yrs)	0.34		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	14-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 1		
BASIC GROSS AREA (S	14,210		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,994	Incentive Rates	
Peak Demand (kW)	0.34	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$269.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$631.00		
Rebates (\$)	\$504.80		
Net Project Cost (\$)	\$126.20		
Cost Savings (\$/Yr)	\$269.50		
Simple Payback (Yrs)	0.47		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	14-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 1		
BASIC GROSS AREA (S	14,210		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	34,927	Incentive Rates	
Peak Demand (kW)	10.58	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,841.99		
PROJECT SUMMARY			
Total Project Cost (\$)	\$61,230.00		
Rebates (\$)	\$8,382.53		
Net Project Cost (\$)	\$52,847.47		
Cost Savings (\$/Yr)	\$3,841.99		
Simple Payback (Yrs)	13.76		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	14-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 1
BASIC GROSS AREA (S	14,210

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,821	Incentive Rates	
Peak Demand (kW)	6.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,110.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$33,600.00
Rebates (\$)	\$2,837.03
Net Project Cost (\$)	\$30,762.97
Cost Savings (\$/Yr)	\$1,110.10
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	14-17-RR
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 1
BASIC GROSS AREA (S	14,210

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,238	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$201.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$537.12
Net Project Cost (\$)	\$584.88
Cost Savings (\$/Yr)	\$201.42
Simple Payback (Yrs)	2.90
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	14-17-525
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 1
BASIC GROSS AREA (S	14,210

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,238	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$201.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$537.12
Net Project Cost (\$)	\$584.88
Cost Savings (\$/Yr)	\$201.42
Simple Payback (Yrs)	2.90
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	14-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 1
BASIC GROSS AREA (S	14,210

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,883	Incentive Rates	
Peak Demand (kW)	1.47	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$529.46		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,250.00
Rebates (\$)	\$1,411.89
Net Project Cost (\$)	\$3,838.11
Cost Savings (\$/Yr)	\$529.46
Simple Payback (Yrs)	7.25
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	14-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 1		
BASIC GROSS AREA (S	14,210		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	95,884	Incentive Rates	
Peak Demand (kW)	10.95	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,629.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$40,300.00		
Rebates (\$)	\$23,012.13		
Net Project Cost (\$)	\$17,287.87		
Cost Savings (\$/Yr)	\$8,629.55		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	14-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Liberal Arts 1		
BASIC GROSS AREA (S	14,210		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	59,611	Incentive Rates	
Peak Demand (kW)	14.90	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,365.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$268,900.00		
Rebates (\$)	\$14,306.72		
Net Project Cost (\$)	\$254,593.28		
Cost Savings (\$/Yr)	\$5,365.02		
Simple Payback (Yrs)	47.45		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	14-1-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Liberal Arts 1
BASIC GROSS AREA (S	14,210

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,026	Incentive Rates	
Peak Demand (kW)	2.51	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$902.36		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$902.36
Simple Payback (Yrs)	0.31
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	15-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Faculty Office 3
BASIC GROSS AREA (S	33,373

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	327	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$293.92		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$293.92
Simple Payback (Yrs)	15.14
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-9		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,097	Incentive Rates	
Peak Demand (kW)	2.27	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$818.77		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,576.00		
Rebates (\$)	\$2,183.39		
Net Project Cost (\$)	\$392.61		
Cost Savings (\$/Yr)	\$818.77		
Simple Payback (Yrs)	0.48		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	31,205	Incentive Rates	
Peak Demand (kW)	9.46	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,432.53		
PROJECT SUMMARY			
Total Project Cost (\$)	\$67,307.50		
Rebates (\$)	\$7,489.15		
Net Project Cost (\$)	\$59,818.35		
Cost Savings (\$/Yr)	\$3,432.53		
Simple Payback (Yrs)	17.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,866	Incentive Rates	
Peak Demand (kW)	4.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$832.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$25,200.00		
Rebates (\$)	\$2,127.77		
Net Project Cost (\$)	\$23,072.23		
Cost Savings (\$/Yr)	\$832.57		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	15-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Faculty Office 3		
BASIC GROSS AREA (S	33,373		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,947	Incentive Rates	
Peak Demand (kW)	8.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,055.25		
PROJECT SUMMARY			
Total Project Cost (\$)	\$153,100.00		
Rebates (\$)	\$8,147.33		
Net Project Cost (\$)	\$144,952.67		
Cost Savings (\$/Yr)	\$3,055.25		
Simple Payback (Yrs)	47.44		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	16-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Faculty Office 2
BASIC GROSS AREA (S	11,994

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,507	Incentive Rates	
Peak Demand (kW)	2.88	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,045.80		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$22,230.00
Rebates (\$)	\$2,281.75
Net Project Cost (\$)	\$19,948.25
Cost Savings (\$/Yr)	\$1,045.80
Simple Payback (Yrs)	19.07
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	16-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Faculty Office 2
BASIC GROSS AREA (S	11,994

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,433	Incentive Rates	
Peak Demand (kW)	2.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$416.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$12,600.00
Rebates (\$)	\$1,063.89
Net Project Cost (\$)	\$11,536.11
Cost Savings (\$/Yr)	\$416.29
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	16-24
PROJECT	Window Replacement-DM
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Faculty Office 2
BASIC GROSS AREA (S	11,994

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	17,772	Incentive Rates	
Peak Demand (kW)	4.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,599.50		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$80,200.00
Rebates (\$)	\$4,265.34
Net Project Cost (\$)	\$75,934.66
Cost Savings (\$/Yr)	\$1,599.50
Simple Payback (Yrs)	47.47
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	17-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Lecture Halls 150/151
BASIC GROSS AREA (S	7,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,030	Incentive Rates	
Peak Demand (kW)	7.89	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,863.34		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$13,877.50
Rebates (\$)	\$6,247.30
Net Project Cost (\$)	\$7,630.20
Cost Savings (\$/Yr)	\$2,863.34
Simple Payback (Yrs)	2.66
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	17-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Lecture Halls 150/151
BASIC GROSS AREA (S	7,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,572	Incentive Rates	
Peak Demand (kW)	8.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$951.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$21,100.00
Rebates (\$)	\$2,537.38
Net Project Cost (\$)	\$18,562.62
Cost Savings (\$/Yr)	\$951.52
Simple Payback (Yrs)	19.51
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	17-12-2
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Lecture Halls 150/151
BASIC GROSS AREA (S	7,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,041	Incentive Rates	
Peak Demand (kW)	5.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$543.72		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$11,100.00
Rebates (\$)	\$1,449.93
Net Project Cost (\$)	\$9,650.07
Cost Savings (\$/Yr)	\$543.72
Simple Payback (Yrs)	17.75
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	17-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Lecture Halls 150/151
BASIC GROSS AREA (S	7,050

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,400.00
Rebates (\$)	\$709.26
Net Project Cost (\$)	\$7,690.74
Cost Savings (\$/Yr)	\$277.52
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	19-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Library
BASIC GROSS AREA (S	206,521

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,994	Incentive Rates	
Peak Demand (kW)	0.34	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$269.50		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$631.00
Rebates (\$)	\$504.80
Net Project Cost (\$)	\$126.20
Cost Savings (\$/Yr)	\$269.50
Simple Payback (Yrs)	0.47
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-6		
PROJECT	Demand Control Ventilation		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	147,617	Incentive Rates	
Peak Demand (kW)	36.90	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$13,555.53		
PROJECT SUMMARY			
Total Project Cost (\$)	\$44,965.00		
Rebates (\$)	\$6,716.80		
Net Project Cost (\$)	\$38,248.20		
Cost Savings (\$/Yr)	\$13,555.53		
Simple Payback (Yrs)	2.82		
Calculation File	\\5871\ECMS\ECM-6		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	19-12-2
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Library
BASIC GROSS AREA (S	206,521

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	755	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$67.97		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$900.00
Rebates (\$)	\$181.24
Net Project Cost (\$)	\$718.76
Cost Savings (\$/Yr)	\$67.97
Simple Payback (Yrs)	10.58
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	19-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Library
BASIC GROSS AREA (S	206,521

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	31,030	Incentive Rates	
Peak Demand (kW)	17.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,914.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$88,200.00
Rebates (\$)	\$7,447.20
Net Project Cost (\$)	\$80,752.80
Cost Savings (\$/Yr)	\$2,914.00
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,721	Incentive Rates	
Peak Demand (kW)	1.93	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$694.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$1,853.11		
Net Project Cost (\$)	\$5,646.89		
Cost Savings (\$/Yr)	\$694.92		
Simple Payback (Yrs)	8.13		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,618	Incentive Rates	
Peak Demand (kW)	1.65	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$595.64		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$1,588.38		
Net Project Cost (\$)	\$5,911.62		
Cost Savings (\$/Yr)	\$595.64		
Simple Payback (Yrs)	9.92		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,295	Incentive Rates	
Peak Demand (kW)	2.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$926.56		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$2,470.81		
Net Project Cost (\$)	\$5,029.19		
Cost Savings (\$/Yr)	\$926.56		
Simple Payback (Yrs)	5.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,883	Incentive Rates	
Peak Demand (kW)	1.47	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$529.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$1,411.89		
Net Project Cost (\$)	\$6,088.11		
Cost Savings (\$/Yr)	\$529.46		
Simple Payback (Yrs)	11.50		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,869	Incentive Rates	
Peak Demand (kW)	3.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,158.19		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$3,088.52		
Net Project Cost (\$)	\$4,411.48		
Cost Savings (\$/Yr)	\$1,158.19		
Simple Payback (Yrs)	3.81		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-18-6		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,883	Incentive Rates	
Peak Demand (kW)	1.47	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$529.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$1,411.89		
Net Project Cost (\$)	\$6,088.11		
Cost Savings (\$/Yr)	\$529.46		
Simple Payback (Yrs)	11.50		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	491,554	Incentive Rates	
Peak Demand (kW)	56.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$44,239.83		
PROJECT SUMMARY			
Total Project Cost (\$)	\$206,600.00		
Rebates (\$)	\$117,972.88		
Net Project Cost (\$)	\$88,627.12		
Cost Savings (\$/Yr)	\$44,239.83		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-1-16		
PROJECT	Self Generation with Micro Turbine & A		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,752,000	Incentive Rates	
Peak Demand (kW)	200.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54,041.86		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593,750.00		
Rebates (\$)	\$49,220.91		
Net Project Cost (\$)	\$544,529.09		
Cost Savings (\$/Yr)	\$54,041.86		
Simple Payback (Yrs)	10.08		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	19-2-16		
PROJECT	Self Generation with Micro Turbine & A		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Library		
BASIC GROSS AREA (S	206,521		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,752,000	Incentive Rates	
Peak Demand (kW)	200.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54,041.86		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593,750.00		
Rebates (\$)	\$49,220.91		
Net Project Cost (\$)	\$544,529.09		
Cost Savings (\$/Yr)	\$54,041.86		
Simple Payback (Yrs)	10.08		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	20-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Academic Services		
BASIC GROSS AREA (S	143,085		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,585	Incentive Rates	
Peak Demand (kW)	2.69	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-805	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,398.19		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,900.00		
Rebates (\$)	\$5,660.42		
Net Project Cost (\$)	\$3,239.58		
Cost Savings (\$/Yr)	\$1,398.19		
Simple Payback (Yrs)	2.32		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	21-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Multi-Media Center
BASIC GROSS AREA (S	6,728

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,762	Incentive Rates	
Peak Demand (kW)	0.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$158.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$422.98
Net Project Cost (\$)	\$996.62
Cost Savings (\$/Yr)	\$158.62
Simple Payback (Yrs)	6.28
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	21-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Multi-Media Center
BASIC GROSS AREA (S	6,728

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,583	Incentive Rates	
Peak Demand (kW)	3.51	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,274.13		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$10,270.00
Rebates (\$)	\$2,779.92
Net Project Cost (\$)	\$7,490.08
Cost Savings (\$/Yr)	\$1,274.13
Simple Payback (Yrs)	5.88
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	21-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Multi-Media Center
BASIC GROSS AREA (S	6,728

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,400.00
Rebates (\$)	\$709.26
Net Project Cost (\$)	\$7,690.74
Cost Savings (\$/Yr)	\$277.52
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	21-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Multi-Media Center
BASIC GROSS AREA (S	6,728

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,068	Incentive Rates	
Peak Demand (kW)	0.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$186.14		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,500.00
Rebates (\$)	\$496.37
Net Project Cost (\$)	\$3,003.63
Cost Savings (\$/Yr)	\$186.14
Simple Payback (Yrs)	16.14
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,386	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$394.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,052.76		
Net Project Cost (\$)	\$366.84		
Cost Savings (\$/Yr)	\$394.78		
Simple Payback (Yrs)	0.93		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593.00		
Rebates (\$)	\$361.20		
Net Project Cost (\$)	\$231.80		
Cost Savings (\$/Yr)	\$135.45		
Simple Payback (Yrs)	1.71		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	22-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 1
BASIC GROSS AREA (S	23,447

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	22-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 1
BASIC GROSS AREA (S	23,447

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	31,964	Incentive Rates	
Peak Demand (kW)	9.69	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,516.02		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$34,320.00
Rebates (\$)	\$7,671.31
Net Project Cost (\$)	\$26,648.69
Cost Savings (\$/Yr)	\$3,516.02
Simple Payback (Yrs)	7.58
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,866	Incentive Rates	
Peak Demand (kW)	4.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$832.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$25,200.00		
Rebates (\$)	\$2,127.77		
Net Project Cost (\$)	\$23,072.23		
Cost Savings (\$/Yr)	\$832.57		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,442	Incentive Rates	
Peak Demand (kW)	1.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$579.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$1,546.02		
Net Project Cost (\$)	\$2,703.98		
Cost Savings (\$/Yr)	\$579.76		
Simple Payback (Yrs)	4.66		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-18-1S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,574	Incentive Rates	
Peak Demand (kW)	0.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$231.64		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$617.70		
Net Project Cost (\$)	\$3,632.30		
Cost Savings (\$/Yr)	\$231.64		
Simple Payback (Yrs)	15.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-18-1R		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,287	Incentive Rates	
Peak Demand (kW)	0.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$115.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$308.85		
Net Project Cost (\$)	\$2,691.15		
Cost Savings (\$/Yr)	\$115.82		
Simple Payback (Yrs)	23.24		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	22-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 1		
BASIC GROSS AREA (S	23,447		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,793	Incentive Rates	
Peak Demand (kW)	1.80	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-539	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$936.28		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$3,560.00
Net Project Cost (\$)	\$890.00
Cost Savings (\$/Yr)	\$936.28
Simple Payback (Yrs)	0.95
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	20,246	Incentive Rates	
Peak Demand (kW)	6.13	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,227.01		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$32,630.00
Rebates (\$)	\$4,858.92
Net Project Cost (\$)	\$27,771.08
Cost Savings (\$/Yr)	\$2,227.01
Simple Payback (Yrs)	12.47
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	19,209	Incentive Rates	
Peak Demand (kW)	10.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,803.91		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$54,600.00
Rebates (\$)	\$4,610.17
Net Project Cost (\$)	\$49,989.83
Cost Savings (\$/Yr)	\$1,803.91
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$705.95
Net Project Cost (\$)	\$3,544.05
Cost Savings (\$/Yr)	\$264.73
Simple Payback (Yrs)	13.39
Calculation File	\\5871\ECMS\ECM-1



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-18-2
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,471	Incentive Rates	
Peak Demand (kW)	0.37	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$132.37		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$352.97
Net Project Cost (\$)	\$2,647.03
Cost Savings (\$/Yr)	\$132.37
Simple Payback (Yrs)	20.00
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	23-18-15
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Education 2
BASIC GROSS AREA (S	24,237

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$529.46
Net Project Cost (\$)	\$3,720.54
Cost Savings (\$/Yr)	\$198.55
Simple Payback (Yrs)	18.74
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	23-18-1R		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 2		
BASIC GROSS AREA (S	24,237		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$3,720.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	18.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	23-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 2		
BASIC GROSS AREA (S	24,237		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	23-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Education 2		
BASIC GROSS AREA (S	24,237		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	35,913	Incentive Rates	
Peak Demand (kW)	8.98	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,232.21		
PROJECT SUMMARY			
Total Project Cost (\$)	\$162,000.00		
Rebates (\$)	\$8,619.24		
Net Project Cost (\$)	\$153,380.76		
Cost Savings (\$/Yr)	\$3,232.21		
Simple Payback (Yrs)	47.45		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	24-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	McIntosh Humanities Bldg		
BASIC GROSS AREA (S	42,510		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	186	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$167.33		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$167.33		
Simple Payback (Yrs)	26.59		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	492	Incentive Rates	
Peak Demand (kW)	0.12	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$44.28		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$239.00
Rebates (\$)	\$118.08
Net Project Cost (\$)	\$120.92
Cost Savings (\$/Yr)	\$44.28
Simple Payback (Yrs)	2.73
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	492	Incentive Rates	
Peak Demand (kW)	0.12	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$44.28		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$239.00
Rebates (\$)	\$118.08
Net Project Cost (\$)	\$120.92
Cost Savings (\$/Yr)	\$44.28
Simple Payback (Yrs)	2.73
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,226	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$200.34		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,025.00
Rebates (\$)	\$534.24
Net Project Cost (\$)	\$490.76
Cost Savings (\$/Yr)	\$200.34
Simple Payback (Yrs)	2.45
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,162	Incentive Rates	
Peak Demand (kW)	3.79	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,364.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$6,240.00
Rebates (\$)	\$3,638.99
Net Project Cost (\$)	\$2,601.01
Cost Savings (\$/Yr)	\$1,364.62
Simple Payback (Yrs)	1.91
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,842	Incentive Rates	
Peak Demand (kW)	8.13	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,952.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$59,897.50
Rebates (\$)	\$6,442.13
Net Project Cost (\$)	\$53,455.37
Cost Savings (\$/Yr)	\$2,952.64
Simple Payback (Yrs)	18.10
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-12-2
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,433	Incentive Rates	
Peak Demand (kW)	2.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$416.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$12,600.00
Rebates (\$)	\$1,063.89
Net Project Cost (\$)	\$11,536.11
Cost Savings (\$/Yr)	\$416.29
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	24-21
PROJECT	Commissioning
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	McIntosh Humanities Bldg
BASIC GROSS AREA (S	42,510

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	101,356	Incentive Rates	
Peak Demand (kW)	11.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$9,122.06		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42,600.00
Rebates (\$)	\$24,325.48
Net Project Cost (\$)	\$18,274.52
Cost Savings (\$/Yr)	\$9,122.06
Simple Payback (Yrs)	2.00
Calculation File	\\5871\ECMS\ECM-2



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	24-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	McIntosh Humanities Bldg		
BASIC GROSS AREA (S	42,510		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	62,990	Incentive Rates	
Peak Demand (kW)	15.75	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,669.08		
PROJECT SUMMARY			
Total Project Cost (\$)	\$284,100.00		
Rebates (\$)	\$15,117.54		
Net Project Cost (\$)	\$268,982.46		
Cost Savings (\$/Yr)	\$5,669.08		
Simple Payback (Yrs)	47.45		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	146	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$131.22		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$131.22		
Simple Payback (Yrs)	33.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,820	Incentive Rates	
Peak Demand (kW)	0.70	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$253.79		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$676.77		
Net Project Cost (\$)	\$742.83		
Cost Savings (\$/Yr)	\$253.79		
Simple Payback (Yrs)	2.93		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	25-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Language Arts Bldg
BASIC GROSS AREA (S	27,480

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	25-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Language Arts Bldg
BASIC GROSS AREA (S	27,480

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	25-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Language Arts Bldg
BASIC GROSS AREA (S	27,480

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	25-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Language Arts Bldg
BASIC GROSS AREA (S	27,480

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,525	Incentive Rates	
Peak Demand (kW)	8.04	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,917.79		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$45,857.50
Rebates (\$)	\$6,366.10
Net Project Cost (\$)	\$39,491.40
Cost Savings (\$/Yr)	\$2,917.79
Simple Payback (Yrs)	13.53
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,164	Incentive Rates	
Peak Demand (kW)	12.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,081.43		
PROJECT SUMMARY			
Total Project Cost (\$)	\$63,000.00		
Rebates (\$)	\$5,319.43		
Net Project Cost (\$)	\$57,680.57		
Cost Savings (\$/Yr)	\$2,081.43		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-18-1S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,309	Incentive Rates	
Peak Demand (kW)	0.83	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$297.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$794.19		
Net Project Cost (\$)	\$3,705.81		
Cost Savings (\$/Yr)	\$297.82		
Simple Payback (Yrs)	12.44		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	25-18-2S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Language Arts Bldg		
BASIC GROSS AREA (S	27,480		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,309	Incentive Rates	
Peak Demand (kW)	0.83	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$297.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$794.19		
Net Project Cost (\$)	\$3,705.81		
Cost Savings (\$/Yr)	\$297.82		
Simple Payback (Yrs)	12.44		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	26-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Studio Theatre
BASIC GROSS AREA (S	61,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	306	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$275.66		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$275.66
Simple Payback (Yrs)	16.14
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	26-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Studio Theatre
BASIC GROSS AREA (S	61,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	112,118	Incentive Rates	
Peak Demand (kW)	33.98	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$12,332.93		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$59,475.00
Rebates (\$)	\$26,908.20
Net Project Cost (\$)	\$32,566.80
Cost Savings (\$/Yr)	\$12,332.93
Simple Payback (Yrs)	2.64
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-1S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$3,720.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	18.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-2S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	662	Incentive Rates	
Peak Demand (kW)	0.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$59.56		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$158.84		
Net Project Cost (\$)	\$2,841.16		
Cost Savings (\$/Yr)	\$59.56		
Simple Payback (Yrs)	47.70		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-3S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,309	Incentive Rates	
Peak Demand (kW)	0.83	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$297.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$794.19		
Net Project Cost (\$)	\$3,705.81		
Cost Savings (\$/Yr)	\$297.82		
Simple Payback (Yrs)	12.44		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-4S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,655	Incentive Rates	
Peak Demand (kW)	0.41	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$148.91		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$397.10		
Net Project Cost (\$)	\$3,102.90		
Cost Savings (\$/Yr)	\$148.91		
Simple Payback (Yrs)	20.84		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-5S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,515	Incentive Rates	
Peak Demand (kW)	1.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$496.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,250.00		
Rebates (\$)	\$1,323.65		
Net Project Cost (\$)	\$3,926.35		
Cost Savings (\$/Yr)	\$496.37		
Simple Payback (Yrs)	7.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	26-18-6S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Studio Theatre		
BASIC GROSS AREA (S	61,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,655	Incentive Rates	
Peak Demand (kW)	0.41	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$148.91		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$397.10		
Net Project Cost (\$)	\$3,102.90		
Cost Savings (\$/Yr)	\$148.91		
Simple Payback (Yrs)	20.84		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	27-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Theatre
BASIC GROSS AREA (S	19,598

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	27-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Theatre
BASIC GROSS AREA (S	19,598

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	27-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Theatre
BASIC GROSS AREA (S	19,598

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,590	Incentive Rates	
Peak Demand (kW)	1.69	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$614.92		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$12,512.50
Rebates (\$)	\$1,341.65
Net Project Cost (\$)	\$11,170.85
Cost Savings (\$/Yr)	\$614.92
Simple Payback (Yrs)	18.17
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	28-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Telecommunications
BASIC GROSS AREA (S	23,600

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	121	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$109.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$109.29
Simple Payback (Yrs)	40.72
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	39	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$126.20		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$126.20		
Cost Savings (\$/Yr)	\$35.04		
Simple Payback (Yrs)	3.60		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593.00		
Rebates (\$)	\$361.20		
Net Project Cost (\$)	\$231.80		
Cost Savings (\$/Yr)	\$135.45		
Simple Payback (Yrs)	1.71		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-9-3		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	431	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$38.79		
PROJECT SUMMARY			
Total Project Cost (\$)	\$279.00		
Rebates (\$)	\$103.44		
Net Project Cost (\$)	\$175.56		
Cost Savings (\$/Yr)	\$38.79		
Simple Payback (Yrs)	4.53		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-9-4		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-9-5		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	28-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Telecommunications		
BASIC GROSS AREA (S	23,600		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,745	Incentive Rates	
Peak Demand (kW)	3.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,401.91		
PROJECT SUMMARY			
Total Project Cost (\$)	\$37,927.50		
Rebates (\$)	\$3,058.70		
Net Project Cost (\$)	\$34,868.80		
Cost Savings (\$/Yr)	\$1,401.91		
Simple Payback (Yrs)	24.87		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	152	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$136.54		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$136.54		
Simple Payback (Yrs)	32.59		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	39	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$132.51		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$132.51		
Cost Savings (\$/Yr)	\$35.04		
Simple Payback (Yrs)	3.78		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,226	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$200.34		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,025.00		
Rebates (\$)	\$534.24		
Net Project Cost (\$)	\$490.76		
Cost Savings (\$/Yr)	\$200.34		
Simple Payback (Yrs)	2.45		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,226	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$200.34		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,025.00
Rebates (\$)	\$534.24
Net Project Cost (\$)	\$490.76
Cost Savings (\$/Yr)	\$200.34
Simple Payback (Yrs)	2.45
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,372	Incentive Rates	
Peak Demand (kW)	3.79	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,023.47		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$6,240.00
Rebates (\$)	\$2,729.24
Net Project Cost (\$)	\$3,510.76
Cost Savings (\$/Yr)	\$1,023.47
Simple Payback (Yrs)	3.43
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,236	Incentive Rates	
Peak Demand (kW)	4.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,565.98		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$25,642.50
Rebates (\$)	\$3,416.69
Net Project Cost (\$)	\$22,225.81
Cost Savings (\$/Yr)	\$1,565.98
Simple Payback (Yrs)	14.19
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,821	Incentive Rates	
Peak Demand (kW)	6.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,110.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$33,600.00		
Rebates (\$)	\$2,837.03		
Net Project Cost (\$)	\$30,762.97		
Cost Savings (\$/Yr)	\$1,110.10		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA2-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	604	Incentive Rates	
Peak Demand (kW)	0.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54.38		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$145.02
Net Project Cost (\$)	\$976.98
Cost Savings (\$/Yr)	\$54.38
Simple Payback (Yrs)	17.96
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA2-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,460	Incentive Rates	
Peak Demand (kW)	0.36	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$341.90		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$350.34
Net Project Cost (\$)	\$771.66
Cost Savings (\$/Yr)	\$341.90
Simple Payback (Yrs)	2.26
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA2-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	439	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$145.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$105.43
Net Project Cost (\$)	\$1,016.57
Cost Savings (\$/Yr)	\$145.42
Simple Payback (Yrs)	6.99
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA3-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,263	Incentive Rates	
Peak Demand (kW)	0.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$651.98		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$543.18
Net Project Cost (\$)	\$578.82
Cost Savings (\$/Yr)	\$651.98
Simple Payback (Yrs)	0.89
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA3-EF-4		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,265	Incentive Rates	
Peak Demand (kW)	0.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$497.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$303.63		
Net Project Cost (\$)	\$818.37		
Cost Savings (\$/Yr)	\$497.76		
Simple Payback (Yrs)	1.64		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA3-EF-5		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	250	Incentive Rates	
Peak Demand (kW)	0.06	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$89.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$59.94		
Net Project Cost (\$)	\$1,062.06		
Cost Savings (\$/Yr)	\$89.35		
Simple Payback (Yrs)	11.89		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA3-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,130	Incentive Rates	
Peak Demand (kW)	1.78	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,712.89		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,712.89
Simple Payback (Yrs)	0.13
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA3-EF-7
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,006	Incentive Rates	
Peak Demand (kW)	0.75	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$765.85		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$721.33
Net Project Cost (\$)	\$400.67
Cost Savings (\$/Yr)	\$765.85
Simple Payback (Yrs)	0.52
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA3-EF-8		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	626	Incentive Rates	
Peak Demand (kW)	0.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$216.08		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$150.21		
Net Project Cost (\$)	\$971.79		
Cost Savings (\$/Yr)	\$216.08		
Simple Payback (Yrs)	4.50		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA3-EF-9		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,243	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$334.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$298.28		
Net Project Cost (\$)	\$823.72		
Cost Savings (\$/Yr)	\$334.76		
Simple Payback (Yrs)	2.46		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	449	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$164.27		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$107.82
Net Project Cost (\$)	\$1,014.18
Cost Savings (\$/Yr)	\$164.27
Simple Payback (Yrs)	6.17
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	17,547	Incentive Rates	
Peak Demand (kW)	4.39	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,756.27		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$3,756.27
Simple Payback (Yrs)	0.06
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,187	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$657.53		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$524.96
Net Project Cost (\$)	\$597.04
Cost Savings (\$/Yr)	\$657.53
Simple Payback (Yrs)	0.91
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,551	Incentive Rates	
Peak Demand (kW)	0.39	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$312.96		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$372.24
Net Project Cost (\$)	\$749.76
Cost Savings (\$/Yr)	\$312.96
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	322	Incentive Rates	
Peak Demand (kW)	0.08	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.70		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$77.26
Net Project Cost (\$)	\$1,044.74
Cost Savings (\$/Yr)	\$84.70
Simple Payback (Yrs)	12.34
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	399	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$110.24		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$95.85
Net Project Cost (\$)	\$1,026.15
Cost Savings (\$/Yr)	\$110.24
Simple Payback (Yrs)	9.31
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA4-EF-7		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	81	Incentive Rates	
Peak Demand (kW)	0.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$32.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$19.42		
Net Project Cost (\$)	\$1,102.58		
Cost Savings (\$/Yr)	\$32.05		
Simple Payback (Yrs)	34.40		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-17-FA4-EF-8		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,551	Incentive Rates	
Peak Demand (kW)	0.39	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$312.96		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$372.24		
Net Project Cost (\$)	\$749.76		
Cost Savings (\$/Yr)	\$312.96		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,118	Incentive Rates	
Peak Demand (kW)	5.78	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,020.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$5,020.51
Simple Payback (Yrs)	0.04
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-17-FA4-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,016	Incentive Rates	
Peak Demand (kW)	1.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,299.32		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,299.32
Simple Payback (Yrs)	0.17
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	7,354	Incentive Rates	
Peak Demand (kW)	1.84	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$661.83		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,250.00		
Rebates (\$)	\$1,764.87		
Net Project Cost (\$)	\$3,485.13		
Cost Savings (\$/Yr)	\$661.83		
Simple Payback (Yrs)	5.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	7,354	Incentive Rates	
Peak Demand (kW)	1.84	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$661.83		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,250.00		
Rebates (\$)	\$1,764.87		
Net Project Cost (\$)	\$3,485.13		
Cost Savings (\$/Yr)	\$661.83		
Simple Payback (Yrs)	5.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$705.95		
Net Project Cost (\$)	\$3,544.05		
Cost Savings (\$/Yr)	\$264.73		
Simple Payback (Yrs)	13.39		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,872	Incentive Rates	
Peak Demand (kW)	0.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$258.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,023.75		
Rebates (\$)	\$689.32		
Net Project Cost (\$)	\$1,334.43		
Cost Savings (\$/Yr)	\$258.50		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-2		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,872	Incentive Rates	
Peak Demand (kW)	0.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$258.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,023.75		
Rebates (\$)	\$689.32		
Net Project Cost (\$)	\$1,334.43		
Cost Savings (\$/Yr)	\$258.50		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-4		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,214.25		
Rebates (\$)	\$413.59		
Net Project Cost (\$)	\$800.66		
Cost Savings (\$/Yr)	\$155.10		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-5		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-6		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-8		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,214.25		
Rebates (\$)	\$413.59		
Net Project Cost (\$)	\$800.66		
Cost Savings (\$/Yr)	\$155.10		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-10		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-23-12
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-23-14
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,238.00
Rebates (\$)	\$1,102.92
Net Project Cost (\$)	\$2,135.08
Cost Savings (\$/Yr)	\$413.59
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-15		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,214.25		
Rebates (\$)	\$413.59		
Net Project Cost (\$)	\$800.66		
Cost Savings (\$/Yr)	\$155.10		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	32-23-16		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 1		
BASIC GROSS AREA (S	15,504		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	32-24
PROJECT	Window Replacement-DM
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 1
BASIC GROSS AREA (S	15,504

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,973	Incentive Rates	
Peak Demand (kW)	5.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,067.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$103,600.00
Rebates (\$)	\$5,513.58
Net Project Cost (\$)	\$98,086.42
Cost Savings (\$/Yr)	\$2,067.59
Simple Payback (Yrs)	47.44
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	196	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$176.79		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$176.79
Simple Payback (Yrs)	25.17
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	39	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$138.82
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$138.82
Cost Savings (\$/Yr)	\$35.04
Simple Payback (Yrs)	3.96
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,700	Incentive Rates	
Peak Demand (kW)	1.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$422.98		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,127.95
Net Project Cost (\$)	\$291.65
Cost Savings (\$/Yr)	\$422.98
Simple Payback (Yrs)	0.69
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-9-5
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$818.77
Net Project Cost (\$)	\$2,231.23
Cost Savings (\$/Yr)	\$307.04
Simple Payback (Yrs)	7.27
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,823	Incentive Rates	
Peak Demand (kW)	2.27	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$614.08		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,825.00		
Rebates (\$)	\$1,637.54		
Net Project Cost (\$)	\$2,187.46		
Cost Savings (\$/Yr)	\$614.08		
Simple Payback (Yrs)	3.56		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-10-3		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,575.00		
Rebates (\$)	\$545.85		
Net Project Cost (\$)	\$2,029.15		
Cost Savings (\$/Yr)	\$204.69		
Simple Payback (Yrs)	9.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,065	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$545.85		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$1,455.60		
Net Project Cost (\$)	\$1,594.40		
Cost Savings (\$/Yr)	\$545.85		
Simple Payback (Yrs)	2.92		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,819	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$163.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$436.68		
Net Project Cost (\$)	\$2,013.32		
Cost Savings (\$/Yr)	\$163.75		
Simple Payback (Yrs)	12.29		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,204	Incentive Rates	
Peak Demand (kW)	2.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$902.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$24,830.00
Rebates (\$)	\$1,968.91
Net Project Cost (\$)	\$22,861.09
Cost Savings (\$/Yr)	\$902.42
Simple Payback (Yrs)	25.33
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	33-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 2
BASIC GROSS AREA (S	20,074

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	16,254	Incentive Rates	
Peak Demand (kW)	8.91	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,526.38		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$46,200.00
Rebates (\$)	\$3,900.92
Net Project Cost (\$)	\$42,299.08
Cost Savings (\$/Yr)	\$1,526.38
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$2,970.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	14.96		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$705.95		
Net Project Cost (\$)	\$3,544.05		
Cost Savings (\$/Yr)	\$264.73		
Simple Payback (Yrs)	13.39		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,471	Incentive Rates	
Peak Demand (kW)	0.37	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$132.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$352.97		
Net Project Cost (\$)	\$2,647.03		
Cost Savings (\$/Yr)	\$132.37		
Simple Payback (Yrs)	20.00		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-18-1S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,758	Incentive Rates	
Peak Demand (kW)	0.69	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$248.18		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$661.83		
Net Project Cost (\$)	\$3,588.17		
Cost Savings (\$/Yr)	\$248.18		
Simple Payback (Yrs)	14.46		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-22		
PROJECT	Sky Lights		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,400	Incentive Rates	
Peak Demand (kW)	8.96	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,016.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$14,563.00		
Rebates (\$)	\$5,376.00		
Net Project Cost (\$)	\$9,187.00		
Cost Savings (\$/Yr)	\$2,016.00		
Simple Payback (Yrs)	4.56		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	33-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 2		
BASIC GROSS AREA (S	20,074		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	29,745	Incentive Rates	
Peak Demand (kW)	7.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,677.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$134,200.00		
Rebates (\$)	\$7,138.78		
Net Project Cost (\$)	\$127,061.22		
Cost Savings (\$/Yr)	\$2,677.04		
Simple Payback (Yrs)	47.46		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	224	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$201.77		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$201.77
Simple Payback (Yrs)	22.05
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	39	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$145.13
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$145.13
Cost Savings (\$/Yr)	\$35.04
Simple Payback (Yrs)	4.14
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,679	Incentive Rates	
Peak Demand (kW)	1.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$514.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$17,680.00
Rebates (\$)	\$1,123.06
Net Project Cost (\$)	\$16,556.94
Cost Savings (\$/Yr)	\$514.73
Simple Payback (Yrs)	32.17
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,580	Incentive Rates	
Peak Demand (kW)	2.98	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$322.16		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$6,562.50
Rebates (\$)	\$859.09
Net Project Cost (\$)	\$5,703.41
Cost Savings (\$/Yr)	\$322.16
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	17,731	Incentive Rates	
Peak Demand (kW)	9.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,665.14		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$50,400.00
Rebates (\$)	\$4,255.55
Net Project Cost (\$)	\$46,144.45
Cost Savings (\$/Yr)	\$1,665.14
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	34-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 3
BASIC GROSS AREA (S	22,910

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$705.95
Net Project Cost (\$)	\$3,544.05
Cost Savings (\$/Yr)	\$264.73
Simple Payback (Yrs)	13.39
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	34-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 3		
BASIC GROSS AREA (S	22,910		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	34-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 3		
BASIC GROSS AREA (S	22,910		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	34-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 3		
BASIC GROSS AREA (S	22,910		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,471	Incentive Rates	
Peak Demand (kW)	0.37	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$132.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$352.97		
Net Project Cost (\$)	\$2,647.03		
Cost Savings (\$/Yr)	\$132.37		
Simple Payback (Yrs)	20.00		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	34-22		
PROJECT	Sky Lights		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 3		
BASIC GROSS AREA (S	22,910		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,400	Incentive Rates	
Peak Demand (kW)	8.96	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,016.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$14,563.00		
Rebates (\$)	\$5,376.00		
Net Project Cost (\$)	\$9,187.00		
Cost Savings (\$/Yr)	\$2,016.00		
Simple Payback (Yrs)	4.56		
Calculation File	\\5871\ECMS\ECM-2		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	820	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$738.42		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$738.42
Simple Payback (Yrs)	6.03
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	39	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$151.44
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$151.44
Cost Savings (\$/Yr)	\$35.04
Simple Payback (Yrs)	4.32
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,224	Incentive Rates	
Peak Demand (kW)	1.06	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$380.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,164.00		
Rebates (\$)	\$1,013.76		
Net Project Cost (\$)	\$1,150.24		
Cost Savings (\$/Yr)	\$380.16		
Simple Payback (Yrs)	3.03		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-10-4
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$818.77
Net Project Cost (\$)	\$2,231.23
Cost Savings (\$/Yr)	\$307.04
Simple Payback (Yrs)	7.27
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	30,268	Incentive Rates	
Peak Demand (kW)	9.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,329.44		
PROJECT SUMMARY			
Total Project Cost (\$)	\$59,670.00		
Rebates (\$)	\$7,264.22		
Net Project Cost (\$)	\$52,405.78		
Cost Savings (\$/Yr)	\$3,329.44		
Simple Payback (Yrs)	15.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,620	Incentive Rates	
Peak Demand (kW)	1.35	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$145.80		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,250.00		
Rebates (\$)	\$388.80		
Net Project Cost (\$)	\$1,861.20		
Cost Savings (\$/Yr)	\$145.80		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	62,060	Incentive Rates	
Peak Demand (kW)	34.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,828.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$176,400.00
Rebates (\$)	\$14,894.41
Net Project Cost (\$)	\$161,505.59
Cost Savings (\$/Yr)	\$5,828.00
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	20,142	Incentive Rates	
Peak Demand (kW)	5.04	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,812.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,812.78
Simple Payback (Yrs)	0.12
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	614	Incentive Rates	
Peak Demand (kW)	0.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$153.08		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$147.32		
Net Project Cost (\$)	\$974.68		
Cost Savings (\$/Yr)	\$153.08		
Simple Payback (Yrs)	6.37		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,215	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$282.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$291.68		
Net Project Cost (\$)	\$830.32		
Cost Savings (\$/Yr)	\$282.75		
Simple Payback (Yrs)	2.94		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-17-EF-4		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,667	Incentive Rates	
Peak Demand (kW)	0.92	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$887.26		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$879.98		
Net Project Cost (\$)	\$242.02		
Cost Savings (\$/Yr)	\$887.26		
Simple Payback (Yrs)	0.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-17-EF-5		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	373	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$33.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$89.52		
Net Project Cost (\$)	\$1,032.48		
Cost Savings (\$/Yr)	\$33.57		
Simple Payback (Yrs)	30.76		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-17-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,972	Incentive Rates	
Peak Demand (kW)	1.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,340.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,340.35
Simple Payback (Yrs)	0.17
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	35-17-EF-7
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Fine Arts 4
BASIC GROSS AREA (S	83,844

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,972	Incentive Rates	
Peak Demand (kW)	1.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,340.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,340.35
Simple Payback (Yrs)	0.17
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,766	Incentive Rates	
Peak Demand (kW)	2.94	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,058.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$2,823.79		
Net Project Cost (\$)	\$4,676.21		
Cost Savings (\$/Yr)	\$1,058.92		
Simple Payback (Yrs)	4.42		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$2,970.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	14.96		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	35-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Fine Arts 4		
BASIC GROSS AREA (S	83,844		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	199,619	Incentive Rates	
Peak Demand (kW)	22.79	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$17,965.74		
PROJECT SUMMARY			
Total Project Cost (\$)	\$83,900.00		
Rebates (\$)	\$47,908.64		
Net Project Cost (\$)	\$35,991.36		
Cost Savings (\$/Yr)	\$17,965.74		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	37,201	Incentive Rates	
Peak Demand (kW)	11.27	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,092.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$52,780.00
Rebates (\$)	\$8,928.22
Net Project Cost (\$)	\$43,851.78
Cost Savings (\$/Yr)	\$4,092.10
Simple Payback (Yrs)	10.72
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-18-2
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$463.81
Net Project Cost (\$)	\$2,536.19
Cost Savings (\$/Yr)	\$173.93
Simple Payback (Yrs)	14.58
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-18-3
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	966	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$86.96		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$231.90		
Net Project Cost (\$)	\$2,768.10		
Cost Savings (\$/Yr)	\$86.96		
Simple Payback (Yrs)	31.83		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-6		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-7		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-8		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-9		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-10		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-11		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,288	Incentive Rates	
Peak Demand (kW)	0.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$115.95		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$309.20		
Net Project Cost (\$)	\$2,690.80		
Cost Savings (\$/Yr)	\$115.95		
Simple Payback (Yrs)	23.21		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-12		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-13		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-14		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-15		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-16		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-17		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-19		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,288	Incentive Rates	
Peak Demand (kW)	0.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$115.95		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$309.20		
Net Project Cost (\$)	\$2,690.80		
Cost Savings (\$/Yr)	\$115.95		
Simple Payback (Yrs)	23.21		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-20		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-21		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$2,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	5.38		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-18-22		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-18-23
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY****BUILDING ENERGY SAVINGS**

Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,500.00
Rebates (\$)	\$1,159.52
Net Project Cost (\$)	\$2,340.48
Cost Savings (\$/Yr)	\$434.82
Simple Payback (Yrs)	5.38
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	41-18-24
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Microbiology
BASIC GROSS AREA (S	47,498

**PROJECT ENERGY SAVINGS SUMMARY****BUILDING ENERGY SAVINGS**

Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$463.81
Net Project Cost (\$)	\$2,536.19
Cost Savings (\$/Yr)	\$173.93
Simple Payback (Yrs)	14.58
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$404.75		
Rebates (\$)	\$137.86		
Net Project Cost (\$)	\$266.89		
Cost Savings (\$/Yr)	\$51.70		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-2		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	41-23-3	
PROJECT	Upgrade Filters	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Microbiology	
BASIC GROSS AREA (S	47,498	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates
Peak Demand (kW)	0.14	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$51.70	
PROJECT SUMMARY		
Total Project Cost (\$)	\$404.75	
Rebates (\$)	\$137.86	
Net Project Cost (\$)	\$266.89	
Cost Savings (\$/Yr)	\$51.70	
Simple Payback (Yrs)	5.16	
Calculation File	\\5871\ECMS\ECM-2	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	41-23-4	
PROJECT	Upgrade Filters	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Microbiology	
BASIC GROSS AREA (S	47,498	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	172	Incentive Rates
Peak Demand (kW)	0.04	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$15.51	
PROJECT SUMMARY		
Total Project Cost (\$)	\$121.43	
Rebates (\$)	\$41.36	
Net Project Cost (\$)	\$80.07	
Cost Savings (\$/Yr)	\$15.51	
Simple Payback (Yrs)	5.16	
Calculation File	\\5871\ECMS\ECM-2	



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-5		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-6		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-7		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$404.75		
Rebates (\$)	\$137.86		
Net Project Cost (\$)	\$266.89		
Cost Savings (\$/Yr)	\$51.70		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-8		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$404.75		
Rebates (\$)	\$137.86		
Net Project Cost (\$)	\$266.89		
Cost Savings (\$/Yr)	\$51.70		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-9		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$404.75		
Rebates (\$)	\$137.86		
Net Project Cost (\$)	\$266.89		
Cost Savings (\$/Yr)	\$51.70		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-10		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-11		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	230	Incentive Rates	
Peak Demand (kW)	0.06	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$20.68		
PROJECT SUMMARY			
Total Project Cost (\$)	\$161.90		
Rebates (\$)	\$55.15		
Net Project Cost (\$)	\$106.75		
Cost Savings (\$/Yr)	\$20.68		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-12		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$404.75		
Rebates (\$)	\$137.86		
Net Project Cost (\$)	\$266.89		
Cost Savings (\$/Yr)	\$51.70		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-13		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-14		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-15		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-16		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-17		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-18		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	86	Incentive Rates	
Peak Demand (kW)	0.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$7.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$60.71		
Rebates (\$)	\$20.68		
Net Project Cost (\$)	\$40.03		
Cost Savings (\$/Yr)	\$7.75		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-19		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	230	Incentive Rates	
Peak Demand (kW)	0.06	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$20.68		
PROJECT SUMMARY			
Total Project Cost (\$)	\$161.90		
Rebates (\$)	\$55.15		
Net Project Cost (\$)	\$106.75		
Cost Savings (\$/Yr)	\$20.68		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-20		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-21		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-22		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-23		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$77.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$607.13		
Rebates (\$)	\$206.80		
Net Project Cost (\$)	\$400.33		
Cost Savings (\$/Yr)	\$77.55		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	41-23-24		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Microbiology		
BASIC GROSS AREA (S	47,498		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	46-9-3	
PROJECT	Rewound Premium Efficiency Motors	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Social Sciences & Public Affairs	
BASIC GROSS AREA (S	57,951	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates
Peak Demand (kW)	0.31	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$111.51	
PROJECT SUMMARY		
Total Project Cost (\$)	\$552.00	
Rebates (\$)	\$297.36	
Net Project Cost (\$)	\$254.64	
Cost Savings (\$/Yr)	\$111.51	
Simple Payback (Yrs)	2.28	
Calculation File	\\5871\ECMS\ECM-9	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	46-9-4	
PROJECT	Rewound Premium Efficiency Motors	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Social Sciences & Public Affairs	
BASIC GROSS AREA (S	57,951	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates
Peak Demand (kW)	0.24	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$84.78	
PROJECT SUMMARY		
Total Project Cost (\$)	\$334.00	
Rebates (\$)	\$226.08	
Net Project Cost (\$)	\$107.92	
Cost Savings (\$/Yr)	\$84.78	
Simple Payback (Yrs)	1.27	
Calculation File	\\5871\ECMS\ECM-9	

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	46-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Social Sciences & Public Affairs
BASIC GROSS AREA (S	57,951

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	131,852	Incentive Rates	
Peak Demand (kW)	39.95	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$14,503.67		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$111,735.00
Rebates (\$)	\$31,644.36
Net Project Cost (\$)	\$80,090.64
Cost Savings (\$/Yr)	\$14,503.67
Simple Payback (Yrs)	5.52
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	46-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Social Sciences & Public Affairs
BASIC GROSS AREA (S	57,951

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,831	Incentive Rates	
Peak Demand (kW)	1.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$434.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,159.52		
Net Project Cost (\$)	\$3,340.48		
Cost Savings (\$/Yr)	\$434.82		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,416	Incentive Rates	
Peak Demand (kW)	0.60	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$217.41		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$579.76		
Net Project Cost (\$)	\$2,920.24		
Cost Savings (\$/Yr)	\$217.41		
Simple Payback (Yrs)	13.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,416	Incentive Rates	
Peak Demand (kW)	0.60	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$217.41		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$579.76		
Net Project Cost (\$)	\$2,920.24		
Cost Savings (\$/Yr)	\$217.41		
Simple Payback (Yrs)	13.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,610	Incentive Rates	
Peak Demand (kW)	0.40	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$144.94		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$386.51		
Net Project Cost (\$)	\$2,613.49		
Cost Savings (\$/Yr)	\$144.94		
Simple Payback (Yrs)	18.03		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$3,476.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	11.99		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	46-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Social Sciences & Public Affairs		
BASIC GROSS AREA (S	57,951		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	137,997	Incentive Rates	
Peak Demand (kW)	15.75	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$12,419.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$58,000.00		
Rebates (\$)	\$33,119.20		
Net Project Cost (\$)	\$24,880.80		
Cost Savings (\$/Yr)	\$12,419.70		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		



PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	46-23-1	
PROJECT	Upgrade Filters	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Social Sciences & Public Affairs	
BASIC GROSS AREA (S	57,951	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates
Peak Demand (kW)	0.43	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$155.10	
PROJECT SUMMARY		
Total Project Cost (\$)	\$1,214.25	
Rebates (\$)	\$413.59	
Net Project Cost (\$)	\$800.66	
Cost Savings (\$/Yr)	\$155.10	
Simple Payback (Yrs)	5.16	
Calculation File	\\5871\ECMS\ECM-2	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	46-23-3	
PROJECT	Upgrade Filters	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Social Sciences & Public Affairs	
BASIC GROSS AREA (S	57,951	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	862	Incentive Rates
Peak Demand (kW)	0.22	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$77.55	
PROJECT SUMMARY		
Total Project Cost (\$)	\$607.13	
Rebates (\$)	\$206.80	
Net Project Cost (\$)	\$400.33	
Cost Savings (\$/Yr)	\$77.55	
Simple Payback (Yrs)	5.16	
Calculation File	\\5871\ECMS\ECM-2	

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	46-23-5
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Social Sciences & Public Affairs
BASIC GROSS AREA (S	57,951

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$809.50
Rebates (\$)	\$275.73
Net Project Cost (\$)	\$533.77
Cost Savings (\$/Yr)	\$103.40
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	46-2-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Social Sciences & Public Affairs
BASIC GROSS AREA (S	57,951

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,031	Incentive Rates	
Peak Demand (kW)	3.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,082.83		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$1,082.83
Simple Payback (Yrs)	0.26
Calculation File	\\5871\ECMS\ECM-5

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	47-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Physical Education/Gym		
BASIC GROSS AREA (S	167,286		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	51,506	Incentive Rates	
Peak Demand (kW)	15.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,665.70		
PROJECT SUMMARY			
Total Project Cost (\$)	\$90,577.50		
Rebates (\$)	\$12,361.54		
Net Project Cost (\$)	\$78,215.96		
Cost Savings (\$/Yr)	\$5,665.70		
Simple Payback (Yrs)	13.81		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	47-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Physical Education/Gym		
BASIC GROSS AREA (S	167,286		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	398,049	Incentive Rates	
Peak Demand (kW)	45.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35,824.41		
PROJECT SUMMARY			
Total Project Cost (\$)	\$167,300.00		
Rebates (\$)	\$95,531.76		
Net Project Cost (\$)	\$71,768.24		
Cost Savings (\$/Yr)	\$35,824.41		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	47-22		
PROJECT	Sky Lights		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Physical Education/Gym		
BASIC GROSS AREA (S	167,286		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,400	Incentive Rates	
Peak Demand (kW)	8.96	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,016.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$14,563.00		
Rebates (\$)	\$5,376.00		
Net Project Cost (\$)	\$9,187.00		
Cost Savings (\$/Yr)	\$2,016.00		
Simple Payback (Yrs)	4.56		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	49-9		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Heath & Human Services 2 Offices		
BASIC GROSS AREA (S	13,034		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	49-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Heath & Human Services 2 Offices
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,174	Incentive Rates	
Peak Demand (kW)	2.78	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,009.14		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$18,752.50
Rebates (\$)	\$2,201.76
Net Project Cost (\$)	\$16,550.74
Cost Savings (\$/Yr)	\$1,009.14
Simple Payback (Yrs)	16.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	851	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$766.21		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,900.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$8,900.00
Cost Savings (\$/Yr)	\$766.21
Simple Payback (Yrs)	11.62
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-1-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,282	Incentive Rates	
Peak Demand (kW)	3.07	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,105.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$1,105.39
Simple Payback (Yrs)	0.26
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-2-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,212	Incentive Rates	
Peak Demand (kW)	2.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$829.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$829.04
Simple Payback (Yrs)	0.34
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-3-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,212	Incentive Rates	
Peak Demand (kW)	2.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$829.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$829.04
Simple Payback (Yrs)	0.34
Calculation File	\\5871\ECMS\ECM-5

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-4-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,212	Incentive Rates	
Peak Demand (kW)	2.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$829.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$1,135.68
Net Project Cost (\$)	\$283.92
Cost Savings (\$/Yr)	\$829.04
Simple Payback (Yrs)	0.34
Calculation File	\\5871\ECMS\ECM-5

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	50-5-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Vivian Engineering Center		
BASIC GROSS AREA (S	13,034		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,212	Incentive Rates	
Peak Demand (kW)	2.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$829.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,135.68		
Net Project Cost (\$)	\$283.92		
Cost Savings (\$/Yr)	\$829.04		
Simple Payback (Yrs)	0.34		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	50-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Vivian Engineering Center		
BASIC GROSS AREA (S	13,034		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	215,012	Incentive Rates	
Peak Demand (kW)	65.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$23,651.27		
PROJECT SUMMARY			
Total Project Cost (\$)	\$120,640.00		
Rebates (\$)	\$51,602.76		
Net Project Cost (\$)	\$69,037.24		
Cost Savings (\$/Yr)	\$23,651.27		
Simple Payback (Yrs)	2.92		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	50-21
PROJECT	Commissioning
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Vivian Engineering Center
BASIC GROSS AREA (S	13,034

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	206,995	Incentive Rates	
Peak Demand (kW)	23.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$18,629.55		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$87,000.00
Rebates (\$)	\$49,678.80
Net Project Cost (\$)	\$37,321.20
Cost Savings (\$/Yr)	\$18,629.55
Simple Payback (Yrs)	2.00
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,883	Incentive Rates	
Peak Demand (kW)	1.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-542	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$941.61		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,900.00
Rebates (\$)	\$3,812.01
Net Project Cost (\$)	\$5,087.99
Cost Savings (\$/Yr)	\$941.61
Simple Payback (Yrs)	5.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	299	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$26.95		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$63.10
Rebates (\$)	\$50.48
Net Project Cost (\$)	\$12.62
Cost Savings (\$/Yr)	\$26.95
Simple Payback (Yrs)	0.47
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$571.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,000.00
Rebates (\$)	\$4.00
Net Project Cost (\$)	\$996.00
Cost Savings (\$/Yr)	\$571.49
Simple Payback (Yrs)	1.74
Calculation File	\\5871\ECMS\ECM-4

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,071	Incentive Rates	
Peak Demand (kW)	0.77	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$276.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$736.93		
Net Project Cost (\$)	\$682.67		
Cost Savings (\$/Yr)	\$276.35		
Simple Payback (Yrs)	2.47		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$818.77
Net Project Cost (\$)	\$2,231.23
Cost Savings (\$/Yr)	\$307.04
Simple Payback (Yrs)	7.27
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$818.77		
Net Project Cost (\$)	\$2,231.23		
Cost Savings (\$/Yr)	\$307.04		
Simple Payback (Yrs)	7.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	18,266	Incentive Rates	
Peak Demand (kW)	5.54	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,009.21		
PROJECT SUMMARY			
Total Project Cost (\$)	\$38,967.50		
Rebates (\$)	\$4,383.72		
Net Project Cost (\$)	\$34,583.78		
Cost Savings (\$/Yr)	\$2,009.21		
Simple Payback (Yrs)	17.21		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	51-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 2		
BASIC GROSS AREA (S	24,378		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	17,731	Incentive Rates	
Peak Demand (kW)	9.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,665.14		
PROJECT SUMMARY			
Total Project Cost (\$)	\$50,400.00		
Rebates (\$)	\$4,255.55		
Net Project Cost (\$)	\$46,144.45		
Cost Savings (\$/Yr)	\$1,665.14		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	51-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 2
BASIC GROSS AREA (S	24,378

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,481	Incentive Rates	
Peak Demand (kW)	0.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$536.18		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$835.40
Net Project Cost (\$)	\$286.60
Cost Savings (\$/Yr)	\$536.18
Simple Payback (Yrs)	0.53
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	52-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering 3
BASIC GROSS AREA (S	24,385

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,885	Incentive Rates	
Peak Demand (kW)	1.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-542	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$941.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,900.00
Rebates (\$)	\$3,812.48
Net Project Cost (\$)	\$5,087.52
Cost Savings (\$/Yr)	\$941.73
Simple Payback (Yrs)	5.40
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	749	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$67.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$157.75		
Rebates (\$)	\$126.20		
Net Project Cost (\$)	\$31.55		
Cost Savings (\$/Yr)	\$67.37		
Simple Payback (Yrs)	0.47		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-6		
PROJECT	Demand Control Ventilation		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,482	Incentive Rates	
Peak Demand (kW)	3.37	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,716.89		
PROJECT SUMMARY			
Total Project Cost (\$)	\$16,755.00		
Rebates (\$)	\$3,235.56		
Net Project Cost (\$)	\$13,519.44		
Cost Savings (\$/Yr)	\$1,716.89		
Simple Payback (Yrs)	7.87		
Calculation File	\\5871\ECMS\ECM-6		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$818.77		
Net Project Cost (\$)	\$2,231.23		
Cost Savings (\$/Yr)	\$307.04		
Simple Payback (Yrs)	7.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$818.77		
Net Project Cost (\$)	\$2,231.23		
Cost Savings (\$/Yr)	\$307.04		
Simple Payback (Yrs)	7.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	15,005	Incentive Rates	
Peak Demand (kW)	4.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,650.56		
PROJECT SUMMARY			
Total Project Cost (\$)	\$22,457.50		
Rebates (\$)	\$3,601.22		
Net Project Cost (\$)	\$18,856.28		
Cost Savings (\$/Yr)	\$1,650.56		
Simple Payback (Yrs)	11.42		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	52-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering 3		
BASIC GROSS AREA (S	24,385		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,910	Incentive Rates	
Peak Demand (kW)	3.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$555.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$16,800.00		
Rebates (\$)	\$1,418.52		
Net Project Cost (\$)	\$15,381.48		
Cost Savings (\$/Yr)	\$555.05		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	438	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$394.27		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$394.27		
Simple Payback (Yrs)	11.29		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,700	Incentive Rates	
Peak Demand (kW)	1.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$422.98		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$1,127.95		
Net Project Cost (\$)	\$291.65		
Cost Savings (\$/Yr)	\$422.98		
Simple Payback (Yrs)	0.69		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593.00		
Rebates (\$)	\$361.20		
Net Project Cost (\$)	\$231.80		
Cost Savings (\$/Yr)	\$135.45		
Simple Payback (Yrs)	1.71		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-9-3		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-9-5
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-9-6		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-9-7		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-10-2
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$1,958.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	4.78
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-10-3
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$327.51
Net Project Cost (\$)	\$2,122.49
Cost Savings (\$/Yr)	\$122.82
Simple Payback (Yrs)	17.28
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-10-4		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$327.51		
Net Project Cost (\$)	\$2,122.49		
Cost Savings (\$/Yr)	\$122.82		
Simple Payback (Yrs)	17.28		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-10-5		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$327.51		
Net Project Cost (\$)	\$2,122.49		
Cost Savings (\$/Yr)	\$122.82		
Simple Payback (Yrs)	17.28		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-10-6
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$327.51
Net Project Cost (\$)	\$2,122.49
Cost Savings (\$/Yr)	\$122.82
Simple Payback (Yrs)	17.28
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-10-7
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$327.51
Net Project Cost (\$)	\$2,122.49
Cost Savings (\$/Yr)	\$122.82
Simple Payback (Yrs)	17.28
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-10-8
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,791	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$341.16		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,150.00
Rebates (\$)	\$909.75
Net Project Cost (\$)	\$4,240.25
Cost Savings (\$/Yr)	\$341.16
Simple Payback (Yrs)	12.43
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	38,643	Incentive Rates	
Peak Demand (kW)	11.71	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,250.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$41,210.00
Rebates (\$)	\$9,274.32
Net Project Cost (\$)	\$31,935.68
Cost Savings (\$/Yr)	\$4,250.73
Simple Payback (Yrs)	7.51
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,468.75		
Rebates (\$)	\$192.27		
Net Project Cost (\$)	\$1,276.48		
Cost Savings (\$/Yr)	\$72.10		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,985	Incentive Rates	
Peak Demand (kW)	18.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,191.53		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$96,600.00
Rebates (\$)	\$8,156.46
Net Project Cost (\$)	\$88,443.54
Cost Savings (\$/Yr)	\$3,191.53
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$705.95
Net Project Cost (\$)	\$3,544.05
Cost Savings (\$/Yr)	\$264.73
Simple Payback (Yrs)	13.39
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-18-5		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-18-6		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	882	Incentive Rates	
Peak Demand (kW)	0.22	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.42		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$211.78		
Net Project Cost (\$)	\$2,788.22		
Cost Savings (\$/Yr)	\$79.42		
Simple Payback (Yrs)	35.11		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-23-2		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-23-3		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-23-4
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$242.85
Rebates (\$)	\$82.72
Net Project Cost (\$)	\$160.13
Cost Savings (\$/Yr)	\$31.02
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	54-23-5
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Design
BASIC GROSS AREA (S	44,768

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$242.85
Rebates (\$)	\$82.72
Net Project Cost (\$)	\$160.13
Cost Savings (\$/Yr)	\$31.02
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	54-23-6		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Design		
BASIC GROSS AREA (S	44,768		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	345	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$31.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$242.85		
Rebates (\$)	\$82.72		
Net Project Cost (\$)	\$160.13		
Cost Savings (\$/Yr)	\$31.02		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	175	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$157.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$157.75		
Simple Payback (Yrs)	28.21		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-10-1CS		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,065	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$545.85		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$1,455.60		
Net Project Cost (\$)	\$1,594.40		
Cost Savings (\$/Yr)	\$545.85		
Simple Payback (Yrs)	2.92		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-10-1HS		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$1,091.70		
Net Project Cost (\$)	\$1,958.30		
Cost Savings (\$/Yr)	\$409.39		
Simple Payback (Yrs)	4.78		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-10-FC-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,819	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$163.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$436.68		
Net Project Cost (\$)	\$2,013.32		
Cost Savings (\$/Yr)	\$163.75		
Simple Payback (Yrs)	12.29		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-10-FC-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,032	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$272.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,150.00		
Rebates (\$)	\$727.80		
Net Project Cost (\$)	\$4,422.20		
Cost Savings (\$/Yr)	\$272.92		
Simple Payback (Yrs)	16.20		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	55-10-FC-3
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Human Services and Design
BASIC GROSS AREA (S	24,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,819	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$163.75		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$436.68
Net Project Cost (\$)	\$2,013.32
Cost Savings (\$/Yr)	\$163.75
Simple Payback (Yrs)	12.29
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	55-10-FC-4
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Human Services and Design
BASIC GROSS AREA (S	24,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,819	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$163.75		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$436.68
Net Project Cost (\$)	\$2,013.32
Cost Savings (\$/Yr)	\$163.75
Simple Payback (Yrs)	12.29
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	22,103	Incentive Rates	
Peak Demand (kW)	7.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,431.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$38,707.50		
Rebates (\$)	\$5,304.82		
Net Project Cost (\$)	\$33,402.68		
Cost Savings (\$/Yr)	\$2,431.37		
Simple Payback (Yrs)	13.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	19,209	Incentive Rates	
Peak Demand (kW)	10.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,803.91		
PROJECT SUMMARY			
Total Project Cost (\$)	\$54,600.00		
Rebates (\$)	\$4,610.17		
Net Project Cost (\$)	\$49,989.83		
Cost Savings (\$/Yr)	\$1,803.91		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-18-1CS		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,758	Incentive Rates	
Peak Demand (kW)	0.69	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$248.18		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$661.83		
Net Project Cost (\$)	\$3,588.17		
Cost Savings (\$/Yr)	\$248.18		
Simple Payback (Yrs)	14.46		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-18-1HS		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,068	Incentive Rates	
Peak Demand (kW)	0.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$186.14		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$496.37		
Net Project Cost (\$)	\$3,003.63		
Cost Savings (\$/Yr)	\$186.14		
Simple Payback (Yrs)	16.14		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	55-18-FC-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Human Services and Design
BASIC GROSS AREA (S	24,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	827	Incentive Rates	
Peak Demand (kW)	0.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$74.46		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$198.55
Net Project Cost (\$)	\$2,801.45
Cost Savings (\$/Yr)	\$74.46
Simple Payback (Yrs)	37.63
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	55-18-FC-2
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Human Services and Design
BASIC GROSS AREA (S	24,300

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,379	Incentive Rates	
Peak Demand (kW)	0.34	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$124.09		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$330.91
Net Project Cost (\$)	\$2,669.09
Cost Savings (\$/Yr)	\$124.09
Simple Payback (Yrs)	21.51
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-18-FC-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	827	Incentive Rates	
Peak Demand (kW)	0.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$74.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$198.55		
Net Project Cost (\$)	\$2,801.45		
Cost Savings (\$/Yr)	\$74.46		
Simple Payback (Yrs)	37.63		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	55-18-FC-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Human Services and Design		
BASIC GROSS AREA (S	24,300		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	827	Incentive Rates	
Peak Demand (kW)	0.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$74.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$198.55		
Net Project Cost (\$)	\$2,801.45		
Cost Savings (\$/Yr)	\$74.46		
Simple Payback (Yrs)	37.63		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	657	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$591.33		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$591.33
Simple Payback (Yrs)	7.53
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-9
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$1,091.70		
Net Project Cost (\$)	\$1,958.30		
Cost Savings (\$/Yr)	\$409.39		
Simple Payback (Yrs)	4.78		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,823	Incentive Rates	
Peak Demand (kW)	2.27	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$614.08		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,825.00		
Rebates (\$)	\$1,637.54		
Net Project Cost (\$)	\$2,187.46		
Cost Savings (\$/Yr)	\$614.08		
Simple Payback (Yrs)	3.56		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-10-3		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,791	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$341.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,150.00		
Rebates (\$)	\$909.75		
Net Project Cost (\$)	\$4,240.25		
Cost Savings (\$/Yr)	\$341.16		
Simple Payback (Yrs)	12.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	65,578	Incentive Rates	
Peak Demand (kW)	19.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$7,213.54		
PROJECT SUMMARY			
Total Project Cost (\$)	\$118,137.50		
Rebates (\$)	\$15,738.62		
Net Project Cost (\$)	\$102,398.88		
Cost Savings (\$/Yr)	\$7,213.54		
Simple Payback (Yrs)	14.20		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	50,239	Incentive Rates	
Peak Demand (kW)	27.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,717.91		
PROJECT SUMMARY			
Total Project Cost (\$)	\$142,800.00		
Rebates (\$)	\$12,057.38		
Net Project Cost (\$)	\$130,742.62		
Cost Savings (\$/Yr)	\$4,717.91		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,581	Incentive Rates	
Peak Demand (kW)	0.90	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$726.02		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$859.51		
Net Project Cost (\$)	\$262.49		
Cost Savings (\$/Yr)	\$726.02		
Simple Payback (Yrs)	0.36		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,312	Incentive Rates	
Peak Demand (kW)	0.33	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$464.79		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$314.79		
Net Project Cost (\$)	\$807.21		
Cost Savings (\$/Yr)	\$464.79		
Simple Payback (Yrs)	1.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,257	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$360.77		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$301.58		
Net Project Cost (\$)	\$820.42		
Cost Savings (\$/Yr)	\$360.77		
Simple Payback (Yrs)	2.27		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,639	Incentive Rates	
Peak Demand (kW)	0.91	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$835.25		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$873.38
Net Project Cost (\$)	\$248.62
Cost Savings (\$/Yr)	\$835.25
Simple Payback (Yrs)	0.30
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,352	Incentive Rates	
Peak Demand (kW)	0.59	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$415.97		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$564.36
Net Project Cost (\$)	\$557.64
Cost Savings (\$/Yr)	\$415.97
Simple Payback (Yrs)	1.34
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-6		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,055	Incentive Rates	
Peak Demand (kW)	1.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,247.90		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$897.60		
Net Project Cost (\$)	\$224.40		
Cost Savings (\$/Yr)	\$1,247.90		
Simple Payback (Yrs)	0.18		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-7		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,770	Incentive Rates	
Peak Demand (kW)	0.94	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,082.30		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$897.60		
Net Project Cost (\$)	\$224.40		
Cost Savings (\$/Yr)	\$1,082.30		
Simple Payback (Yrs)	0.21		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-8
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,548	Incentive Rates	
Peak Demand (kW)	0.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$786.55		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$611.42
Net Project Cost (\$)	\$510.58
Cost Savings (\$/Yr)	\$786.55
Simple Payback (Yrs)	0.65
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-9
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,880	Incentive Rates	
Peak Demand (kW)	8.47	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,606.43		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$3,606.43
Simple Payback (Yrs)	0.06
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-10
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,534	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$760.54		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$608.12
Net Project Cost (\$)	\$513.88
Cost Savings (\$/Yr)	\$760.54
Simple Payback (Yrs)	0.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	56-17-EF-11
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,293	Incentive Rates	
Peak Demand (kW)	0.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$305.44		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$550.33
Net Project Cost (\$)	\$571.67
Cost Savings (\$/Yr)	\$305.44
Simple Payback (Yrs)	1.87
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-12		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	766	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$440.44		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$183.81		
Net Project Cost (\$)	\$938.19		
Cost Savings (\$/Yr)	\$440.44		
Simple Payback (Yrs)	2.13		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-13		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	639	Incentive Rates	
Peak Demand (kW)	0.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.89		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$153.27		
Net Project Cost (\$)	\$968.73		
Cost Savings (\$/Yr)	\$199.89		
Simple Payback (Yrs)	4.85		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-EF-14		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	407	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$96.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$97.62		
Net Project Cost (\$)	\$1,024.38		
Cost Savings (\$/Yr)	\$96.05		
Simple Payback (Yrs)	10.66		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-17-AA-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	18,849	Incentive Rates	
Peak Demand (kW)	4.71	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,411.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$897.60		
Net Project Cost (\$)	\$224.40		
Cost Savings (\$/Yr)	\$5,411.51		
Simple Payback (Yrs)	0.04		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,766	Incentive Rates	
Peak Demand (kW)	2.94	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,058.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$2,823.79		
Net Project Cost (\$)	\$4,676.21		
Cost Savings (\$/Yr)	\$1,058.92		
Simple Payback (Yrs)	4.42		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,206	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$198.55		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,500.00		
Rebates (\$)	\$529.46		
Net Project Cost (\$)	\$2,970.54		
Cost Savings (\$/Yr)	\$198.55		
Simple Payback (Yrs)	14.96		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-18-3		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,941	Incentive Rates	
Peak Demand (kW)	0.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$264.73		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$705.95		
Net Project Cost (\$)	\$3,544.05		
Cost Savings (\$/Yr)	\$264.73		
Simple Payback (Yrs)	13.39		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-18-4		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,058.92		
Net Project Cost (\$)	\$3,441.08		
Cost Savings (\$/Yr)	\$397.10		
Simple Payback (Yrs)	8.67		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,595	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$413.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,238.00		
Rebates (\$)	\$1,102.92		
Net Project Cost (\$)	\$2,135.08		
Cost Savings (\$/Yr)	\$413.59		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	56-23-3		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering Technology		
BASIC GROSS AREA (S	67,143		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	56-23-4
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Engineering Technology
BASIC GROSS AREA (S	67,143
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	1,723
Peak Demand (kW)	0.43
Gas (Therms/Yr)	
Chilled Water (Ton-hrs/Yr)	
HW/Steam (MMBTU/Yr)	
Total Annual Cost Savings (\$/Yr)	\$155.10
PROJECT SUMMARY	
Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	57-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Facilities Management
BASIC GROSS AREA (S	9,313
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	
Peak Demand (kW)	
Gas (Therms/Yr)	
Chilled Water (Ton-hrs/Yr)	
HW/Steam (MMBTU/Yr)	
Total Annual Cost Savings (\$/Yr)	\$130.10
PROJECT SUMMARY	
Total Project Cost (\$)	\$2,000.00
Rebates (\$)	\$9.00
Net Project Cost (\$)	\$1,991.00
Cost Savings (\$/Yr)	\$130.10
Simple Payback (Yrs)	15.30
Calculation File	\\5871\ECMS\ECM-4

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	57-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Facilities Management
BASIC GROSS AREA (S	9,313

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	57-9
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Facilities Management
BASIC GROSS AREA (S	9,313

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	57-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Facilities Management
BASIC GROSS AREA (S	9,313

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,233	Incentive Rates	
Peak Demand (kW)	2.80	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,015.67		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$16,120.00
Rebates (\$)	\$2,216.02
Net Project Cost (\$)	\$13,903.98
Cost Savings (\$/Yr)	\$1,015.67
Simple Payback (Yrs)	13.69
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	57-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Facilities Management
BASIC GROSS AREA (S	9,313

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,433	Incentive Rates	
Peak Demand (kW)	2.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$416.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$12,600.00
Rebates (\$)	\$1,063.89
Net Project Cost (\$)	\$11,536.11
Cost Savings (\$/Yr)	\$416.29
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	58-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Corporation Yard
BASIC GROSS AREA (S	51,833

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	58-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Corporation Yard
BASIC GROSS AREA (S	51,833

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.76	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,575.00
Rebates (\$)	\$545.85
Net Project Cost (\$)	\$2,029.15
Cost Savings (\$/Yr)	\$204.69
Simple Payback (Yrs)	9.91
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	58-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Corporation Yard		
BASIC GROSS AREA (S	51,833		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,580	Incentive Rates	
Peak Demand (kW)	2.98	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$322.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$6,562.50		
Rebates (\$)	\$859.09		
Net Project Cost (\$)	\$5,703.41		
Cost Savings (\$/Yr)	\$322.16		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	58-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Corporation Yard		
BASIC GROSS AREA (S	51,833		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	38,418	Incentive Rates	
Peak Demand (kW)	21.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,607.81		
PROJECT SUMMARY			
Total Project Cost (\$)	\$109,200.00		
Rebates (\$)	\$9,220.35		
Net Project Cost (\$)	\$99,979.65		
Cost Savings (\$/Yr)	\$3,607.81		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	59-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Isabel Patterson Child Development Ce
BASIC GROSS AREA (S	14,544

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,429	Incentive Rates	
Peak Demand (kW)	1.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$158.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$168.00
Rebates (\$)	\$1.00
Net Project Cost (\$)	\$167.00
Cost Savings (\$/Yr)	\$158.00
Simple Payback (Yrs)	1.06
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	59-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Isabel Patterson Child Development Ce
BASIC GROSS AREA (S	14,544

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,832	Incentive Rates	
Peak Demand (kW)	7.83	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,841.56		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$18,005.00
Rebates (\$)	\$6,199.78
Net Project Cost (\$)	\$11,805.22
Cost Savings (\$/Yr)	\$2,841.56
Simple Payback (Yrs)	4.15
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	59-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Isabel Patterson Child Development Ce		
BASIC GROSS AREA (S	14,544		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,866	Incentive Rates	
Peak Demand (kW)	4.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$832.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$25,200.00		
Rebates (\$)	\$2,127.77		
Net Project Cost (\$)	\$23,072.23		
Cost Savings (\$/Yr)	\$832.57		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	450	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$404.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,900.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$8,900.00		
Cost Savings (\$/Yr)	\$404.92		
Simple Payback (Yrs)	21.98		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,442	Incentive Rates	
Peak Demand (kW)	5.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,552.43		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,396.00
Rebates (\$)	\$5,626.08
Net Project Cost (\$)	\$2,769.92
Cost Savings (\$/Yr)	\$3,552.43
Simple Payback (Yrs)	0.78
Calculation File	\\5871\ECMS\ECM-6

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,183	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	1,880	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$359.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$42.00
Cost Savings (\$/Yr)	\$359.00
Simple Payback (Yrs)	0.12
Calculation File	\\5871\ECMS\ECM-7

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		
PROJECT SUMMARY			
Total Project Cost (\$)	\$552.00		
Rebates (\$)	\$297.36		
Net Project Cost (\$)	\$254.64		
Cost Savings (\$/Yr)	\$111.51		
Simple Payback (Yrs)	2.28		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,150.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$4,058.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	9.91
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-10-2
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$818.77
Net Project Cost (\$)	\$2,231.23
Cost Savings (\$/Yr)	\$307.04
Simple Payback (Yrs)	7.27
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,468	Incentive Rates	
Peak Demand (kW)	3.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,151.44		
PROJECT SUMMARY			
Total Project Cost (\$)	\$23,985.00		
Rebates (\$)	\$2,512.22		
Net Project Cost (\$)	\$21,472.78		
Cost Savings (\$/Yr)	\$1,151.44		
Simple Payback (Yrs)	18.65		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,985	Incentive Rates	
Peak Demand (kW)	18.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,191.53		
PROJECT SUMMARY			
Total Project Cost (\$)	\$96,600.00		
Rebates (\$)	\$8,156.46		
Net Project Cost (\$)	\$88,443.54		
Cost Savings (\$/Yr)	\$3,191.53		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,517	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$728.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$603.99
Net Project Cost (\$)	\$518.01
Cost Savings (\$/Yr)	\$728.04
Simple Payback (Yrs)	0.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	60-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Cerritos
BASIC GROSS AREA (S	45,977

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,517	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$728.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$603.99
Net Project Cost (\$)	\$518.01
Cost Savings (\$/Yr)	\$728.04
Simple Payback (Yrs)	0.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	60-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Cerritos		
BASIC GROSS AREA (S	45,977		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	450	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$404.92		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$404.92		
Simple Payback (Yrs)	10.99		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	23,442	Incentive Rates	
Peak Demand (kW)	5.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,552.43		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,396.00
Rebates (\$)	\$5,626.08
Net Project Cost (\$)	\$2,769.92
Cost Savings (\$/Yr)	\$3,552.43
Simple Payback (Yrs)	0.78
Calculation File	\\5871\ECMS\ECM-6

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,183	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	1,880	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$359.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$42.00
Cost Savings (\$/Yr)	\$359.00
Simple Payback (Yrs)	0.12
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,150.00		
Rebates (\$)	\$1,091.70		
Net Project Cost (\$)	\$4,058.30		
Cost Savings (\$/Yr)	\$409.39		
Simple Payback (Yrs)	9.91		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,412	Incentive Rates	
Peak Demand (kW)	1.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$307.04		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$818.77		
Net Project Cost (\$)	\$2,231.23		
Cost Savings (\$/Yr)	\$307.04		
Simple Payback (Yrs)	7.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,511	Incentive Rates	
Peak Demand (kW)	3.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,156.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$24,082.50		
Rebates (\$)	\$2,522.52		
Net Project Cost (\$)	\$21,559.98		
Cost Savings (\$/Yr)	\$1,156.16		
Simple Payback (Yrs)	18.65		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,985	Incentive Rates	
Peak Demand (kW)	18.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,191.53		
PROJECT SUMMARY			
Total Project Cost (\$)	\$96,600.00		
Rebates (\$)	\$8,156.46		
Net Project Cost (\$)	\$88,443.54		
Cost Savings (\$/Yr)	\$3,191.53		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,517	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$728.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$603.99
Net Project Cost (\$)	\$518.01
Cost Savings (\$/Yr)	\$728.04
Simple Payback (Yrs)	0.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	61-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Los Alamitos
BASIC GROSS AREA (S	45,399

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,517	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$728.04		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$603.99
Net Project Cost (\$)	\$518.01
Cost Savings (\$/Yr)	\$728.04
Simple Payback (Yrs)	0.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	61-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Los Alamitos		
BASIC GROSS AREA (S	45,399		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$773.01		
Net Project Cost (\$)	\$2,226.99		
Cost Savings (\$/Yr)	\$289.88		
Simple Payback (Yrs)	7.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	66-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Print Shop (Repographics)		
BASIC GROSS AREA (S	2,400		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,564	Incentive Rates	
Peak Demand (kW)	0.18	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-53	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$92.71		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$375.34		
Net Project Cost (\$)	\$4,074.66		
Cost Savings (\$/Yr)	\$92.71		
Simple Payback (Yrs)	43.95		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	66-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Print Shop (Repographics)
BASIC GROSS AREA (S	2,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	299	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$26.95		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$63.10
Rebates (\$)	\$50.48
Net Project Cost (\$)	\$12.62
Cost Savings (\$/Yr)	\$26.95
Simple Payback (Yrs)	0.47
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	66-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Print Shop (Repographics)
BASIC GROSS AREA (S	2,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$55.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,000.00
Rebates (\$)	\$6.00
Net Project Cost (\$)	\$994.00
Cost Savings (\$/Yr)	\$55.76
Simple Payback (Yrs)	17.83
Calculation File	\\5871\ECMS\ECM-4

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	66-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Print Shop (Repographics)
BASIC GROSS AREA (S	2,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,878	Incentive Rates	
Peak Demand (kW)	0.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$316.54		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$6,110.00
Rebates (\$)	\$690.62
Net Project Cost (\$)	\$5,419.38
Cost Savings (\$/Yr)	\$316.54
Simple Payback (Yrs)	17.12
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	66-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Print Shop (Repographics)
BASIC GROSS AREA (S	2,400

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,400.00
Rebates (\$)	\$709.26
Net Project Cost (\$)	\$7,690.74
Cost Savings (\$/Yr)	\$277.52
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	67-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Main Distribution Facility A
BASIC GROSS AREA (S	1,700

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,970	Incentive Rates	
Peak Demand (kW)	0.60	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$216.71		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,470.00
Rebates (\$)	\$472.82
Net Project Cost (\$)	\$1,997.18
Cost Savings (\$/Yr)	\$216.71
Simple Payback (Yrs)	9.22
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	71-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Music Center
BASIC GROSS AREA (S	66,476

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	90,958	Incentive Rates	
Peak Demand (kW)	27.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$10,005.37		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$66,722.50
Rebates (\$)	\$21,829.90
Net Project Cost (\$)	\$44,892.60
Cost Savings (\$/Yr)	\$10,005.37
Simple Payback (Yrs)	4.49
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	72-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 214	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$192.25	
PROJECT SUMMARY	
Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$192.25
Simple Payback (Yrs)	23.15
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	72-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr) 48,679	Incentive Rates
Peak Demand (kW) 12.17	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$5,764.41	
PROJECT SUMMARY	
Total Project Cost (\$)	\$5,585.00
Rebates (\$)	\$4,468.00
Net Project Cost (\$)	\$1,117.00
Cost Savings (\$/Yr)	\$5,764.41
Simple Payback (Yrs)	0.19
Calculation File	\\5871\ECMS\ECM-6



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS		
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$334.00		
Rebates (\$)	\$226.08		
Net Project Cost (\$)	\$107.92		
Cost Savings (\$/Yr)	\$84.78		
Simple Payback (Yrs)	1.27		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-9-3		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-9-4		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-5
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-6
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-7
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-8
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-9
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,239	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$552.00
Rebates (\$)	\$297.36
Net Project Cost (\$)	\$254.64
Cost Savings (\$/Yr)	\$111.51
Simple Payback (Yrs)	2.28
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-10
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-11
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-12
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	942	Incentive Rates	
Peak Demand (kW)	0.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$84.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$334.00
Rebates (\$)	\$226.08
Net Project Cost (\$)	\$107.92
Cost Savings (\$/Yr)	\$84.78
Simple Payback (Yrs)	1.27
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-13
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-9-14
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,365	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$122.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$327.51		
Net Project Cost (\$)	\$2,122.49		
Cost Savings (\$/Yr)	\$122.82		
Simple Payback (Yrs)	17.28		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,282	Incentive Rates	
Peak Demand (kW)	4.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,105.34		
PROJECT SUMMARY			
Total Project Cost (\$)	\$22,050.00		
Rebates (\$)	\$2,947.58		
Net Project Cost (\$)	\$19,102.42		
Cost Savings (\$/Yr)	\$1,105.34		
Simple Payback (Yrs)	17.28		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-10-3
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,150.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$4,058.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	9.91
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-10-4
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,646	Incentive Rates	
Peak Demand (kW)	4.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,228.16		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,650.00
Rebates (\$)	\$3,275.09
Net Project Cost (\$)	\$4,374.91
Cost Savings (\$/Yr)	\$1,228.16
Simple Payback (Yrs)	3.56
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-10-5
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,274	Incentive Rates	
Peak Demand (kW)	0.91	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$204.69		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,900.00
Rebates (\$)	\$545.85
Net Project Cost (\$)	\$4,354.15
Cost Savings (\$/Yr)	\$204.69
Simple Payback (Yrs)	21.27
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-11-1
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	210,128	Incentive Rates	
Peak Demand (kW)	63.68	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$23,114.03		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$81,315.00
Rebates (\$)	\$50,430.60
Net Project Cost (\$)	\$30,884.40
Cost Savings (\$/Yr)	\$23,114.03
Simple Payback (Yrs)	1.34
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-11-2
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,999	Incentive Rates	
Peak Demand (kW)	4.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,649.84		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$32,435.00
Rebates (\$)	\$3,599.64
Net Project Cost (\$)	\$28,835.36
Cost Savings (\$/Yr)	\$1,649.84
Simple Payback (Yrs)	17.48
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,333	Incentive Rates	
Peak Demand (kW)	1.94	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$210.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,500.00
Rebates (\$)	\$560.00
Net Project Cost (\$)	\$1,940.00
Cost Savings (\$/Yr)	\$210.00
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	72-12-2	
PROJECT	High SEER Units	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Carpenter Performing Arts Center-Danc	
BASIC GROSS AREA (S	143,897	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,479	Incentive Rates
Peak Demand (kW)	2.90	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$313.10	
PROJECT SUMMARY		
Total Project Cost (\$)	\$3,125.00	
Rebates (\$)	\$834.94	
Net Project Cost (\$)	\$2,290.06	
Cost Savings (\$/Yr)	\$313.10	
Simple Payback (Yrs)	7.31	
Calculation File	\\5871\ECMS\ECM-1	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	72-12-3	
PROJECT	High SEER Units	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Carpenter Performing Arts Center-Danc	
BASIC GROSS AREA (S	143,897	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,960	Incentive Rates
Peak Demand (kW)	4.13	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$446.41	
PROJECT SUMMARY		
Total Project Cost (\$)	\$4,743.75	
Rebates (\$)	\$1,190.43	
Net Project Cost (\$)	\$3,553.32	
Cost Savings (\$/Yr)	\$446.41	
Simple Payback (Yrs)	7.96	
Calculation File	\\5871\ECMS\ECM-1	

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-4
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,438	Incentive Rates	
Peak Demand (kW)	2.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$219.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,612.50
Rebates (\$)	\$585.20
Net Project Cost (\$)	\$2,027.30
Cost Savings (\$/Yr)	\$219.45
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-5
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,553	Incentive Rates	
Peak Demand (kW)	2.96	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$319.73		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,806.25
Rebates (\$)	\$852.60
Net Project Cost (\$)	\$2,953.65
Cost Savings (\$/Yr)	\$319.73
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-6
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,394	Incentive Rates	
Peak Demand (kW)	1.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$125.48		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,493.75
Rebates (\$)	\$334.60
Net Project Cost (\$)	\$1,159.15
Cost Savings (\$/Yr)	\$125.48
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-7
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,950	Incentive Rates	
Peak Demand (kW)	4.13	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$445.53		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,581.25
Rebates (\$)	\$1,188.08
Net Project Cost (\$)	\$4,393.17
Cost Savings (\$/Yr)	\$445.53
Simple Payback (Yrs)	9.86
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-8
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,088	Incentive Rates	
Peak Demand (kW)	1.74	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$187.95		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,237.50
Rebates (\$)	\$501.20
Net Project Cost (\$)	\$1,736.30
Cost Savings (\$/Yr)	\$187.95
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-9
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,433	Incentive Rates	
Peak Demand (kW)	2.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$218.93		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,606.25
Rebates (\$)	\$583.80
Net Project Cost (\$)	\$2,022.45
Cost Savings (\$/Yr)	\$218.93
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-10
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,137	Incentive Rates	
Peak Demand (kW)	2.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$282.32		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$752.84
Net Project Cost (\$)	\$2,247.16
Cost Savings (\$/Yr)	\$282.32
Simple Payback (Yrs)	7.96
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-11
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,690	Incentive Rates	
Peak Demand (kW)	6.41	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$692.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,637.50
Rebates (\$)	\$1,845.64
Net Project Cost (\$)	\$5,791.86
Cost Savings (\$/Yr)	\$692.12
Simple Payback (Yrs)	8.37
Calculation File	\\5871\ECMS\ECM-1



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-12
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,764	Incentive Rates	
Peak Demand (kW)	3.97	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$428.77		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,556.25
Rebates (\$)	\$1,143.38
Net Project Cost (\$)	\$3,412.87
Cost Savings (\$/Yr)	\$428.77
Simple Payback (Yrs)	7.96
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-13
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	740	Incentive Rates	
Peak Demand (kW)	0.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$66.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$950.00
Rebates (\$)	\$177.70
Net Project Cost (\$)	\$772.30
Cost Savings (\$/Yr)	\$66.64
Simple Payback (Yrs)	11.59
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-14
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	593	Incentive Rates	
Peak Demand (kW)	0.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$53.38		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$668.75
Rebates (\$)	\$142.36
Net Project Cost (\$)	\$526.39
Cost Savings (\$/Yr)	\$53.38
Simple Payback (Yrs)	9.86
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-15
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,832	Incentive Rates	
Peak Demand (kW)	1.53	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$164.85		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,962.50
Rebates (\$)	\$439.60
Net Project Cost (\$)	\$1,522.90
Cost Savings (\$/Yr)	\$164.85
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-16
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,989	Incentive Rates	
Peak Demand (kW)	1.66	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$179.03		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,131.25
Rebates (\$)	\$477.40
Net Project Cost (\$)	\$1,653.85
Cost Savings (\$/Yr)	\$179.03
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-17
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,442	Incentive Rates	
Peak Demand (kW)	2.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$309.75		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,687.50
Rebates (\$)	\$826.00
Net Project Cost (\$)	\$2,861.50
Cost Savings (\$/Yr)	\$309.75
Simple Payback (Yrs)	9.24
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-18
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,131	Incentive Rates	
Peak Demand (kW)	2.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$281.79		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,812.50
Rebates (\$)	\$751.45
Net Project Cost (\$)	\$2,061.05
Cost Savings (\$/Yr)	\$281.79
Simple Payback (Yrs)	7.31
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-12-19
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,201	Incentive Rates	
Peak Demand (kW)	2.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$288.05		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,875.00
Rebates (\$)	\$768.14
Net Project Cost (\$)	\$2,106.86
Cost Savings (\$/Yr)	\$288.05
Simple Payback (Yrs)	7.31
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-12-20		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,470	Incentive Rates	
Peak Demand (kW)	4.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$492.29		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,231.25		
Rebates (\$)	\$1,312.77		
Net Project Cost (\$)	\$3,918.48		
Cost Savings (\$/Yr)	\$492.29		
Simple Payback (Yrs)	7.96		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	72-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Carpenter Performing Arts Center-Danc		
BASIC GROSS AREA (S	143,897		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	106,389	Incentive Rates	
Peak Demand (kW)	58.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$9,990.86		
PROJECT SUMMARY			
Total Project Cost (\$)	\$302,400.00		
Rebates (\$)	\$25,533.27		
Net Project Cost (\$)	\$276,866.73		
Cost Savings (\$/Yr)	\$9,990.86		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	106,389	Incentive Rates	
Peak Demand (kW)	58.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$9,990.86		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$302,400.00
Rebates (\$)	\$25,533.27
Net Project Cost (\$)	\$276,866.73
Cost Savings (\$/Yr)	\$9,990.86
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-1
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-2
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-3
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,663	Incentive Rates	
Peak Demand (kW)	2.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$869.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,500.00
Rebates (\$)	\$2,319.04
Net Project Cost (\$)	\$2,180.96
Cost Savings (\$/Yr)	\$869.64
Simple Payback (Yrs)	2.51
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-4
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,663	Incentive Rates	
Peak Demand (kW)	2.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$869.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,500.00
Rebates (\$)	\$2,319.04
Net Project Cost (\$)	\$2,180.96
Cost Savings (\$/Yr)	\$869.64
Simple Payback (Yrs)	2.51
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-5
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,663	Incentive Rates	
Peak Demand (kW)	2.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$869.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,500.00
Rebates (\$)	\$2,319.04
Net Project Cost (\$)	\$2,180.96
Cost Savings (\$/Yr)	\$869.64
Simple Payback (Yrs)	2.51
Calculation File	\\5871\ECMS\ECM-1



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-6
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,442	Incentive Rates	
Peak Demand (kW)	1.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$579.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,250.00
Rebates (\$)	\$1,546.02
Net Project Cost (\$)	\$2,703.98
Cost Savings (\$/Yr)	\$579.76
Simple Payback (Yrs)	4.66
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-7
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-8
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,663	Incentive Rates	
Peak Demand (kW)	2.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$869.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,500.00
Rebates (\$)	\$2,319.04
Net Project Cost (\$)	\$2,180.96
Cost Savings (\$/Yr)	\$869.64
Simple Payback (Yrs)	2.51
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-18-9
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,221	Incentive Rates	
Peak Demand (kW)	0.81	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$289.88		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$773.01
Net Project Cost (\$)	\$2,226.99
Cost Savings (\$/Yr)	\$289.88
Simple Payback (Yrs)	7.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-1
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$404.75
Rebates (\$)	\$137.86
Net Project Cost (\$)	\$266.89
Cost Savings (\$/Yr)	\$51.70
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-2
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	574	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$51.70		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$404.75
Rebates (\$)	\$137.86
Net Project Cost (\$)	\$266.89
Cost Savings (\$/Yr)	\$51.70
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-3
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-4
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-5
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-6
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$809.50
Rebates (\$)	\$275.73
Net Project Cost (\$)	\$533.77
Cost Savings (\$/Yr)	\$103.40
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	72-23-8
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Carpenter Performing Arts Center-Danc
BASIC GROSS AREA (S	143,897

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,723	Incentive Rates	
Peak Demand (kW)	0.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$155.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,214.25
Rebates (\$)	\$413.59
Net Project Cost (\$)	\$800.66
Cost Savings (\$/Yr)	\$155.10
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	728	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$654.75		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$17,800.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$17,800.00
Cost Savings (\$/Yr)	\$654.75
Simple Payback (Yrs)	27.19
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	237	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$213.26		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$677.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$677.00
Cost Savings (\$/Yr)	\$213.26
Simple Payback (Yrs)	3.17
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	54,822	Incentive Rates	
Peak Demand (kW)	13.71	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$5,710.26		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,396.00
Rebates (\$)	\$6,716.80
Net Project Cost (\$)	\$1,679.20
Cost Savings (\$/Yr)	\$5,710.26
Simple Payback (Yrs)	0.29
Calculation File	\\5871\ECMS\ECM-6

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	19,684	Incentive Rates	
Peak Demand (kW)	2.25	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$232.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$264.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$264.00
Cost Savings (\$/Yr)	\$232.00
Simple Payback (Yrs)	1.14
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	78,121	Incentive Rates	
Peak Demand (kW)	23.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,593.30		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$70,590.00
Rebates (\$)	\$18,749.02
Net Project Cost (\$)	\$51,840.98
Cost Savings (\$/Yr)	\$8,593.30
Simple Payback (Yrs)	6.03
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,305	Incentive Rates	
Peak Demand (kW)	1.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$117.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,812.50		
Rebates (\$)	\$313.20		
Net Project Cost (\$)	\$1,499.30		
Cost Savings (\$/Yr)	\$117.45		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	116,732	Incentive Rates	
Peak Demand (kW)	63.96	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$10,962.20		
PROJECT SUMMARY			
Total Project Cost (\$)	\$331,800.00		
Rebates (\$)	\$28,015.68		
Net Project Cost (\$)	\$303,784.32		
Cost Savings (\$/Yr)	\$10,962.20		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13	Incentive Rates	
Peak Demand (kW)	0.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$24.94		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$3.17
Net Project Cost (\$)	\$1,118.83
Cost Savings (\$/Yr)	\$24.94
Simple Payback (Yrs)	44.87
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	16	Incentive Rates	
Peak Demand (kW)	0.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$29.69		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$3.77
Net Project Cost (\$)	\$1,118.23
Cost Savings (\$/Yr)	\$29.69
Simple Payback (Yrs)	37.67
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,844	Incentive Rates	
Peak Demand (kW)	0.46	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$464.43		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$442.63
Net Project Cost (\$)	\$679.37
Cost Savings (\$/Yr)	\$464.43
Simple Payback (Yrs)	1.46
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,475	Incentive Rates	
Peak Demand (kW)	0.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$650.02		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$594.08
Net Project Cost (\$)	\$527.92
Cost Savings (\$/Yr)	\$650.02
Simple Payback (Yrs)	0.81
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,455	Incentive Rates	
Peak Demand (kW)	0.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$611.01		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$589.13
Net Project Cost (\$)	\$532.87
Cost Savings (\$/Yr)	\$611.01
Simple Payback (Yrs)	0.87
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,800	Incentive Rates	
Peak Demand (kW)	1.20	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,015.27		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$897.60
Net Project Cost (\$)	\$224.40
Cost Savings (\$/Yr)	\$1,015.27
Simple Payback (Yrs)	0.22
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-17-EF-7		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,583	Incentive Rates	
Peak Demand (kW)	1.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$605.68		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$897.60		
Net Project Cost (\$)	\$224.40		
Cost Savings (\$/Yr)	\$605.68		
Simple Payback (Yrs)	0.37		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-17-EF-8		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,233	Incentive Rates	
Peak Demand (kW)	0.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$316.56		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$295.97		
Net Project Cost (\$)	\$826.03		
Cost Savings (\$/Yr)	\$316.56		
Simple Payback (Yrs)	2.61		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-9
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,802	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$385.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$432.56
Net Project Cost (\$)	\$689.44
Cost Savings (\$/Yr)	\$385.12
Simple Payback (Yrs)	1.79
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-10
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,763	Incentive Rates	
Peak Demand (kW)	0.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$311.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$423.15
Net Project Cost (\$)	\$698.85
Cost Savings (\$/Yr)	\$311.00
Simple Payback (Yrs)	2.25
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-11
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11	Incentive Rates	
Peak Demand (kW)	0.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$20.78		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$2.64
Net Project Cost (\$)	\$1,119.36
Cost Savings (\$/Yr)	\$20.78
Simple Payback (Yrs)	53.87
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-12
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	112	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$10.07		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$26.86
Net Project Cost (\$)	\$1,095.14
Cost Savings (\$/Yr)	\$10.07
Simple Payback (Yrs)	108.74
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-17-EF-13		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	560	Incentive Rates	
Peak Demand (kW)	0.14	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$50.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$134.28		
Net Project Cost (\$)	\$987.72		
Cost Savings (\$/Yr)	\$50.35		
Simple Payback (Yrs)	19.62		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-17-EF-14 &		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	31	Incentive Rates	
Peak Demand (kW)	0.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$59.37		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$7.54		
Net Project Cost (\$)	\$1,114.46		
Cost Savings (\$/Yr)	\$59.37		
Simple Payback (Yrs)	18.77		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-16
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	468	Incentive Rates	
Peak Demand (kW)	0.12	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$79.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$112.38
Net Project Cost (\$)	\$1,009.62
Cost Savings (\$/Yr)	\$79.29
Simple Payback (Yrs)	12.73
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-17-EF-17
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9	Incentive Rates	
Peak Demand (kW)	0.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$17.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$2.26
Net Project Cost (\$)	\$1,119.74
Cost Savings (\$/Yr)	\$17.81
Simple Payback (Yrs)	62.86
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-17-EF-18		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	615	Incentive Rates	
Peak Demand (kW)	0.15	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$154.38		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$147.49		
Net Project Cost (\$)	\$974.51		
Cost Savings (\$/Yr)	\$154.38		
Simple Payback (Yrs)	6.31		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-18-1S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,473	Incentive Rates	
Peak Demand (kW)	6.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,382.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$9,320.00		
Rebates (\$)	\$6,353.52		
Net Project Cost (\$)	\$2,966.48		
Cost Savings (\$/Yr)	\$2,382.57		
Simple Payback (Yrs)	1.25		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-18-1R		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,237	Incentive Rates	
Peak Demand (kW)	3.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,191.29		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$3,176.76		
Net Project Cost (\$)	\$4,323.24		
Cost Savings (\$/Yr)	\$1,191.29		
Simple Payback (Yrs)	3.63		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-18-2S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	20,958	Incentive Rates	
Peak Demand (kW)	5.24	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,886.20		
PROJECT SUMMARY			
Total Project Cost (\$)	\$9,320.00		
Rebates (\$)	\$5,029.87		
Net Project Cost (\$)	\$4,290.13		
Cost Savings (\$/Yr)	\$1,886.20		
Simple Payback (Yrs)	2.27		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-18-2R		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,479	Incentive Rates	
Peak Demand (kW)	2.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$943.10		
PROJECT SUMMARY			
Total Project Cost (\$)	\$7,500.00		
Rebates (\$)	\$2,514.94		
Net Project Cost (\$)	\$4,985.06		
Cost Savings (\$/Yr)	\$943.10		
Simple Payback (Yrs)	5.29		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-18-3S		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	26,473	Incentive Rates	
Peak Demand (kW)	6.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,382.57		
PROJECT SUMMARY			
Total Project Cost (\$)	\$9,320.00		
Rebates (\$)	\$6,353.52		
Net Project Cost (\$)	\$2,966.48		
Cost Savings (\$/Yr)	\$2,382.57		
Simple Payback (Yrs)	1.25		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-18-3R
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	13,237	Incentive Rates	
Peak Demand (kW)	3.31	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,191.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,500.00
Rebates (\$)	\$3,176.76
Net Project Cost (\$)	\$4,323.24
Cost Savings (\$/Yr)	\$1,191.29
Simple Payback (Yrs)	3.63
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-18-4S
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,824	Incentive Rates	
Peak Demand (kW)	2.21	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$794.19		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$9,320.00
Rebates (\$)	\$2,117.84
Net Project Cost (\$)	\$7,202.16
Cost Savings (\$/Yr)	\$794.19
Simple Payback (Yrs)	9.07
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-18-4R
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,500.00
Rebates (\$)	\$1,058.92
Net Project Cost (\$)	\$6,441.08
Cost Savings (\$/Yr)	\$397.10
Simple Payback (Yrs)	16.22
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	73-20
PROJECT	Behavior Based Conservation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid
BASIC GROSS AREA (S	157,335

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,143,804	Incentive Rates	
Peak Demand (kW)	357.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	#####		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$0.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$0.00
Cost Savings (\$/Yr)	\$190,869.49
Simple Payback (Yrs)	0.00
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,893	Incentive Rates	
Peak Demand (kW)	1.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$620.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,857.00		
Rebates (\$)	\$1,654.38		
Net Project Cost (\$)	\$3,202.62		
Cost Savings (\$/Yr)	\$620.39		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-23-3		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,893	Incentive Rates	
Peak Demand (kW)	1.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$620.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,857.00		
Rebates (\$)	\$1,654.38		
Net Project Cost (\$)	\$3,202.62		
Cost Savings (\$/Yr)	\$620.39		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-23-5		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,893	Incentive Rates	
Peak Demand (kW)	1.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$620.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,857.00		
Rebates (\$)	\$1,654.38		
Net Project Cost (\$)	\$3,202.62		
Cost Savings (\$/Yr)	\$620.39		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	73-23-7		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Pyramid		
BASIC GROSS AREA (S	157,335		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,893	Incentive Rates	
Peak Demand (kW)	1.72	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$620.39		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,857.00		
Rebates (\$)	\$1,654.38		
Net Project Cost (\$)	\$3,202.62		
Cost Savings (\$/Yr)	\$620.39		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	74-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parking and Transportation Svc		
BASIC GROSS AREA (S	3,627		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,593	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-89	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$153.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$622.43		
Net Project Cost (\$)	\$3,827.57		
Cost Savings (\$/Yr)	\$153.75		
Simple Payback (Yrs)	24.89		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	74-4		
PROJECT	Low Flush Urinals		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parking and Transportation Svc		
BASIC GROSS AREA (S	3,627		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$65.05		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,000.00		
Rebates (\$)	\$1.00		
Net Project Cost (\$)	\$999.00		
Cost Savings (\$/Yr)	\$65.05		
Simple Payback (Yrs)	15.36		
Calculation File	\\5871\ECMS\ECM-4		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	74-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parking and Transportation Svc
BASIC GROSS AREA (S	3,627

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,583	Incentive Rates	
Peak Demand (kW)	0.41	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$42.00
Cost Savings (\$/Yr)	\$35.00
Simple Payback (Yrs)	1.20
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	74-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parking and Transportation Svc
BASIC GROSS AREA (S	3,627

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,369	Incentive Rates	
Peak Demand (kW)	1.93	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$700.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,875.00
Rebates (\$)	\$1,528.56
Net Project Cost (\$)	\$3,346.44
Cost Savings (\$/Yr)	\$700.59
Simple Payback (Yrs)	4.78
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	74-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parking and Transportation Svc		
BASIC GROSS AREA (S	3,627		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,227	Incentive Rates	
Peak Demand (kW)	1.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$110.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,250.00		
Rebates (\$)	\$294.55		
Net Project Cost (\$)	\$1,955.45		
Cost Savings (\$/Yr)	\$110.45		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	74-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parking and Transportation Svc		
BASIC GROSS AREA (S	3,627		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,227	Incentive Rates	
Peak Demand (kW)	1.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$110.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,250.00		
Rebates (\$)	\$294.55		
Net Project Cost (\$)	\$1,955.45		
Cost Savings (\$/Yr)	\$110.45		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	74-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parking and Transportation Svc
BASIC GROSS AREA (S	3,627

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,400.00
Rebates (\$)	\$709.26
Net Project Cost (\$)	\$7,690.74
Cost Savings (\$/Yr)	\$277.52
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	411	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$369.51		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$369.51
Simple Payback (Yrs)	12.04
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	71	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$63.98		
PROJECT SUMMARY			
Total Project Cost (\$)	\$189.30		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$189.30		
Cost Savings (\$/Yr)	\$63.98		
Simple Payback (Yrs)	2.96		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,266	Incentive Rates	
Peak Demand (kW)	0.83	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	313	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$124.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$84.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$84.00		
Cost Savings (\$/Yr)	\$124.00		
Simple Payback (Yrs)	0.68		
Calculation File	\\5871\ECMS\ECM-7		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-9-3		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-9-4		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-9-5		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	75-9-6		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	International House		
BASIC GROSS AREA (S	14,179		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-9-7
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-9-8
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	75-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	International House
BASIC GROSS AREA (S	14,179

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,821	Incentive Rates	
Peak Demand (kW)	6.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,110.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$33,600.00
Rebates (\$)	\$2,837.03
Net Project Cost (\$)	\$30,762.97
Cost Savings (\$/Yr)	\$1,110.10
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	79-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Main Distribution Facility B
BASIC GROSS AREA (S	1,200

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,059	Incentive Rates	
Peak Demand (kW)	1.84	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$666.47		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,380.00
Rebates (\$)	\$1,454.11
Net Project Cost (\$)	\$1,925.89
Cost Savings (\$/Yr)	\$666.47
Simple Payback (Yrs)	2.89
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	80-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Police
BASIC GROSS AREA (S	6,000

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,865	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-200	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$347.67		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$1,407.51
Net Project Cost (\$)	\$3,042.49
Cost Savings (\$/Yr)	\$347.67
Simple Payback (Yrs)	8.75
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	80-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	University Police
BASIC GROSS AREA (S	6,000

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$139.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,000.00
Rebates (\$)	\$5.00
Net Project Cost (\$)	\$1,995.00
Cost Savings (\$/Yr)	\$139.39
Simple Payback (Yrs)	14.31
Calculation File	\\5871\ECMS\ECM-4

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	80-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Police		
BASIC GROSS AREA (S	6,000		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,553	Incentive Rates	
Peak Demand (kW)	0.75	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$53.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$42.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$42.00		
Cost Savings (\$/Yr)	\$53.00		
Simple Payback (Yrs)	0.79		
Calculation File	\\5871\ECMS\ECM-7		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	80-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	University Police		
BASIC GROSS AREA (S	6,000		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,828	Incentive Rates	
Peak Demand (kW)	1.46	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$531.07		
PROJECT SUMMARY			
Total Project Cost (\$)	\$9,197.50		
Rebates (\$)	\$1,158.70		
Net Project Cost (\$)	\$8,038.80		
Cost Savings (\$/Yr)	\$531.07		
Simple Payback (Yrs)	15.14		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,479	Incentive Rates	
Peak Demand (kW)	1.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-426	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$739.77		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$2,994.87
Net Project Cost (\$)	\$1,455.13
Cost Savings (\$/Yr)	\$739.77
Simple Payback (Yrs)	1.97
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	299	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$26.95		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$63.10
Rebates (\$)	\$50.48
Net Project Cost (\$)	\$12.62
Cost Savings (\$/Yr)	\$26.95
Simple Payback (Yrs)	0.47
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	81-4
PROJECT	Low Flush Urinals
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$455.33
PROJECT SUMMARY	
Total Project Cost (\$)	\$3,000.00
Rebates (\$)	\$2.00
Net Project Cost (\$)	\$2,998.00
Cost Savings (\$/Yr)	\$455.33
Simple Payback (Yrs)	6.58
Calculation File	\\5871\ECMS\ECM-4

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	81-6
PROJECT	Demand Control Ventilation
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	6,120 Incentive Rates
Peak Demand (kW)	1.53 Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$580.19
PROJECT SUMMARY	
Total Project Cost (\$)	\$28,825.00
Rebates (\$)	\$1,468.70
Net Project Cost (\$)	\$27,356.30
Cost Savings (\$/Yr)	\$580.19
Simple Payback (Yrs)	47.15
Calculation File	\\5871\ECMS\ECM-6

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	3,678	Incentive Rates	
Peak Demand (kW)	0.42	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	0	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$44.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$72.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$72.00
Cost Savings (\$/Yr)	\$44.00
Simple Payback (Yrs)	1.64
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	19,622	Incentive Rates	
Peak Demand (kW)	5.95	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,158.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$22,945.00
Rebates (\$)	\$4,709.23
Net Project Cost (\$)	\$18,235.77
Cost Savings (\$/Yr)	\$2,158.40
Simple Payback (Yrs)	8.45
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-12-2
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	801	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,468.75
Rebates (\$)	\$192.27
Net Project Cost (\$)	\$1,276.48
Cost Savings (\$/Yr)	\$72.10
Simple Payback (Yrs)	17.70
Calculation File	\\5871\ECMS\ECM-1



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,388	Incentive Rates	
Peak Demand (kW)	4.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$693.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$21,000.00
Rebates (\$)	\$1,773.14
Net Project Cost (\$)	\$19,226.86
Cost Savings (\$/Yr)	\$693.81
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	414	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$99.43
Net Project Cost (\$)	\$1,022.57
Cost Savings (\$/Yr)	\$111.59
Simple Payback (Yrs)	9.16
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	414	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$111.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$99.43
Net Project Cost (\$)	\$1,022.57
Cost Savings (\$/Yr)	\$111.59
Simple Payback (Yrs)	9.16
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-18-1S
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,412	Incentive Rates	
Peak Demand (kW)	1.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$397.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$5,250.00
Rebates (\$)	\$1,058.92
Net Project Cost (\$)	\$4,191.08
Cost Savings (\$/Yr)	\$397.10
Simple Payback (Yrs)	10.55
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-18-1R
PROJECT	Fan Efficiency
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,655	Incentive Rates	
Peak Demand (kW)	0.41	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$148.91		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,500.00
Rebates (\$)	\$397.10
Net Project Cost (\$)	\$3,102.90
Cost Savings (\$/Yr)	\$148.91
Simple Payback (Yrs)	20.84
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	81-23-1
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Pyramid Annex
BASIC GROSS AREA (S	19,150

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,298	Incentive Rates	
Peak Demand (kW)	0.57	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$206.80		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,619.00
Rebates (\$)	\$551.46
Net Project Cost (\$)	\$1,067.54
Cost Savings (\$/Yr)	\$206.80
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,366	Incentive Rates	
Peak Demand (kW)	0.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	-149	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$258.82		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$1,047.81		
Net Project Cost (\$)	\$3,402.19		
Cost Savings (\$/Yr)	\$258.82		
Simple Payback (Yrs)	13.14		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-4		
PROJECT	Low Flush Urinals		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,510.03		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$7.00		
Net Project Cost (\$)	\$2,993.00		
Cost Savings (\$/Yr)	\$1,510.03		
Simple Payback (Yrs)	1.98		
Calculation File	\\5871\ECMS\ECM-4		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,851	Incentive Rates	
Peak Demand (kW)	10.26	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,723.65		
PROJECT SUMMARY			
Total Project Cost (\$)	\$46,540.00		
Rebates (\$)	\$8,124.34		
Net Project Cost (\$)	\$38,415.66		
Cost Savings (\$/Yr)	\$3,723.65		
Simple Payback (Yrs)	10.32		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,350	Incentive Rates	
Peak Demand (kW)	1.13	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$121.50		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,875.00		
Rebates (\$)	\$324.00		
Net Project Cost (\$)	\$1,551.00		
Cost Savings (\$/Yr)	\$121.50		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	82-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Foundation
BASIC GROSS AREA (S	67,500

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	11,821	Incentive Rates	
Peak Demand (kW)	6.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,110.10		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$33,600.00
Rebates (\$)	\$2,837.03
Net Project Cost (\$)	\$30,762.97
Cost Savings (\$/Yr)	\$1,110.10
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	82-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Foundation
BASIC GROSS AREA (S	67,500

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	75	Incentive Rates	
Peak Demand (kW)	0.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$142.50		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$18.09
Net Project Cost (\$)	\$1,103.91
Cost Savings (\$/Yr)	\$142.50
Simple Payback (Yrs)	7.75
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	63	Incentive Rates	
Peak Demand (kW)	0.02	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$118.75		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$15.08		
Net Project Cost (\$)	\$1,106.92		
Cost Savings (\$/Yr)	\$118.75		
Simple Payback (Yrs)	9.32		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	628	Incentive Rates	
Peak Demand (kW)	0.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,187.48		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$150.79		
Net Project Cost (\$)	\$971.21		
Cost Savings (\$/Yr)	\$1,187.48		
Simple Payback (Yrs)	0.82		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	82-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Foundation
BASIC GROSS AREA (S	67,500

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	628	Incentive Rates	
Peak Demand (kW)	0.16	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,187.48		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$150.79
Net Project Cost (\$)	\$971.21
Cost Savings (\$/Yr)	\$1,187.48
Simple Payback (Yrs)	0.82
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	82-17-EF-8
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Foundation
BASIC GROSS AREA (S	67,500

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	19	Incentive Rates	
Peak Demand (kW)	0.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$35.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$4.52
Net Project Cost (\$)	\$1,117.48
Cost Savings (\$/Yr)	\$35.62
Simple Payback (Yrs)	31.37
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-17-EF-9		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	24	Incentive Rates	
Peak Demand (kW)	0.01	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$45.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$5.73		
Net Project Cost (\$)	\$1,116.27		
Cost Savings (\$/Yr)	\$45.12		
Simple Payback (Yrs)	24.74		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-19		
PROJECT	Foundation Electricity from Campus Gri		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$88,595.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$91,500.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$91,500.00		
Cost Savings (\$/Yr)	\$88,595.00		
Simple Payback (Yrs)	1.03		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	82-24		
PROJECT	Window Replacement-DM		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Foundation		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	100,019	Incentive Rates	
Peak Demand (kW)	25.00	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$7,128.81		
PROJECT SUMMARY			
Total Project Cost (\$)	\$451,008.00		
Rebates (\$)	\$24,004.56		
Net Project Cost (\$)	\$427,003.44		
Cost Savings (\$/Yr)	\$7,128.81		
Simple Payback (Yrs)	59.90		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	83-21		
PROJECT	Commissioning		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Engineering/Computer Sciences		
BASIC GROSS AREA (S	67,500		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	241,970	Incentive Rates	
Peak Demand (kW)	27.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$21,777.30		
PROJECT SUMMARY			
Total Project Cost (\$)	\$101,700.00		
Rebates (\$)	\$58,072.81		
Net Project Cost (\$)	\$43,627.19		
Cost Savings (\$/Yr)	\$21,777.30		
Simple Payback (Yrs)	2.00		
Calculation File	\\5871\ECMS\ECM-2		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-9-1
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-9-4
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$791.00
Rebates (\$)	\$531.60
Net Project Cost (\$)	\$259.40
Cost Savings (\$/Yr)	\$199.35
Simple Payback (Yrs)	1.30
Calculation File	\\5871\ECMS\ECM-9

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-9-5		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,226	Incentive Rates	
Peak Demand (kW)	0.56	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$200.34		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,025.00		
Rebates (\$)	\$534.24		
Net Project Cost (\$)	\$490.76		
Cost Savings (\$/Yr)	\$200.34		
Simple Payback (Yrs)	2.45		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,004	Incentive Rates	
Peak Demand (kW)	0.91	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$450.32		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,900.00		
Rebates (\$)	\$1,200.87		
Net Project Cost (\$)	\$3,699.13		
Cost Savings (\$/Yr)	\$450.32		
Simple Payback (Yrs)	8.21		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-10-2		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,502	Incentive Rates	
Peak Demand (kW)	0.45	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$600.43		
Net Project Cost (\$)	\$1,849.57		
Cost Savings (\$/Yr)	\$225.16		
Simple Payback (Yrs)	8.21		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-10-3		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,339	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$750.54		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,050.00		
Rebates (\$)	\$2,001.44		
Net Project Cost (\$)	\$1,048.56		
Cost Savings (\$/Yr)	\$750.54		
Simple Payback (Yrs)	1.40		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-10-4
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	25,018	Incentive Rates	
Peak Demand (kW)	4.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$2,251.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,650.00
Rebates (\$)	\$6,004.33
Net Project Cost (\$)	\$1,645.67
Cost Savings (\$/Yr)	\$2,251.62
Simple Payback (Yrs)	0.73
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-10-5
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	33,357	Incentive Rates	
Peak Demand (kW)	6.06	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,002.17		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$10,170.00
Rebates (\$)	\$8,005.77
Net Project Cost (\$)	\$2,164.23
Cost Savings (\$/Yr)	\$3,002.17
Simple Payback (Yrs)	0.72
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	65,015	Incentive Rates	
Peak Demand (kW)	35.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$6,105.53		
PROJECT SUMMARY			
Total Project Cost (\$)	\$184,800.00		
Rebates (\$)	\$15,603.67		
Net Project Cost (\$)	\$169,196.33		
Cost Savings (\$/Yr)	\$6,105.53		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	85-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	College of Business Administration		
BASIC GROSS AREA (S	87,531		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,933	Incentive Rates	
Peak Demand (kW)	0.48	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$173.93		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,000.00		
Rebates (\$)	\$463.81		
Net Project Cost (\$)	\$2,536.19		
Cost Savings (\$/Yr)	\$173.93		
Simple Payback (Yrs)	14.58		
Calculation File	\\5871\ECMS\ECM-1		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	85-21
PROJECT	Commissioning
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	College of Business Administration
BASIC GROSS AREA (S	87,531

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	208,423	Incentive Rates	
Peak Demand (kW)	23.79	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$18,758.03		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$87,600.00
Rebates (\$)	\$50,021.41
Net Project Cost (\$)	\$37,578.59
Cost Savings (\$/Yr)	\$18,758.03
Simple Payback (Yrs)	2.00
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-8
PROJECT	Replace Desiccant Dryer with Refrigerat
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,601	Incentive Rates	
Peak Demand (kW)	0.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$504.13		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,500.00
Rebates (\$)	\$1,344.35
Net Project Cost (\$)	\$6,155.65
Cost Savings (\$/Yr)	\$504.13
Simple Payback (Yrs)	12.21
Calculation File	\\5871\ECMS\ECM-8

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	86-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Central Plant		
BASIC GROSS AREA (S	41,999		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,215	Incentive Rates	
Peak Demand (kW)	0.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$199.35		
PROJECT SUMMARY			
Total Project Cost (\$)	\$791.00		
Rebates (\$)	\$531.60		
Net Project Cost (\$)	\$259.40		
Cost Savings (\$/Yr)	\$199.35		
Simple Payback (Yrs)	1.30		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	86-9-2		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Central Plant		
BASIC GROSS AREA (S	41,999		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		
PROJECT SUMMARY			
Total Project Cost (\$)	\$350.00		
Rebates (\$)	\$184.32		
Net Project Cost (\$)	\$165.68		
Cost Savings (\$/Yr)	\$69.12		
Simple Payback (Yrs)	2.40		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-9-3
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	768	Incentive Rates	
Peak Demand (kW)	0.19	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$69.12		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$350.00
Rebates (\$)	\$184.32
Net Project Cost (\$)	\$165.68
Cost Savings (\$/Yr)	\$69.12
Simple Payback (Yrs)	2.40
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	3.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,825.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$2,733.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	6.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-10-2
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,456	Incentive Rates	
Peak Demand (kW)	0.49	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$131.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,450.00
Rebates (\$)	\$349.34
Net Project Cost (\$)	\$2,100.66
Cost Savings (\$/Yr)	\$131.00
Simple Payback (Yrs)	16.04
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-10-3
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	97,040	Incentive Rates	
Peak Demand (kW)	32.35	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,733.57		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$20,100.00
Rebates (\$)	\$16,080.00
Net Project Cost (\$)	\$4,020.00
Cost Savings (\$/Yr)	\$8,733.57
Simple Payback (Yrs)	0.46
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-10-4
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	48,520	Incentive Rates	
Peak Demand (kW)	16.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$4,366.79		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$13,000.00
Rebates (\$)	\$10,400.00
Net Project Cost (\$)	\$2,600.00
Cost Savings (\$/Yr)	\$4,366.79
Simple Payback (Yrs)	0.60
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-10-5
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	97,040	Incentive Rates	
Peak Demand (kW)	32.35	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$8,733.57		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$20,100.00
Rebates (\$)	\$16,080.00
Net Project Cost (\$)	\$4,020.00
Cost Savings (\$/Yr)	\$8,733.57
Simple Payback (Yrs)	0.46
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,138	Incentive Rates	
Peak Demand (kW)	1.86	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$675.18		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$7,085.00
Rebates (\$)	\$1,473.12
Net Project Cost (\$)	\$5,611.88
Cost Savings (\$/Yr)	\$675.18
Simple Payback (Yrs)	8.31
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	86-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Central Plant
BASIC GROSS AREA (S	41,999

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,388	Incentive Rates	
Peak Demand (kW)	4.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$693.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$21,000.00
Rebates (\$)	\$1,773.14
Net Project Cost (\$)	\$19,226.86
Cost Savings (\$/Yr)	\$693.81
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	89-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Housing & Residential Life		
BASIC GROSS AREA (S	3,814		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,038	Incentive Rates	
Peak Demand (kW)	0.87	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$93.46		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,750.00		
Rebates (\$)	\$249.23		
Net Project Cost (\$)	\$3,500.77		
Cost Savings (\$/Yr)	\$93.46		
Simple Payback (Yrs)	37.46		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	89-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Housing & Residential Life		
BASIC GROSS AREA (S	3,814		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,700	Incentive Rates	
Peak Demand (kW)	2.25	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$243.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,750.00		
Rebates (\$)	\$648.00		
Net Project Cost (\$)	\$3,102.00		
Cost Savings (\$/Yr)	\$243.00		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	89-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Housing & Residential Life		
BASIC GROSS AREA (S	3,814		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,400.00		
Rebates (\$)	\$709.26		
Net Project Cost (\$)	\$7,690.74		
Cost Savings (\$/Yr)	\$277.52		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	101-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Shipping/Receiving		
BASIC GROSS AREA (S			
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,917	Incentive Rates	
Peak Demand (kW)	2.40	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$870.84		
PROJECT SUMMARY			
Total Project Cost (\$)	\$3,932.50		
Rebates (\$)	\$1,900.01		
Net Project Cost (\$)	\$2,032.49		
Cost Savings (\$/Yr)	\$870.84		
Simple Payback (Yrs)	2.33		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-6		
PROJECT	Demand Control Ventilation		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	69,414	Incentive Rates	
Peak Demand (kW)	17.35	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$3,552.43		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,396.00		
Rebates (\$)	\$6,716.80		
Net Project Cost (\$)	\$1,679.20		
Cost Savings (\$/Yr)	\$3,552.43		
Simple Payback (Yrs)	0.47		
Calculation File	\\5871\ECMS\ECM-6		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-9		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593.00		
Rebates (\$)	\$361.20		
Net Project Cost (\$)	\$231.80		
Cost Savings (\$/Yr)	\$135.45		
Simple Payback (Yrs)	1.71		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	104-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$1,958.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	4.78
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	104-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,775	Incentive Rates	
Peak Demand (kW)	0.54	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$195.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,217.50
Rebates (\$)	\$426.10
Net Project Cost (\$)	\$2,791.40
Cost Savings (\$/Yr)	\$195.29
Simple Payback (Yrs)	14.29
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	21,060	Incentive Rates	
Peak Demand (kW)	17.55	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,895.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$29,250.00		
Rebates (\$)	\$5,054.40		
Net Project Cost (\$)	\$24,195.60		
Cost Savings (\$/Yr)	\$1,895.40		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	796	Incentive Rates	
Peak Demand (kW)	0.66	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$71.64		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,105.63		
Rebates (\$)	\$191.05		
Net Project Cost (\$)	\$914.57		
Cost Savings (\$/Yr)	\$71.64		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	104-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,388	Incentive Rates	
Peak Demand (kW)	4.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$693.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$21,000.00
Rebates (\$)	\$1,773.14
Net Project Cost (\$)	\$19,226.86
Cost Savings (\$/Yr)	\$693.81
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	104-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,809	Incentive Rates	
Peak Demand (kW)	0.70	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,280.66		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$674.17
Net Project Cost (\$)	\$447.83
Cost Savings (\$/Yr)	\$1,280.66
Simple Payback (Yrs)	0.35
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-17-EF-12		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,665	Incentive Rates	
Peak Demand (kW)	0.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,007.60		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$639.49		
Net Project Cost (\$)	\$482.51		
Cost Savings (\$/Yr)	\$1,007.60		
Simple Payback (Yrs)	0.48		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-17-EF-14		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,284	Incentive Rates	
Peak Demand (kW)	0.32	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$412.78		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$308.19		
Net Project Cost (\$)	\$813.81		
Cost Savings (\$/Yr)	\$412.78		
Simple Payback (Yrs)	1.97		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,442	Incentive Rates	
Peak Demand (kW)	1.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$579.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$1,546.02		
Net Project Cost (\$)	\$2,703.98		
Cost Savings (\$/Yr)	\$579.76		
Simple Payback (Yrs)	4.66		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	104-23-1		
PROJECT	Upgrade Filters		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons Dining Hall		
BASIC GROSS AREA (S	9,473		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$809.50		
Rebates (\$)	\$275.73		
Net Project Cost (\$)	\$533.77		
Cost Savings (\$/Yr)	\$103.40		
Simple Payback (Yrs)	5.16		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	104-1-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 237	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$213.26	
PROJECT SUMMARY	
Total Project Cost (\$)	\$677.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$677.00
Cost Savings (\$/Yr)	\$213.26
Simple Payback (Yrs)	3.17
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	104-2-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons Dining Hall
BASIC GROSS AREA (S	9,473
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 195	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$175.20	
PROJECT SUMMARY	
Total Project Cost (\$)	\$677.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$677.00
Cost Savings (\$/Yr)	\$175.20
Simple Payback (Yrs)	3.86
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-1		
PROJECT	Replace with Tankless Water Heater		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	Incentive Rates		
Peak Demand (kW)	Electricity	\$ 0.24/kWh	
Gas (Therms/Yr)	187	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive		
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.		
Total Annual Cost Savings (\$/Yr)	\$168.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,450.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$4,450.00		
Cost Savings (\$/Yr)	\$168.40		
Simple Payback (Yrs)	26.43		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	Incentive Rates		
Peak Demand (kW)	Electricity	\$ 0.24/kWh	
Gas (Therms/Yr)	97	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive		
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.		
Total Annual Cost Savings (\$/Yr)	\$87.60		
PROJECT SUMMARY			
Total Project Cost (\$)	\$338.50		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$338.50		
Cost Savings (\$/Yr)	\$87.60		
Simple Payback (Yrs)	3.86		
Calculation File	\\5871\ECMS\ECM-2		



**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	105-7
PROJECT	Energy Star Appliances
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall A
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	828	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$108.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$240.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$240.00
Cost Savings (\$/Yr)	\$108.00
Simple Payback (Yrs)	2.22
Calculation File	\\5871\ECMS\ECM-7

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	105-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall A
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,709	Incentive Rates	
Peak Demand (kW)	2.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$957.96		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$19,922.50
Rebates (\$)	\$2,090.09
Net Project Cost (\$)	\$17,832.41
Cost Savings (\$/Yr)	\$957.96
Simple Payback (Yrs)	18.62
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		
PROJECT SUMMARY			
Total Project Cost (\$)	\$42,000.00		
Rebates (\$)	\$3,546.29		
Net Project Cost (\$)	\$38,453.71		
Cost Savings (\$/Yr)	\$1,387.62		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-17-EF-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	105-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall A		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	105-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall A
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	187	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$168.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$168.40
Simple Payback (Yrs)	26.43
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	106-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall B		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	97	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$87.60		
PROJECT SUMMARY			
Total Project Cost (\$)	\$338.50		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$338.50		
Cost Savings (\$/Yr)	\$87.60		
Simple Payback (Yrs)	3.86		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	106-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall B		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	828	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$108.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$240.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$240.00		
Cost Savings (\$/Yr)	\$108.00		
Simple Payback (Yrs)	2.22		
Calculation File	\\5871\ECMS\ECM-7		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,709	Incentive Rates	
Peak Demand (kW)	2.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$957.96		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$19,922.50
Rebates (\$)	\$2,090.09
Net Project Cost (\$)	\$17,832.41
Cost Savings (\$/Yr)	\$957.96
Simple Payback (Yrs)	18.62
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42,000.00
Rebates (\$)	\$3,546.29
Net Project Cost (\$)	\$38,453.71
Cost Savings (\$/Yr)	\$1,387.62
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-17-EF-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	106-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall B
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	107-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall D
BASIC GROSS AREA (S	19,121
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 187	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$168.40	
PROJECT SUMMARY	
Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$168.40
Simple Payback (Yrs)	26.43
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	107-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall D
BASIC GROSS AREA (S	19,121
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 97	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$87.60	
PROJECT SUMMARY	
Total Project Cost (\$)	\$338.50
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$338.50
Cost Savings (\$/Yr)	\$87.60
Simple Payback (Yrs)	3.86
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	107-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall D		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	828	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$108.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$240.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$240.00		
Cost Savings (\$/Yr)	\$108.00		
Simple Payback (Yrs)	2.22		
Calculation File	\\5871\ECMS\ECM-7		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	107-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall D		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,709	Incentive Rates	
Peak Demand (kW)	2.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$957.96		
PROJECT SUMMARY			
Total Project Cost (\$)	\$19,922.50		
Rebates (\$)	\$2,090.09		
Net Project Cost (\$)	\$17,832.41		
Cost Savings (\$/Yr)	\$957.96		
Simple Payback (Yrs)	18.62		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	107-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall D
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42,000.00
Rebates (\$)	\$3,546.29
Net Project Cost (\$)	\$38,453.71
Cost Savings (\$/Yr)	\$1,387.62
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	107-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall D
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	107-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall D		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	107-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall D		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	107-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall D
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	108-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall E
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	187	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$168.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$168.40
Simple Payback (Yrs)	26.43
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	108-2		
PROJECT	Insulate DHW Pipes		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall E		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	97	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$87.60		
PROJECT SUMMARY			
Total Project Cost (\$)	\$338.50		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$338.50		
Cost Savings (\$/Yr)	\$87.60		
Simple Payback (Yrs)	3.86		
Calculation File	\\5871\ECMS\ECM-2		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	108-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall E		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	828	Incentive Rates	
Peak Demand (kW)	0.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	209	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$108.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$240.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$240.00		
Cost Savings (\$/Yr)	\$108.00		
Simple Payback (Yrs)	2.22		
Calculation File	\\5871\ECMS\ECM-7		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	108-11
PROJECT	Retrofit Light Fixtures
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall E
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,709	Incentive Rates	
Peak Demand (kW)	2.64	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$957.96		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$19,922.50
Rebates (\$)	\$2,090.09
Net Project Cost (\$)	\$17,832.41
Cost Savings (\$/Yr)	\$957.96
Simple Payback (Yrs)	18.62
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	108-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall E
BASIC GROSS AREA (S	19,121

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42,000.00
Rebates (\$)	\$3,546.29
Net Project Cost (\$)	\$38,453.71
Cost Savings (\$/Yr)	\$1,387.62
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	108-17-EF-1	
PROJECT	Exhaust Fan Set-Back	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Residence Hall E	
BASIC GROSS AREA (S	19,121	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates
Peak Demand (kW)	0.03	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$58.76	
PROJECT SUMMARY		
Total Project Cost (\$)	\$1,122.00	
Rebates (\$)	\$24.60	
Net Project Cost (\$)	\$1,097.40	
Cost Savings (\$/Yr)	\$58.76	
Simple Payback (Yrs)	18.68	
Calculation File	\\5871\ECMS\ECM-1	

PROJECT DETAIL REPORT		
SEP PROJECT ID NUMBE	108-17-EF-2	
PROJECT	Exhaust Fan Set-Back	
CAMPUS:	CSU	
LOCATION:	Long Beach	
BUILDING	Residence Hall E	
BASIC GROSS AREA (S	19,121	
PROJECT ENERGY SAVINGS SUMMARY		
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates
Peak Demand (kW)	0.03	Electricity \$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	\$58.76	
PROJECT SUMMARY		
Total Project Cost (\$)	\$1,122.00	
Rebates (\$)	\$24.60	
Net Project Cost (\$)	\$1,097.40	
Cost Savings (\$/Yr)	\$58.76	
Simple Payback (Yrs)	18.68	
Calculation File	\\5871\ECMS\ECM-1	



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	108-17-EF-3		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall E		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	108-17-EF-4		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall E		
BASIC GROSS AREA (S	19,121		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	109-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall F		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	414	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	104	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$120.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$120.00		
Cost Savings (\$/Yr)	\$54.00		
Simple Payback (Yrs)	2.22		
Calculation File	\\5871\ECMS\ECM-7		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	109-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall F		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,976	Incentive Rates	
Peak Demand (kW)	1.51	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$547.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$11,440.00		
Rebates (\$)	\$1,194.34		
Net Project Cost (\$)	\$10,245.66		
Cost Savings (\$/Yr)	\$547.40		
Simple Payback (Yrs)	18.72		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	109-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,388	Incentive Rates	
Peak Demand (kW)	4.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$693.81		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$21,000.00
Rebates (\$)	\$1,773.14
Net Project Cost (\$)	\$19,226.86
Cost Savings (\$/Yr)	\$693.81
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	109-17-EF-7
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	109-17-EF-8
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$24.60
Net Project Cost (\$)	\$1,097.40
Cost Savings (\$/Yr)	\$58.76
Simple Payback (Yrs)	18.68
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	109-17-EF-10
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	208	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$59.00		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$50.01
Net Project Cost (\$)	\$1,071.99
Cost Savings (\$/Yr)	\$59.00
Simple Payback (Yrs)	18.17
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	109-1-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 58	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$52.56	
PROJECT SUMMARY	
Total Project Cost (\$)	\$203.10
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$203.10
Cost Savings (\$/Yr)	\$52.56
Simple Payback (Yrs)	3.86
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	109-2-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall F
BASIC GROSS AREA (S	9,820
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 118	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$106.63	
PROJECT SUMMARY	
Total Project Cost (\$)	\$338.50
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$338.50
Cost Savings (\$/Yr)	\$106.63
Simple Payback (Yrs)	3.17
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	414	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	104	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$54.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$120.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$120.00		
Cost Savings (\$/Yr)	\$54.00		
Simple Payback (Yrs)	2.22		
Calculation File	\\5871\ECMS\ECM-7		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,976	Incentive Rates	
Peak Demand (kW)	1.51	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$547.40		
PROJECT SUMMARY			
Total Project Cost (\$)	\$11,440.00		
Rebates (\$)	\$1,194.34		
Net Project Cost (\$)	\$10,245.66		
Cost Savings (\$/Yr)	\$547.40		
Simple Payback (Yrs)	18.72		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-13		
PROJECT	Cool Roof Equivalent PV		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	7,388	Incentive Rates	
Peak Demand (kW)	4.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$693.81		
PROJECT SUMMARY			
Total Project Cost (\$)	\$21,000.00		
Rebates (\$)	\$1,773.14		
Net Project Cost (\$)	\$19,226.86		
Cost Savings (\$/Yr)	\$693.81		
Simple Payback (Yrs)	27.71		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-17-EF-7		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-17-EF-8		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	103	Incentive Rates	
Peak Demand (kW)	0.03	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$58.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$24.60		
Net Project Cost (\$)	\$1,097.40		
Cost Savings (\$/Yr)	\$58.76		
Simple Payback (Yrs)	18.68		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	110-17-EF-10		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Hall C		
BASIC GROSS AREA (S	9,820		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	208	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$59.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$50.01		
Net Project Cost (\$)	\$1,071.99		
Cost Savings (\$/Yr)	\$59.00		
Simple Payback (Yrs)	18.17		
Calculation File	\\5871\ECMS\ECM-1		



PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	110-1-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall C
BASIC GROSS AREA (S	9,820
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 58	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$52.56	
PROJECT SUMMARY	
Total Project Cost (\$)	\$203.10
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$203.10
Cost Savings (\$/Yr)	\$52.56
Simple Payback (Yrs)	3.86
Calculation File	\\5871\ECMS\ECM-2

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	110-2-2
PROJECT	Insulate DHW Pipes
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall C
BASIC GROSS AREA (S	9,820
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr) 118	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr) \$106.63	
PROJECT SUMMARY	
Total Project Cost (\$)	\$338.50
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$338.50
Cost Savings (\$/Yr)	\$106.63
Simple Payback (Yrs)	3.17
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	187	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$168.21		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$168.21
Simple Payback (Yrs)	26.45
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	14,776	Incentive Rates	
Peak Demand (kW)	8.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,387.62		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$42,000.00
Rebates (\$)	\$3,546.29
Net Project Cost (\$)	\$38,453.71
Cost Savings (\$/Yr)	\$1,387.62
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-17-EF-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	111-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Hall G
BASIC GROSS AREA (S	19,102

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	131	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$117.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$117.64
Simple Payback (Yrs)	37.83
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-1
PROJECT	Replace with Tankless Water Heater
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	131	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$117.64		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,450.00
Rebates (\$)	\$0.00
Net Project Cost (\$)	\$4,450.00
Cost Savings (\$/Yr)	\$117.64
Simple Payback (Yrs)	37.83
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-7		
PROJECT	Energy Star Appliances		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	21,912	Incentive Rates	
Peak Demand (kW)	2.50	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)	104	Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$206.00		
PROJECT SUMMARY			
Total Project Cost (\$)	\$192.00		
Rebates (\$)	\$0.00		
Net Project Cost (\$)	\$192.00		
Cost Savings (\$/Yr)	\$206.00		
Simple Payback (Yrs)	0.93		
Calculation File	\\5871\ECMS\ECM-7		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-9-1		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		
PROJECT SUMMARY			
Total Project Cost (\$)	\$593.00		
Rebates (\$)	\$361.20		
Net Project Cost (\$)	\$231.80		
Cost Savings (\$/Yr)	\$135.45		
Simple Payback (Yrs)	1.71		
Calculation File	\\5871\ECMS\ECM-9		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-9-2
PROJECT	Rewound Premium Efficiency Motors
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,505	Incentive Rates	
Peak Demand (kW)	0.38	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$135.45		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$593.00
Rebates (\$)	\$361.20
Net Project Cost (\$)	\$231.80
Cost Savings (\$/Yr)	\$135.45
Simple Payback (Yrs)	1.71
Calculation File	\\5871\ECMS\ECM-9

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-10-1
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$1,958.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	4.78
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-10-2
PROJECT	Varibale Frequency Drive
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,549	Incentive Rates	
Peak Demand (kW)	1.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$409.39		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$3,050.00
Rebates (\$)	\$1,091.70
Net Project Cost (\$)	\$1,958.30
Cost Savings (\$/Yr)	\$409.39
Simple Payback (Yrs)	4.78
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-12-1
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	12,524	Incentive Rates	
Peak Demand (kW)	10.44	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$1,127.17		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$11,250.00
Rebates (\$)	\$3,005.78
Net Project Cost (\$)	\$8,244.22
Cost Savings (\$/Yr)	\$1,127.17
Simple Payback (Yrs)	7.31
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	9,184	Incentive Rates	
Peak Demand (kW)	7.65	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$826.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$8,250.00		
Rebates (\$)	\$2,204.24		
Net Project Cost (\$)	\$6,045.76		
Cost Savings (\$/Yr)	\$826.59		
Simple Payback (Yrs)	7.31		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-12-3		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,670	Incentive Rates	
Peak Demand (kW)	1.39	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$150.29		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,500.00		
Rebates (\$)	\$400.77		
Net Project Cost (\$)	\$1,099.23		
Cost Savings (\$/Yr)	\$150.29		
Simple Payback (Yrs)	7.31		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-12-4
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,505	Incentive Rates	
Peak Demand (kW)	2.09	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.43		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$2,250.00
Rebates (\$)	\$601.16
Net Project Cost (\$)	\$1,648.84
Cost Savings (\$/Yr)	\$225.43
Simple Payback (Yrs)	7.31
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	10,343	Incentive Rates	
Peak Demand (kW)	5.67	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$971.33		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$29,400.00
Rebates (\$)	\$2,482.40
Net Project Cost (\$)	\$26,917.60
Cost Savings (\$/Yr)	\$971.33
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	799	Incentive Rates	
Peak Demand (kW)	0.20	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$170.98		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$191.77
Net Project Cost (\$)	\$930.23
Cost Savings (\$/Yr)	\$170.98
Simple Payback (Yrs)	5.44
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-2
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	799	Incentive Rates	
Peak Demand (kW)	0.20	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$170.98		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$191.77
Net Project Cost (\$)	\$930.23
Cost Savings (\$/Yr)	\$170.98
Simple Payback (Yrs)	5.44
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-3
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-4
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-5
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-6
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-7
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-17-EF-8
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$97.54
Net Project Cost (\$)	\$1,024.46
Cost Savings (\$/Yr)	\$98.49
Simple Payback (Yrs)	10.40
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-18-1		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,442	Incentive Rates	
Peak Demand (kW)	1.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$579.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$1,546.02		
Net Project Cost (\$)	\$2,703.98		
Cost Savings (\$/Yr)	\$579.76		
Simple Payback (Yrs)	4.66		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-18-2		
PROJECT	Fan Efficiency		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	6,442	Incentive Rates	
Peak Demand (kW)	1.61	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$579.76		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,250.00		
Rebates (\$)	\$1,546.02		
Net Project Cost (\$)	\$2,703.98		
Cost Savings (\$/Yr)	\$579.76		
Simple Payback (Yrs)	4.66		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-23-1
PROJECT	Upgrade Filters
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,149	Incentive Rates	
Peak Demand (kW)	0.29	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$103.40		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$809.50
Rebates (\$)	\$275.73
Net Project Cost (\$)	\$533.77
Cost Savings (\$/Yr)	\$103.40
Simple Payback (Yrs)	5.16
Calculation File	\\5871\ECMS\ECM-2

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	120-1-5
PROJECT	Static Pressure Reset
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Dining Hall
BASIC GROSS AREA (S	13,358

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,507	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.59		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,419.60
Rebates (\$)	\$601.57
Net Project Cost (\$)	\$818.03
Cost Savings (\$/Yr)	\$225.59
Simple Payback (Yrs)	3.63
Calculation File	\\5871\ECMS\ECM-5



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	120-2-5		
PROJECT	Static Pressure Reset		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Dining Hall		
BASIC GROSS AREA (S	13,358		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,507	Incentive Rates	
Peak Demand (kW)	0.63	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$225.59		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,419.60		
Rebates (\$)	\$601.57		
Net Project Cost (\$)	\$818.03		
Cost Savings (\$/Yr)	\$225.59		
Simple Payback (Yrs)	3.63		
Calculation File	\\5871\ECMS\ECM-5		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-4		
PROJECT	Low Flush Urinals		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)		Incentive Rates	
Peak Demand (kW)		Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$116.16		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,000.00		
Rebates (\$)	\$8.00		
Net Project Cost (\$)	\$992.00		
Cost Savings (\$/Yr)	\$116.16		
Simple Payback (Yrs)	8.54		
Calculation File	\\5871\ECMS\ECM-4		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-9		
PROJECT	Rewound Premium Efficiency Motors		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	431	Incentive Rates	
Peak Demand (kW)	0.11	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$38.79		
PROJECT SUMMARY			
Total Project Cost (\$)	\$279.00		
Rebates (\$)	\$103.44		
Net Project Cost (\$)	\$175.56		
Cost Savings (\$/Yr)	\$38.79		
Simple Payback (Yrs)	4.53		
Calculation File	\\5871\ECMS\ECM-9		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-10-1		
PROJECT	Varibale Frequency Drive		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	910	Incentive Rates	
Peak Demand (kW)	0.30	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$81.88		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,450.00		
Rebates (\$)	\$218.34		
Net Project Cost (\$)	\$2,231.66		
Cost Savings (\$/Yr)	\$81.88		
Simple Payback (Yrs)	27.26		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,918	Incentive Rates	
Peak Demand (kW)	2.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$262.64		
PROJECT SUMMARY			
Total Project Cost (\$)	\$5,350.00		
Rebates (\$)	\$700.36		
Net Project Cost (\$)	\$4,649.64		
Cost Savings (\$/Yr)	\$262.64		
Simple Payback (Yrs)	17.70		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	1,602	Incentive Rates	
Peak Demand (kW)	1.34	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$144.18		
PROJECT SUMMARY			
Total Project Cost (\$)	\$2,225.00		
Rebates (\$)	\$384.48		
Net Project Cost (\$)	\$1,840.52		
Cost Savings (\$/Yr)	\$144.18		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-12-3		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	810	Incentive Rates	
Peak Demand (kW)	0.68	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.90		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,125.00		
Rebates (\$)	\$194.40		
Net Project Cost (\$)	\$930.60		
Cost Savings (\$/Yr)	\$72.90		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62A-12-4		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Residence Commons		
BASIC GROSS AREA (S	4,893		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	810	Incentive Rates	
Peak Demand (kW)	0.68	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$72.90		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,125.00		
Rebates (\$)	\$194.40		
Net Project Cost (\$)	\$930.60		
Cost Savings (\$/Yr)	\$72.90		
Simple Payback (Yrs)	12.77		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	62A-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons
BASIC GROSS AREA (S	4,893

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	4,433	Incentive Rates	
Peak Demand (kW)	2.43	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$416.29		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$12,600.00
Rebates (\$)	\$1,063.89
Net Project Cost (\$)	\$11,536.11
Cost Savings (\$/Yr)	\$416.29
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	62A-17-EF-1
PROJECT	Exhaust Fan Set-Back
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Residence Commons
BASIC GROSS AREA (S	4,893

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	203	Incentive Rates	
Peak Demand (kW)	0.05	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$49.25		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$1,122.00
Rebates (\$)	\$48.77
Net Project Cost (\$)	\$1,073.23
Cost Savings (\$/Yr)	\$49.25
Simple Payback (Yrs)	21.79
Calculation File	\\5871\ECMS\ECM-1

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-11		
PROJECT	Retrofit Light Fixtures		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Common		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	8,323	Incentive Rates	
Peak Demand (kW)	2.52	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$915.49		
PROJECT SUMMARY			
Total Project Cost (\$)	\$19,045.00		
Rebates (\$)	\$1,997.42		
Net Project Cost (\$)	\$17,047.58		
Cost Savings (\$/Yr)	\$915.49		
Simple Payback (Yrs)	18.62		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-12-1		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Common		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,010	Incentive Rates	
Peak Demand (kW)	4.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$450.87		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,202.31		
Net Project Cost (\$)	\$3,297.69		
Cost Savings (\$/Yr)	\$450.87		
Simple Payback (Yrs)	7.31		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-12-2		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Commonng		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,010	Incentive Rates	
Peak Demand (kW)	4.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$450.87		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,202.31		
Net Project Cost (\$)	\$3,297.69		
Cost Savings (\$/Yr)	\$450.87		
Simple Payback (Yrs)	7.31		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-12-3		
PROJECT	High SEER Units		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Commonng		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,010	Incentive Rates	
Peak Demand (kW)	4.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$450.87		
PROJECT SUMMARY			
Total Project Cost (\$)	\$4,500.00		
Rebates (\$)	\$1,202.31		
Net Project Cost (\$)	\$3,297.69		
Cost Savings (\$/Yr)	\$450.87		
Simple Payback (Yrs)	7.31		
Calculation File	\\5871\ECMS\ECM-1		

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	62B-12-4
PROJECT	High SEER Units
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Commonng
BASIC GROSS AREA (S	3,980

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	5,010	Incentive Rates	
Peak Demand (kW)	4.17	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$450.87		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$4,500.00
Rebates (\$)	\$1,202.31
Net Project Cost (\$)	\$3,297.69
Cost Savings (\$/Yr)	\$450.87
Simple Payback (Yrs)	7.31
Calculation File	\\5871\ECMS\ECM-1

**PROJECT DETAIL REPORT**

SEP PROJECT ID NUMBE	62B-13
PROJECT	Cool Roof Equivalent PV
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	Parkside Commonng
BASIC GROSS AREA (S	3,980

**PROJECT ENERGY SAVINGS SUMMARY**

BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	2,955	Incentive Rates	
Peak Demand (kW)	1.62	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$277.52		

**PROJECT SUMMARY**

Total Project Cost (\$)	\$8,400.00
Rebates (\$)	\$709.26
Net Project Cost (\$)	\$7,690.74
Cost Savings (\$/Yr)	\$277.52
Simple Payback (Yrs)	27.71
Calculation File	\\5871\ECMS\ECM-1



PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-17-EF-1		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Common		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$97.54		
Net Project Cost (\$)	\$1,024.46		
Cost Savings (\$/Yr)	\$98.49		
Simple Payback (Yrs)	10.40		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT			
SEP PROJECT ID NUMBE	62B-17-EF-2		
PROJECT	Exhaust Fan Set-Back		
CAMPUS:	CSU		
LOCATION:	Long Beach		
BUILDING	Parkside Common		
BASIC GROSS AREA (S	3,980		
PROJECT ENERGY SAVINGS SUMMARY			
BUILDING ENERGY SAVINGS		INCENTIVE CALCULATION BASIS	
Electric (kWh/Yr)	406	Incentive Rates	
Peak Demand (kW)	0.10	Electricity	\$ 0.24/kWh
Gas (Therms/Yr)		Natural Gas	\$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)		Anticipated Gross Incentive	
HW/Steam (MMBTU/Yr)		Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.	
Total Annual Cost Savings (\$/Yr)	\$98.49		
PROJECT SUMMARY			
Total Project Cost (\$)	\$1,122.00		
Rebates (\$)	\$97.54		
Net Project Cost (\$)	\$1,024.46		
Cost Savings (\$/Yr)	\$98.49		
Simple Payback (Yrs)	10.40		
Calculation File	\\5871\ECMS\ECM-1		

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	
PROJECT	
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	
BASIC GROSS AREA (S	
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	
PROJECT SUMMARY	
Total Project Cost (\$)	
Rebates (\$)	
Net Project Cost (\$)	
Cost Savings (\$/Yr)	
Simple Payback (Yrs)	
Calculation File	

PROJECT DETAIL REPORT	
SEP PROJECT ID NUMBE	
PROJECT	
CAMPUS:	CSU
LOCATION:	Long Beach
BUILDING	
BASIC GROSS AREA (S	
PROJECT ENERGY SAVINGS SUMMARY	
BUILDING ENERGY SAVINGS	INCENTIVE CALCULATION BASIS
Electric (kWh/Yr)	Incentive Rates
Peak Demand (kW)	Electricity \$ 0.24/kWh
Gas (Therms/Yr)	Natural Gas \$ 1.0/Therm
Chilled Water (Ton-hrs/Yr)	Anticipated Gross Incentive
HW/Steam (MMBTU/Yr)	Note-When Anticipated Gross incentive exceeds 80% of the total project cost, the incentive is capped.
Total Annual Cost Savings (\$/Yr)	
PROJECT SUMMARY	
Total Project Cost (\$)	
Rebates (\$)	
Net Project Cost (\$)	
Cost Savings (\$/Yr)	
Simple Payback (Yrs)	
Calculation File	

# 11a

## Energy Conservation Measures by ECM Number

This section describes ECMs by conservation application for all the buildings.

ECM #	ECM Description	Incl	Type
1	Tankless DHW	√	Tankless DHW
2	Insulate Pipes	√	Insulate Pipes
3	CRAC-Upgrades	√	CRAC-Upgrades
4	Low flush Urinals	√	Low flush Urinals
5	Static Pressure Reset	√	Static Pressure Reset
6	Demand Ventilation	√	Demand Ventilation
7	Energystar Appliances	√	Energystar Appliances
8	Compressed Air Dryer	√	Compressed Air Dryer
9	Premium Efficiency Motors	√	Premium Efficiency Motors
10	VFDs	√	VFDs
11	Lighting Upgrades	√	Lighting Upgrades
12	High SEER Units	√	High SEER Units
13	PV for Coolroof equivalent	√	PV for Coolroof equivalent
14	Plug Load Reduction	√	Plug Load Reduction
15	Direct Drive Fans		Direct Drive Fans
16	CHP with Microturbine	√	CHP with Microturbine
17	Exhaust fan set-backs	√	Exhaust fan set-backs
18	Fan Efficiency Improvements	√	Fan Efficiency Improvements
19	Shift Power Provider (Foundation Bldg)	√	Shift Power Provider (Foundation Bldg)
20	Pyramid - Behavioral based Usage	√	Pyramid - Behavioral based Usage
21	Commissioning	√	Commissioning
22	Skylights Analysis	√	Skylights Analysis
23	Filter Upgrades	√	HVAC
24	Windows Upgrades	√	HVAC

ECM-1 TANKLESS DOMESTIC HOT WATER TECHNOLOGY

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	1	1-1	Replace with Tankless Water Heater	83,082	9.48		-2,836			\$4,925.37	\$8,900.00	\$7,120.00	\$1,780.00	0.4
2	1	2-1	Replace with Tankless Water Heater				274			\$246.60	\$4,450.00	\$-	\$4,450.00	18.0
5	1	5-1	Replace with Tankless Water Heater				390			\$351.05	\$4,450.00	\$-	\$4,450.00	12.7
6	1	6-1	Replace with Tankless Water Heater				1,578			\$1,420.58	\$17,800.00	\$-	\$17,800.00	12.5
7	1	7-1	Replace with Tankless Water Heater				22,220			\$1,363.84	\$4,450.00	\$3,560.00	\$890.00	0.7
8	1	8-1	Replace with Tankless Water Heater	2,148	0.25		-73			\$127.33	\$4,450.00	\$515.48	\$3,934.52	30.9
9	1	9-1	Replace with Tankless Water Heater				490			\$441.23	\$4,450.00	\$-	\$4,450.00	10.1
10	1	10-1	Replace with Tankless Water Heater				379			\$341.50	\$4,450.00	\$-	\$4,450.00	13.0
14	1	14-1	Replace with Tankless Water Heater	16,682	1.90		-569			\$14,501.06	\$8,900.00	\$4,003.59	\$4,896.41	0.3
15	1	15-1	Replace with Tankless Water Heater				327			\$293.92	\$4,450.00	\$-	\$4,450.00	15.1
20	1	20-1	Replace with Tankless Water Heater	23,585	2.69		-805			\$1,398.19	\$8,900.00	\$5,660.42	\$3,239.58	2.3
23	1	23-1	Replace with Tankless Water Heater	15,793	1.80		-539			\$936.28	\$4,450.00	\$3,560.00	\$890.00	1.0
24	1	24-1	Replace with Tankless Water Heater				186			\$167.33	\$4,450.00	\$-	\$4,450.00	26.6
25	1	25-1	Replace with Tankless Water Heater				146			\$131.22	\$4,450.00	\$-	\$4,450.00	33.9
26	1	26-1	Replace with Tankless Water Heater				306			\$275.66	\$4,450.00	\$-	\$4,450.00	16.1
28	1	28-1	Replace with Tankless Water Heater				121			\$109.29	\$4,450.00	\$-	\$4,450.00	40.7
32	1	32-1	Replace with Tankless Water Heater				152			\$136.54	\$4,450.00	\$-	\$4,450.00	32.6
33	1	33-1	Replace with Tankless Water Heater				196			\$176.79	\$4,450.00	\$-	\$4,450.00	25.2
34	1	34-1	Replace with Tankless Water Heater				224			\$201.77	\$4,450.00	\$-	\$4,450.00	22.1
35	1	35-1	Replace with Tankless Water Heater				820			\$738.42	\$4,450.00	\$-	\$4,450.00	6.0
50	1	50-1	Replace with Tankless Water Heater				851			\$766.21	\$8,900.00	\$-	\$8,900.00	11.6
51	1	51-1	Replace with Tankless Water Heater	15,883	1.81		-542			\$941.61	\$8,900.00	\$3,812.01	\$5,087.99	5.4
52	1	52-1	Replace with Tankless Water Heater	15,885	1.81		-542			\$941.73	\$8,900.00	\$3,812.48	\$5,087.52	5.4
54	1	54-1	Replace with Tankless Water Heater				438			\$394.27	\$4,450.00	\$-	\$4,450.00	11.3
55	1	55-1	Replace with Tankless Water Heater				175			\$157.75	\$4,450.00	\$-	\$4,450.00	28.2
56	1	56-1	Replace with Tankless Water Heater				657			\$591.33	\$4,450.00	\$-	\$4,450.00	7.5
60	1	60-1	Replace with Tankless Water Heater				450			\$404.92	\$8,900.00	\$-	\$8,900.00	22.0
61	1	61-1	Replace with Tankless Water Heater				450			\$404.92	\$4,450.00	\$-	\$4,450.00	11.0
66	1	66-1	Replace with Tankless Water Heater	1,564	0.18		-53			\$92.71	\$4,450.00	\$375.34	\$4,074.66	43.9
72	1	72-1	Replace with Tankless Water Heater				214			\$192.25	\$4,450.00	\$-	\$4,450.00	23.1
73	1	73-1	Replace with Tankless Water Heater				728			\$654.75	\$17,800.00	\$-	\$17,800.00	27.2
74	1	74-1	Replace with Tankless Water Heater	2,593	0.30		-89			\$153.75	\$4,450.00	\$622.43	\$3,827.57	24.9
75	1	75-1	Replace with Tankless Water Heater				411			\$369.51	\$4,450.00	\$-	\$4,450.00	12.0

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
80	1	80-1	Replace with Tankless Water Heater	5,865	0.67		-200			\$347.67	\$4,450.00	\$1,407.51	\$3,042.49	8.8
81	1	81-1	Replace with Tankless Water Heater	12,479	1.42		-426			\$739.77	\$4,450.00	\$2,994.87	\$1,455.13	2.0
82	1	82-1	Replace with Tankless Water Heater	4,366	0.50		-149			\$258.82	\$4,450.00	\$1,047.81	\$3,402.19	13.1
105	1	105-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
106	1	106-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
107	1	107-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
108	1	108-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
111	1	111-1	Replace with Tankless Water Heater				187			\$168.21	\$4,450.00	\$-	\$4,450.00	26.5
120	1	120-1	Replace with Tankless Water Heater				131			\$117.64	\$4,450.00	\$-	\$4,450.00	37.8
120	1	120-1	Replace with Tankless Water Heater				131			\$117.64	\$4,450.00	\$-	\$4,450.00	37.8

ECM-2 INSULATE DOMESTIC HOT WATER PIPE

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	2	1-2	Insulate DHW Pipes	599	0.07		0			\$53.90	\$126.20	\$100.96	\$25.24	0.47
2	2	2-2	Insulate DHW Pipes				47			\$42.65	\$126.20	\$-	\$126.20	2.96
5	2	5-2	Insulate DHW Pipes				47			\$42.65	\$126.20	\$-	\$126.20	2.96
6	2	6-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17
10	2	10-2	Insulate DHW Pipes				47			\$42.05	\$151.44	\$-	\$151.44	3.60
14	2	14-2	Insulate DHW Pipes	2,994	0.34		0			\$269.50	\$631.00	\$504.80	\$126.20	0.47
19	2	19-2	Insulate DHW Pipes	2,994	0.34		0			\$269.50	\$631.00	\$504.80	\$126.20	0.47
28	2	28-2	Insulate DHW Pipes				39			\$35.04	\$126.20	\$-	\$126.20	3.60
32	2	32-2	Insulate DHW Pipes				39			\$35.04	\$132.51	\$-	\$132.51	3.78
33	2	33-2	Insulate DHW Pipes				39			\$35.04	\$138.82	\$-	\$138.82	3.96
34	2	34-2	Insulate DHW Pipes				39			\$35.04	\$145.13	\$-	\$145.13	4.14
35	2	35-2	Insulate DHW Pipes				39			\$35.04	\$151.44	\$-	\$151.44	4.32
51	2	51-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
52	2	52-2	Insulate DHW Pipes	749	0.09		0			\$67.37	\$157.75	\$126.20	\$31.55	0.47
66	2	66-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
73	2	73-2	Insulate DHW Pipes				237			\$213.26	\$677.00	\$-	\$677.00	3.17
75	2	75-2	Insulate DHW Pipes				71			\$63.98	\$189.30	\$-	\$189.30	2.96
81	2	81-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
104-1	2	104-1-2	Insulate DHW Pipes				237			\$213.26	\$677.00	\$-	\$677.00	3.17
104-2	2	104-2-2	Insulate DHW Pipes				195			\$175.20	\$677.00	\$-	\$677.00	3.86
105	2	105-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
106	2	106-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
109-2	2	109-2-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
107	2	107-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
108	2	108-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
109-1	2	109-1-2	Insulate DHW Pipes				58			\$52.56	\$203.10	\$-	\$203.10	3.86
110-1	2	110-1-2	Insulate DHW Pipes				58			\$52.56	\$203.10	\$-	\$203.10	3.86
110-2	2	110-2-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17

ECM-3 CRAC UPGRADES

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	3	1	1-3-1 CRAC AC system to Central Plant	65,525	16.38					\$5,897.23	\$66,250.00	\$15,725.95	\$50,524.05	8.57
1	3	2	1-3-2 CRAC AC system Condenser with Fountain	14,104	3.53					\$3,384.98	\$29,750.00	\$3,384.98	\$26,365.02	7.79

ECM-4 LOW FLUSH URINALS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	4	1-4	Low Flush Urinals						703.58	\$2,955.02	\$9,000.00	\$-	\$9,000.00	3.05
6	4	6-4	Low Flush Urinals						995.63	\$4,181.63	\$16,000.00	\$3.00	\$15,997.00	3.83
51	4	51-4	Low Flush Urinals						136.07	\$571.49	\$1,000.00	\$4.00	\$996.00	1.74
57	4	57-4	Low Flush Urinals						30.98	\$130.10	\$2,000.00	\$9.00	\$1,991.00	15.30
62A	4	62A-4	Low Flush Urinals						27.66	\$116.16	\$1,000.00	\$8.00	\$992.00	8.54
66	4	66-4	Low Flush Urinals						13.28	\$55.76	\$1,000.00	\$6.00	\$994.00	17.83
74	4	74-4	Low Flush Urinals						15.49	\$65.05	\$1,000.00	\$1.00	\$999.00	15.36
80	4	80-4	Low Flush Urinals						33.19	\$139.39	\$2,000.00	\$5.00	\$1,995.00	14.31
81	4	81-4	Low Flush Urinals						108.41	\$455.33	\$3,000.00	\$2.00	\$2,998.00	6.58
82	4	82-4	Low Flush Urinals						359.53	\$1,510.03	\$3,000.00	\$7.00	\$2,993.00	1.98

ECM-5 STATIC PRESSURE RESET

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
2-1	5	2-1-5	Static Pressure Reset	5,013	1.25					\$451.18	\$1,419.60	\$1,135.68	\$283.92	0.63
2-2	5	2-2-5	Static Pressure Reset	3,760	0.94					\$338.39	\$1,419.60	\$902.36	\$517.24	1.53
3-1	5	3-1-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
3-2	5	3-2-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
10-1	5	10-1-5	Static Pressure Reset	23,812	5.95					\$2,143.11	\$1,419.60	\$1,135.68	\$283.92	0.13

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
10-2	5	10-2-5	Static Pressure Reset	23,812	5.95					\$2,143.11	\$1,419.60	\$1,135.68	\$283.92	0.13
14-1	5	14-1-5	Static Pressure Reset	10,026	2.51					\$902.36	\$1,419.60	\$1,135.68	\$283.92	0.31
21	5	21-5	Static Pressure Reset	1,762	0.44					\$158.62	\$1,419.60	\$422.98	\$996.62	6.28
22	5	22-5	Static Pressure Reset	4,386	1.10					\$394.78	\$1,419.60	\$1,052.76	\$366.84	0.93
25	5	25-5	Static Pressure Reset	2,820	0.70					\$253.79	\$1,419.60	\$676.77	\$742.83	2.93
33	5	33-5	Static Pressure Reset	4,700	1.17					\$422.98	\$1,419.60	\$1,127.95	\$291.65	0.69
46-1	5	46-1-5	Static Pressure Reset	6,016	1.50					\$541.42	\$1,419.60	\$1,135.68	\$283.92	0.52
46-2	5	46-2-5	Static Pressure Reset	12,031	3.01					\$1,082.83	\$1,419.60	\$1,135.68	\$283.92	0.26
50-1	5	50-1-5	Static Pressure Reset	12,282	3.07					\$1,105.39	\$1,419.60	\$1,135.68	\$283.92	0.26
50-2	5	50-2-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50-3	5	50-3-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50-4	5	50-4-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50-5	5	50-5-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
51	5	51-5	Static Pressure Reset	3,071	0.77					\$276.35	\$1,419.60	\$736.93	\$682.67	2.47
54	5	54-5	Static Pressure Reset	4,700	1.17					\$422.98	\$1,419.60	\$1,127.95	\$291.65	0.69
120-1	5	120-1-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
120-2	5	120-2-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63

ECM-6 DEMAND CONTROL VENTILATION

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	6	1-6	Demand Control Ventilation	38,310	9.58					\$3,552.43	\$19,566.00	\$9,194.33	\$10,371.67	2.92
19	6	19-6	Demand Control Ventilation	147,617	36.90					\$13,555.53	\$44,965.00	\$6,716.80	\$38,248.20	2.82
52	6	52-6	Demand Control Ventilation	13,482	3.37					\$1,716.89	\$16,755.00	\$3,235.56	\$13,519.44	7.87
60	6	60-6	Demand Control Ventilation	23,442	5.86					\$3,552.43	\$8,396.00	\$5,626.08	\$2,769.92	0.78
61	6	61-6	Demand Control Ventilation	23,442	5.86					\$3,552.43	\$8,396.00	\$5,626.08	\$2,769.92	0.78
72	6	72-6	Demand Control Ventilation	48,679	12.17					\$5,764.41	\$5,585.00	\$4,468.00	\$1,117.00	0.19
73	6	73-6	Demand Control Ventilation	54,822	13.71					\$5,710.26	\$8,396.00	\$6,716.80	\$1,679.20	0.29
81	6	81-6	Demand Control Ventilation	6,120	1.53					\$580.19	\$28,825.00	\$1,468.70	\$27,356.30	47.15
104	6	104-6	Demand Control Ventilation	69,414	17.35					\$3,552.43	\$8,396.00	\$6,716.80	\$1,679.20	0.47

ECM-7 ENERGYSTAR APPLIANCES

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	7	1-7	Energy Star Appliances	10,517	1.20		0		0.00	\$124.00	\$204.00	\$-	\$204.00	1.65

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
5	7	5-7	Energy Star Appliances	3,160	0.36		0		0.00	\$36.00	\$60.00	\$-	\$60.00	1.67
9	7	9-7	Energy Star Appliances	3,160	0.36		0		0.00	\$36.00	\$60.00	\$-	\$60.00	1.67
59	7	59-7	Energy Star Appliances	11,429	1.30		209		152.00	\$158.00	\$168.00	\$1.00	\$167.00	1.06
60	7	60-7	Energy Star Appliances	4,183	0.48		1,880		1,368.00	\$359.00	\$42.00	\$-	\$42.00	0.12
61	7	61-7	Energy Star Appliances	4,183	0.48		1,880		1,368.00	\$359.00	\$42.00	\$-	\$42.00	0.12
73	7	73-7	Energy Star Appliances	19,684	2.25		209		152.00	\$232.00	\$264.00	\$-	\$264.00	1.14
74	7	74-7	Energy Star Appliances	3,583	0.41		0		0.00	\$35.00	\$42.00	\$-	\$42.00	1.20
75	7	75-7	Energy Star Appliances	7,266	0.83		313		228.00	\$124.00	\$84.00	\$-	\$84.00	0.68
80	7	80-7	Energy Star Appliances	6,553	0.75		0		0.00	\$53.00	\$42.00	\$-	\$42.00	0.79
81	7	81-7	Energy Star Appliances	3,678	0.42		0		0.00	\$44.00	\$72.00	\$-	\$72.00	1.64
105	7	105-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
106	7	106-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
107	7	107-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
108	7	108-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
109	7	109-7	Energy Star Appliances	414	0.05		104		76.00	\$54.00	\$120.00	\$-	\$120.00	2.22
110	7	110-7	Energy Star Appliances	414	0.05		104		76.00	\$54.00	\$120.00	\$-	\$120.00	2.22
120	7	120-7	Energy Star Appliances	21,912	2.50		104		76.00	\$206.00	\$192.00	\$-	\$192.00	0.93

ECM-8 COMPRESSED AIR DRYER

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
86	8	86-8	Replace Desiccant Dryer with Refrigerated	5,601	0.64					\$504.13	\$7,500.00	\$1,344.35	\$6,155.65	12.21

ECM-9 PREMIUM EFFICIENCY MOTORS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	9	1	1-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	2	1-9-2	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	3	1-9-3	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	4	1-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
2	9	1	2-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
2	9	1	2-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
3	9	1	3-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
3	9	1	3-9-1	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53
5	9	1	5-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71



Bldg #	ECM #		SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
5	9	2	5-9-2	Rewound Premium Efficiency Motors	431	0.11					\$38.79	\$279.00	\$103.44	\$175.56	4.53
5	9	3	5-9-3	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
15	9	0	15-9	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
22	9	1	22-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
22	9	2	22-9-2	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
23	9	1	23-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
23	9	2	23-9-2	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
24	9	1	24-9-1	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
24	9	2	24-9-2	Rewound Premium Efficiency Motors	492	0.12					\$44.28	\$239.00	\$118.08	\$120.92	2.73
24	9	3	24-9-3	Rewound Premium Efficiency Motors	492	0.12					\$44.28	\$239.00	\$118.08	\$120.92	2.73
24	9	4	24-9-4	Rewound Premium Efficiency Motors	2,226	0.56					\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
25	9	1	25-9-1	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
25	9	2	25-9-2	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
25	9	3	25-9-3	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
25	9	4	25-9-4	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
27	9	1	27-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
27	9	2	27-9-2	Rewound Premium Efficiency Motors	1,239	0.31					\$111.51	\$552.00	\$297.36	\$254.64	2.28
28	9	1	28-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
28	9	2	28-9-2	Rewound Premium Efficiency Motors	1,239	0.31					\$111.51	\$552.00	\$297.36	\$254.64	2.28
28	9	3	28-9-3	Rewound Premium Efficiency Motors	431	0.11					\$38.79	\$279.00	\$103.44	\$175.56	4.53
28	9	4	28-9-4	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
28	9	5	28-9-5	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
32	9	1	32-9-1	Rewound Premium Efficiency Motors	2,226	0.56					\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
32	9	2	32-9-2	Rewound Premium Efficiency Motors	2,226	0.56					\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
32	9	3	32-9-3	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
33	9	1	33-9-1	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
33	9	2	33-9-2	Rewound Premium Efficiency Motors	1,239	0.31					\$111.51	\$552.00	\$297.36	\$254.64	2.28
33	9	3	33-9-3	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
33	9	4	33-9-4	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
33	9	5	33-9-5	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
34	9	1	34-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
34	9	2	34-9-2	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
34	9	3	34-9-3	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
34	9	4	34-9-4	Rewound Premium Efficiency Motors	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
35	9	1	35-9-1	Rewound Premium Efficiency Motors	4,224	1.06					\$380.16	\$2,164.00	\$1,013.76	\$1,150.24	3.03
35	9	2	35-9-2	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
35	9	3	35-9-3	Rewound Premium Efficiency Motors	1,239	0.31					\$111.51	\$552.00	\$297.36	\$254.64	2.28
46	9	1	46-9-1	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
46	9	2	46-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
46	9	3	46-9-3	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
46	9	4	46-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
49	9	1	49-9	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
51	9	1	51-9-1	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
51	9	2	51-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
52	9	1	52-9-1	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
52	9	2	52-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
54	9	1	54-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
54	9	2	54-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	3	54-9-3	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	4	54-9-4	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	5	54-9-5	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	6	54-9-6	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	7	54-9-7	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
56	9	0	56-9	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
57	9	1	57-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
57	9	1	57-9	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
58	9	1	58-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
60	9	1	60-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
60	9	2	60-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
61	9	1	61-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
61	9	2	61-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
62A	9	0	62A-9	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53
72	9	1	72-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	2	72-9-2	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	3	72-9-3	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	4	72-9-4	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	5	72-9-5	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	6	72-9-6	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
72	9	7	72-9-7	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	8	72-9-8	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	9	72-9-9	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
72	9	10	72-9-10	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
72	9	11	72-9-11	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
72	9	12	72-9-12	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	13	72-9-13	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	14	72-9-14	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40

Bldg #	ECM #		SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
75	9	1	75-9-1	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	2	75-9-2	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	3	75-9-3	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	4	75-9-4	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	5	75-9-5	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	6	75-9-6	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	7	75-9-7	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	8	75-9-8	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
85	9	1	85-9-1	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
85	9	2	85-9-2	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
85	9	3	85-9-3	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
85	9	4	85-9-4	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
85	9	5	85-9-5	Rewound Premium Efficiency Motors	2,226	0.56					\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
86	9	1	86-9-1	Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
86	9	2	86-9-2	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
86	9	3	86-9-3	Rewound Premium Efficiency Motors	768	0.19					\$69.12	\$350.00	\$184.32	\$165.68	2.40
104	9	0	104-9	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
120	9	1	120-9-1	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
120	9	2	120-9-2	Rewound Premium Efficiency Motors	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71

ECM-10 VFD'S

Bldg #	ECM #		SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	10	1	1-10-1	Varibale Frequency Drive	2,274	0.76					\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	2	1-10-2	Varibale Frequency Drive	2,274	0.76					\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	3	1-10-3	Varibale Frequency Drive	2,274	0.76					\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	4	1-10-4	Varibale Frequency Drive	2,274	0.76					\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
3	10	1	3-10-1	Varibale Frequency Drive	6,065	1.52					\$545.85	\$5,150.00	\$1,455.60	\$3,694.40	6.77
15	10	1	15-10-1	Varibale Frequency Drive	9,097	2.27					\$818.77	\$2,576.00	\$2,183.39	\$392.61	0.48
24	10	1	24-10-1	Varibale Frequency Drive	15,162	3.79					\$1,364.62	\$6,240.00	\$3,638.99	\$2,601.01	1.91
32	10	1	32-10-1	Varibale Frequency Drive	11,372	3.79					\$1,023.47	\$6,240.00	\$2,729.24	\$3,510.76	3.43
33	10	1	33-10-1	Varibale Frequency Drive	3,412	1.14					\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
33	10	1	33-10-1	Varibale Frequency Drive	6,065	1.52					\$545.85	\$3,050.00	\$1,455.60	\$1,594.40	2.92
33	10	1	33-10-1	Varibale Frequency Drive	1,819	0.45					\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
33	10	2	33-10-2	Varibale Frequency Drive	6,823	2.27					\$614.08	\$3,825.00	\$1,637.54	\$2,187.46	3.56
33	10	3	33-10-3	Varibale Frequency Drive	2,274	0.76					\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
35	10	4	35-10-4	Varibale Frequency Drive	3,412	1.14					\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
51	10	1	51-10-1	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
51	10	2	51-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
52	10	1	52-10-1	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
52	10	2	52-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
54	10	2	54-10-2	Varibale Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
54	10	3	54-10-3	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	4	54-10-4	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	5	54-10-5	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	6	54-10-6	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	7	54-10-7	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	8	54-10-8	Varibale Frequency Drive	3,791	1.52				\$341.16	\$5,150.00	\$909.75	\$4,240.25	12.43
55	10	FC-4	55-10-FC-4	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
55	10	FC-3	55-10-FC-3	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
55	10	FC-2	55-10-FC-2	Varibale Frequency Drive	3,032	0.76				\$272.92	\$5,150.00	\$727.80	\$4,422.20	16.20
55	10	FC-1	55-10-FC-1	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
55	10	1CS	55-10-1CS	Varibale Frequency Drive	6,065	1.52				\$545.85	\$3,050.00	\$1,455.60	\$1,594.40	2.92
55	10	1HS	55-10-1HS	Varibale Frequency Drive	4,549	1.14				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
56	10	1	56-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
56	10	2	56-10-2	Varibale Frequency Drive	6,823	2.27				\$614.08	\$3,825.00	\$1,637.54	\$2,187.46	3.56
56	10	3	56-10-3	Varibale Frequency Drive	3,791	1.52				\$341.16	\$5,150.00	\$909.75	\$4,240.25	12.43
58	10	1	58-10-1	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
60	10	1	60-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
60	10	2	60-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
61	10	1	61-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
61	10	2	61-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
62A	10	1	62A-10-1	Varibale Frequency Drive	910	0.30				\$81.88	\$2,450.00	\$218.34	\$2,231.66	27.26
72	10	1	72-10-1	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
72	10	2	72-10-2	Varibale Frequency Drive	12,282	4.09				\$1,105.34	\$22,050.00	\$2,947.58	\$19,102.42	17.28
72	10	3	72-10-3	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
72	10	4	72-10-4	Varibale Frequency Drive	13,646	4.55				\$1,228.16	\$7,650.00	\$3,275.09	\$4,374.91	3.56
72	10	5	72-10-5	Varibale Frequency Drive	2,274	0.91				\$204.69	\$4,900.00	\$545.85	\$4,354.15	21.27
85	10	1	85-10-1	Varibale Frequency Drive	5,004	0.91				\$450.32	\$4,900.00	\$1,200.87	\$3,699.13	8.21
85	10	2	85-10-2	Varibale Frequency Drive	2,502	0.45				\$225.16	\$2,450.00	\$600.43	\$1,849.57	8.21
85	10	3	85-10-3	Varibale Frequency Drive	8,339	1.52				\$750.54	\$3,050.00	\$2,001.44	\$1,048.56	1.40
85	10	4	85-10-4	Varibale Frequency Drive	25,018	4.55				\$2,251.62	\$7,650.00	\$6,004.33	\$1,645.67	0.73
85	10	5	85-10-5	Varibale Frequency Drive	33,357	6.06				\$3,002.17	\$10,170.00	\$8,005.77	\$2,164.23	0.72
86	10	1	86-10-1	Varibale Frequency Drive	4,549	3.03				\$409.39	\$3,825.00	\$1,091.70	\$2,733.30	6.68
86	10	2	86-10-2	Varibale Frequency Drive	1,456	0.49				\$131.00	\$2,450.00	\$349.34	\$2,100.66	16.04

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
86	10	3	86-10-3	97,040	32.35					\$8,733.57	\$20,100.00	\$16,080.00	\$4,020.00	0.46
86	10	4	86-10-4	48,520	16.17					\$4,366.79	\$13,000.00	\$10,400.00	\$2,600.00	0.60
86	10	5	86-10-5	97,040	32.35					\$8,733.57	\$20,100.00	\$16,080.00	\$4,020.00	0.46
104	10	1	104-10-1	4,549	1.52					\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
120	10	1	120-10-1	4,549	1.52					\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
120	10	2	120-10-2	4,549	1.52					\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78

**ECM-11 RETROFIT LIGHT FIXTURES**

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
PL	11	PL-11	Parking Lots	103,076	31.38					\$9,276.84	\$882,500.00	\$24,738.24	\$857,761.76	92.46
1	11	1-11	Retrofit Light Fixtures	124,430	37.98					\$13,687.28	\$269,165.00	\$29,863.15	\$239,301.85	17.48
2	11	2-11	Retrofit Light Fixtures	86,846	26.32					\$9,553.07	\$65,422.50	\$20,843.06	\$44,579.44	4.67
3	11	3-11	Retrofit Light Fixtures	29,680	8.99					\$3,264.82	\$25,090.00	\$7,123.25	\$17,966.75	5.50
5	11	5-11	Retrofit Light Fixtures	15,494	4.70					\$1,704.29	\$13,487.50	\$3,718.44	\$9,769.06	5.73
6	11	6-11	Retrofit Light Fixtures	98,003	29.70					\$10,780.37	\$53,202.50	\$23,520.82	\$29,681.68	2.75
7	11	7-11	Retrofit Light Fixtures	37,359	11.32					\$4,109.52	\$26,422.50	\$8,966.23	\$17,456.27	4.25
8	11	8-11	Retrofit Light Fixtures	25,658	7.77					\$2,822.33	\$35,522.50	\$6,157.80	\$29,364.70	10.40
9	11	9-11	Retrofit Light Fixtures	106,174	32.17					\$11,679.16	\$118,365.00	\$25,481.81	\$92,883.19	7.95
10	11	10-11	Retrofit Light Fixtures	54,084	16.39					\$5,949.21	\$128,147.50	\$12,980.09	\$115,167.41	19.36
14	11	14-11	Retrofit Light Fixtures	34,927	10.58					\$3,841.99	\$61,230.00	\$8,382.53	\$52,847.47	13.76
15	11	15-11	Retrofit Light Fixtures	31,205	9.46					\$3,432.53	\$67,307.50	\$7,489.15	\$59,818.35	17.43
16	11	16-11	Retrofit Light Fixtures	9,507	2.88					\$1,045.80	\$22,230.00	\$2,281.75	\$19,948.25	19.07
17	11	17-11	Retrofit Light Fixtures	26,030	7.89					\$2,863.34	\$13,877.50	\$6,247.30	\$7,630.20	2.66
21	11	21-11	Retrofit Light Fixtures	11,583	3.51					\$1,274.13	\$10,270.00	\$2,779.92	\$7,490.08	5.88
22	11	22-11	Retrofit Light Fixtures	31,964	9.69					\$3,516.02	\$34,320.00	\$7,671.31	\$26,648.69	7.58
23	11	23-11	Retrofit Light Fixtures	20,246	6.13					\$2,227.01	\$32,630.00	\$4,858.92	\$27,771.08	12.47
24	11	24-11	Retrofit Light Fixtures	26,842	8.13					\$2,952.64	\$59,897.50	\$6,442.13	\$53,455.37	18.10
25	11	25-11	Retrofit Light Fixtures	26,525	8.04					\$2,917.79	\$45,857.50	\$6,366.10	\$39,491.40	13.53
26	11	26-11	Retrofit Light Fixtures	112,118	33.98					\$12,332.93	\$59,475.00	\$26,908.20	\$32,566.80	2.64
27	11	27-11	Retrofit Light Fixtures	5,590	1.69					\$614.92	\$12,512.50	\$1,341.65	\$11,170.85	18.17
28	11	28-11	Retrofit Light Fixtures	12,745	3.86					\$1,401.91	\$37,927.50	\$3,058.70	\$34,868.80	24.87
32	11	32-11	Retrofit Light Fixtures	14,236	4.31					\$1,565.98	\$25,642.50	\$3,416.69	\$22,225.81	14.19
33	11	33-11	Retrofit Light Fixtures	8,204	2.49					\$902.42	\$24,830.00	\$1,968.91	\$22,861.09	25.33
34	11	34-11	Retrofit Light Fixtures	4,679	1.42					\$514.73	\$17,680.00	\$1,123.06	\$16,556.94	32.17
35	11	35-11	Retrofit Light Fixtures	30,268	9.17					\$3,329.44	\$59,670.00	\$7,264.22	\$52,405.78	15.74
41	11	41-11	Retrofit Light Fixtures	37,201	11.27					\$4,092.10	\$52,780.00	\$8,928.22	\$43,851.78	10.72

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
46	11	46-11	Retrofit Light Fixtures	131,852	39.95					\$14,503.67	\$111,735.00	\$31,644.36	\$80,090.64	5.52
47	11	47-11	Retrofit Light Fixtures	51,506	15.61					\$5,665.70	\$90,577.50	\$12,361.54	\$78,215.96	13.81
49	11	49-11	Retrofit Light Fixtures	9,174	2.78					\$1,009.14	\$18,752.50	\$2,201.76	\$16,550.74	16.40
50	11	50-11	Retrofit Light Fixtures	215,012	65.16					\$23,651.27	\$120,640.00	\$51,602.76	\$69,037.24	2.92
51	11	51-11	Retrofit Light Fixtures	18,266	5.54					\$2,009.21	\$38,967.50	\$4,383.72	\$34,583.78	17.21
52	11	52-11	Retrofit Light Fixtures	15,005	4.55					\$1,650.56	\$22,457.50	\$3,601.22	\$18,856.28	11.42
54	11	54-11	Retrofit Light Fixtures	38,643	11.71					\$4,250.73	\$41,210.00	\$9,274.32	\$31,935.68	7.51
55	11	55-11	Retrofit Light Fixtures	22,103	7.53					\$2,431.37	\$38,707.50	\$5,304.82	\$33,402.68	13.74
56	11	56-11	Retrofit Light Fixtures	65,578	19.87					\$7,213.54	\$118,137.50	\$15,738.62	\$102,398.88	14.20
57	11	57-11	Retrofit Light Fixtures	9,233	2.80					\$1,015.67	\$16,120.00	\$2,216.02	\$13,903.98	13.69
59	11	59-11	Retrofit Light Fixtures	25,832	7.83					\$2,841.56	\$18,005.00	\$6,199.78	\$11,805.22	4.15
60	11	60-11	Retrofit Light Fixtures	10,468	3.17					\$1,151.44	\$23,985.00	\$2,512.22	\$21,472.78	18.65
61	11	61-11	Retrofit Light Fixtures	10,511	3.19					\$1,156.16	\$24,082.50	\$2,522.52	\$21,559.98	18.65
62B	11	62B-11	Retrofit Light Fixtures	8,323	2.52					\$915.49	\$19,045.00	\$1,997.42	\$17,047.58	18.62
66	11	66-11	Retrofit Light Fixtures	2,878	0.87					\$316.54	\$6,110.00	\$690.62	\$5,419.38	17.12
67	11	67-11	Retrofit Light Fixtures	1,970	0.60					\$216.71	\$2,470.00	\$472.82	\$1,997.18	9.22
71	11	71-11	Retrofit Light Fixtures	90,958	27.56					\$10,005.37	\$66,722.50	\$21,829.90	\$44,892.60	4.49
72	11	72-11-1	Retrofit Light Fixtures	210,128	63.68					\$23,114.03	\$81,315.00	\$50,430.60	\$30,884.40	1.34
72	11	72-11-2	Retrofit Light Fixtures	14,999	4.55					\$1,649.84	\$32,435.00	\$3,599.64	\$28,835.36	17.48
73	11	73-11	Retrofit Light Fixtures	78,121	23.67					\$8,593.30	\$70,590.00	\$18,749.02	\$51,840.98	6.03
74	11	74-11	Retrofit Light Fixtures	6,369	1.93					\$700.59	\$4,875.00	\$1,528.56	\$3,346.44	4.78
79	11	79-11	Retrofit Light Fixtures	6,059	1.84					\$666.47	\$3,380.00	\$1,454.11	\$1,925.89	2.89
80	11	80-11	Retrofit Light Fixtures	4,828	1.46					\$531.07	\$9,197.50	\$1,158.70	\$8,038.80	15.14
81	11	81-11	Retrofit Light Fixtures	19,622	5.95					\$2,158.40	\$22,945.00	\$4,709.23	\$18,235.77	8.45
82	11	82-11	Retrofit Light Fixtures	33,851	10.26					\$3,723.65	\$46,540.00	\$8,124.34	\$38,415.66	10.32
86	11	86-11	Retrofit Light Fixtures	6,138	1.86					\$675.18	\$7,085.00	\$1,473.12	\$5,611.88	8.31
101	11	101-11	Retrofit Light Fixtures	7,917	2.40					\$870.84	\$3,932.50	\$1,900.01	\$2,032.49	2.33
104	11	104-11	Retrofit Light Fixtures	1,775	0.54					\$195.29	\$3,217.50	\$426.10	\$2,791.40	14.29
105	11	105-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
106	11	106-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
107	11	107-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
108	11	108-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
109	11	109-11	Retrofit Light Fixtures	4,976	1.51					\$547.40	\$11,440.00	\$1,194.34	\$10,245.66	18.72
110	11	110-11	Retrofit Light Fixtures	4,976	1.51					\$547.40	\$11,440.00	\$1,194.34	\$10,245.66	18.72

ECM-12 HIGH SEER UPGRADES

Bldg #	ECM #		SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
2	12	1	2-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
2	12	2	2-12-2	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
3	12	1	3-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
6	12	1	6-12-1	High SEER Units	2,277	1.90					\$204.95	\$4,562.50	\$546.53	\$4,015.97	19.59
8	12	1	8-12-1	High SEER Units	500	0.42					\$45.00	\$562.50	\$120.00	\$442.50	9.83
17	12	1	17-12-1	High SEER Units	10,572	8.81					\$951.52	\$21,100.00	\$2,537.38	\$18,562.62	19.51
17	12	2	17-12-2	High SEER Units	6,041	5.03					\$543.72	\$11,100.00	\$1,449.93	\$9,650.07	17.75
19	12	1	19-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
19	12	2	19-12-2	High SEER Units	755	0.63					\$67.97	\$900.00	\$181.24	\$718.76	10.58
24	12	1	24-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
24	12	2	24-12-2	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
25	12	1	25-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
32	12	1	32-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
34	12	1	34-12-1	High SEER Units	3,580	2.98					\$322.16	\$6,562.50	\$859.09	\$5,703.41	17.70
35	12	1	35-12-1	High SEER Units	1,620	1.35					\$145.80	\$2,250.00	\$388.80	\$1,861.20	12.77
46	12	1	46-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
51	12	1	51-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
52	12	1	52-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
54	12	1	54-12-1	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
54	12	2	54-12-2	High SEER Units	801	0.67					\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
58	12	1	58-12-1	High SEER Units	3,580	2.98					\$322.16	\$6,562.50	\$859.09	\$5,703.41	17.70
62A	12	1	62A-12-1	High SEER Units	2,918	2.43					\$262.64	\$5,350.00	\$700.36	\$4,649.64	17.70
62B	12	1	62B-12-1	High SEER Units	5,010	4.17					\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62A	12	2	62A-12-2	High SEER Units	1,602	1.34					\$144.18	\$2,225.00	\$384.48	\$1,840.52	12.77
62B	12	2	62B-12-2	High SEER Units	5,010	4.17					\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62A	12	3	62A-12-3	High SEER Units	810	0.68					\$72.90	\$1,125.00	\$194.40	\$930.60	12.77
62B	12	3	62B-12-3	High SEER Units	5,010	4.17					\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62A	12	4	62A-12-4	High SEER Units	810	0.68					\$72.90	\$1,125.00	\$194.40	\$930.60	12.77
62B	12	4	62B-12-4	High SEER Units	5,010	4.17					\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
72	12	1	72-12-1	High SEER Units	2,333	1.94					\$210.00	\$2,500.00	\$560.00	\$1,940.00	9.24
72	12	2	72-12-2	High SEER Units	3,479	2.90					\$313.10	\$3,125.00	\$834.94	\$2,290.06	7.31
72	12	3	72-12-3	High SEER Units	4,960	4.13					\$446.41	\$4,743.75	\$1,190.43	\$3,553.32	7.96
72	12	4	72-12-4	High SEER Units	2,438	2.03					\$219.45	\$2,612.50	\$585.20	\$2,027.30	9.24
72	12	5	72-12-5	High SEER Units	3,553	2.96					\$319.73	\$3,806.25	\$852.60	\$2,953.65	9.24
72	12	6	72-12-6	High SEER Units	1,394	1.16					\$125.48	\$1,493.75	\$334.60	\$1,159.15	9.24

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
72	12	7	72-12-7	High SEER Units	4,950	4.13				\$445.53	\$5,581.25	\$1,188.08	\$4,393.17	9.86
72	12	8	72-12-8	High SEER Units	2,088	1.74				\$187.95	\$2,237.50	\$501.20	\$1,736.30	9.24
72	12	9	72-12-9	High SEER Units	2,433	2.03				\$218.93	\$2,606.25	\$583.80	\$2,022.45	9.24
72	12	10	72-12-10	High SEER Units	3,137	2.61				\$282.32	\$3,000.00	\$752.84	\$2,247.16	7.96
72	12	11	72-12-11	High SEER Units	7,690	6.41				\$692.12	\$7,637.50	\$1,845.64	\$5,791.86	8.37
72	12	12	72-12-12	High SEER Units	4,764	3.97				\$428.77	\$4,556.25	\$1,143.38	\$3,412.87	7.96
72	12	13	72-12-13	High SEER Units	740	0.62				\$66.64	\$950.00	\$177.70	\$772.30	11.59
72	12	14	72-12-14	High SEER Units	593	0.49				\$53.38	\$668.75	\$142.36	\$526.39	9.86
72	12	15	72-12-15	High SEER Units	1,832	1.53				\$164.85	\$1,962.50	\$439.60	\$1,522.90	9.24
72	12	16	72-12-16	High SEER Units	1,989	1.66				\$179.03	\$2,131.25	\$477.40	\$1,653.85	9.24
72	12	17	72-12-17	High SEER Units	3,442	2.87				\$309.75	\$3,687.50	\$826.00	\$2,861.50	9.24
72	12	18	72-12-18	High SEER Units	3,131	2.61				\$281.79	\$2,812.50	\$751.45	\$2,061.05	7.31
72	12	19	72-12-19	High SEER Units	3,201	2.67				\$288.05	\$2,875.00	\$768.14	\$2,106.86	7.31
72	12	20	72-12-20	High SEER Units	5,470	4.56				\$492.29	\$5,231.25	\$1,312.77	\$3,918.48	7.96
73	12	1	73-12-1	High SEER Units	1,305	1.09				\$117.45	\$1,812.50	\$313.20	\$1,499.30	12.77
74	12	1	74-12-1	High SEER Units	1,227	1.02				\$110.45	\$2,250.00	\$294.55	\$1,955.45	17.70
74	12	2	74-12-2	High SEER Units	1,227	1.02				\$110.45	\$2,250.00	\$294.55	\$1,955.45	17.70
81	12	1	81-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
81	12	2	81-12-2	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
82	12	1	82-12-1	High SEER Units	1,350	1.13				\$121.50	\$1,875.00	\$324.00	\$1,551.00	12.77
89	12	1	89-12-1	High SEER Units	1,038	0.87				\$93.46	\$3,750.00	\$249.23	\$3,500.77	37.46
89	12	2	89-12-2	High SEER Units	2,700	2.25				\$243.00	\$3,750.00	\$648.00	\$3,102.00	12.77
104	12	1	104-12-1	High SEER Units	21,060	17.55				\$1,895.40	\$29,250.00	\$5,054.40	\$24,195.60	12.77
104	12	2	104-12-2	High SEER Units	796	0.66				\$71.64	\$1,105.63	\$191.05	\$914.57	12.77
120	12	1	120-12-1	High SEER Units	12,524	10.44				\$1,127.17	\$11,250.00	\$3,005.78	\$8,244.22	7.31
120	12	2	120-12-2	High SEER Units	9,184	7.65				\$826.59	\$8,250.00	\$2,204.24	\$6,045.76	7.31
120	12	3	120-12-3	High SEER Units	1,670	1.39				\$150.29	\$1,500.00	\$400.77	\$1,099.23	7.31
120	12	4	120-12-4	High SEER Units	2,505	2.09				\$225.43	\$2,250.00	\$601.16	\$1,648.84	7.31

ECM-13 PV FOR COOL ROOF EQUIVALENT

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
2	13	2-13	Cool Roof Equivalent PV	28,075	15.38					\$2,636.48	\$79,800.00	\$6,737.95	\$73,062.05	27.71
3	13	3-13	Cool Roof Equivalent PV	13,299	7.29					\$1,248.86	\$37,800.00	\$3,191.66	\$34,608.34	27.71
5	13	5-13	Cool Roof Equivalent PV	29,552	16.19					\$2,775.24	\$84,000.00	\$7,092.58	\$76,907.42	27.71
6	13	6-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
7	13	7-13	Cool Roof Equivalent PV	26,597	14.57					\$2,497.72	\$75,600.00	\$6,383.32	\$69,216.68	27.71



Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
8	13	8-13	Cool Roof Equivalent PV	25,120	13.76					\$2,358.95	\$71,400.00	\$6,028.69	\$65,371.31	27.71
9	13	9-13	Cool Roof Equivalent PV	16,254	8.91					\$1,526.38	\$46,200.00	\$3,900.92	\$42,299.08	27.71
10	13	10-13	Cool Roof Equivalent PV	10,343	5.67					\$971.33	\$29,400.00	\$2,482.40	\$26,917.60	27.71
14	13	14-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
15	13	15-13	Cool Roof Equivalent PV	8,866	4.86					\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71
16	13	16-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71
17	13	17-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
19	13	19-13	Cool Roof Equivalent PV	31,030	17.00					\$2,914.00	\$88,200.00	\$7,447.20	\$80,752.80	27.71
21	13	21-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
22	13	22-13	Cool Roof Equivalent PV	8,866	4.86					\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71
23	13	23-13	Cool Roof Equivalent PV	19,209	10.53					\$1,803.91	\$54,600.00	\$4,610.17	\$49,989.83	27.71
24	13	24-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71
25	13	25-13	Cool Roof Equivalent PV	22,164	12.14					\$2,081.43	\$63,000.00	\$5,319.43	\$57,680.57	27.71
32	13	32-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
33	13	33-13	Cool Roof Equivalent PV	16,254	8.91					\$1,526.38	\$46,200.00	\$3,900.92	\$42,299.08	27.71
34	13	34-13	Cool Roof Equivalent PV	17,731	9.72					\$1,665.14	\$50,400.00	\$4,255.55	\$46,144.45	27.71
35	13	35-13	Cool Roof Equivalent PV	62,060	34.01					\$5,828.00	\$176,400.00	\$14,894.41	\$161,505.59	27.71
51	13	51-13	Cool Roof Equivalent PV	17,731	9.72					\$1,665.14	\$50,400.00	\$4,255.55	\$46,144.45	27.71
52	13	52-13	Cool Roof Equivalent PV	5,910	3.24					\$555.05	\$16,800.00	\$1,418.52	\$15,381.48	27.71
54	13	54-13	Cool Roof Equivalent PV	33,985	18.62					\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
55	13	55-13	Cool Roof Equivalent PV	19,209	10.53					\$1,803.91	\$54,600.00	\$4,610.17	\$49,989.83	27.71
56	13	56-13	Cool Roof Equivalent PV	50,239	27.53					\$4,717.91	\$142,800.00	\$12,057.38	\$130,742.62	27.71
57	13	57-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71
58	13	58-13	Cool Roof Equivalent PV	38,418	21.05					\$3,607.81	\$109,200.00	\$9,220.35	\$99,979.65	27.71
59	13	59-13	Cool Roof Equivalent PV	8,866	4.86					\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71
60	13	60-13	Cool Roof Equivalent PV	33,985	18.62					\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
61	13	61-13	Cool Roof Equivalent PV	33,985	18.62					\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
62A	13	62A-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71
62B	13	62B-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
66	13	66-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
72	13	72-13	Cool Roof Equivalent PV	106,389	58.30					\$9,990.86	\$302,400.00	\$25,533.27	\$276,866.73	27.71
72	13	72-13	Cool Roof Equivalent PV	106,389	58.30					\$9,990.86	\$302,400.00	\$25,533.27	\$276,866.73	27.71
73	13	73-13	Cool Roof Equivalent PV	116,732	63.96					\$10,962.20	\$331,800.00	\$28,015.68	\$303,784.32	27.71
74	13	74-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
75	13	75-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
81	13	81-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
82	13	82-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
85	13	85-13	Cool Roof Equivalent PV	65,015	35.62					\$6,105.53	\$184,800.00	\$15,603.67	\$169,196.33	27.71

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
86	13	86-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
89	13	89-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
104	13	104-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
105	13	105-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
106	13	106-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
107	13	107-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
108	13	108-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
109	13	109-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
110	13	110-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
111	13	111-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
120	13	120-13	Cool Roof Equivalent PV	10,343	5.67					\$971.33	\$29,400.00	\$2,482.40	\$26,917.60	27.71

**ECM-14 PLUG LOAD REDUCTION**

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
All	14	All-14	Plug Load Reduction	536,112	61.20					\$48,250.08	\$360,000.00	\$128,666.88	\$231,333.12	4.79

**ECM-16 CHP WITH MICROTURBINE**

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	16	1-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08
19-1	16	19-1-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08
19-2	16	19-2-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08

**ECM-17 EXHAUST FAN SETBACK**

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	17	E-1	1-17-E-1	Exhaust Fan Set-Back	3,357	0.84				\$302.13	\$1,122.00	\$805.68	\$316.32	1.05
1	17	E-2	1-17-E-2	Exhaust Fan Set-Back	3,707	0.93				\$963.85	\$1,122.00	\$889.71	\$232.29	0.24
1	17	E-3	1-17-E-3	Exhaust Fan Set-Back	1,679	0.42				\$151.07	\$1,122.00	\$402.84	\$719.16	4.76
1	17	E-4	1-17-E-4	Exhaust Fan Set-Back	1,679	0.42				\$151.07	\$1,122.00	\$402.84	\$719.16	4.76
1	17	E-5	1-17-E-5	Exhaust Fan Set-Back	2,460	0.62				\$621.15	\$1,122.00	\$590.42	\$531.58	0.86

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	17	E-6	1-17-E-6	Exhaust Fan Set-Back	373	0.09				\$33.57	\$1,122.00	\$89.52	\$1,032.48	30.76
5	17	E-3	5-17-E-3	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	E-4	5-17-E-4	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	E-5	5-17-E-5	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	EF-1	5-17-EF-1	Exhaust Fan Set-Back	7,121	1.78				\$1,374.03	\$1,122.00	\$897.60	\$224.40	0.16
5	17	EF-2	5-17-EF-2	Exhaust Fan Set-Back	3,549	0.89				\$664.91	\$1,122.00	\$851.75	\$270.25	0.41
5	17	EF-6	5-17-EF-6	Exhaust Fan Set-Back	40	0.01				\$18.48	\$1,122.00	\$9.65	\$1,112.35	60.19
5	17	EF-7	5-17-EF-7	Exhaust Fan Set-Back	884	0.22				\$327.20	\$1,122.00	\$212.06	\$909.94	2.78
5	17	EF-8	5-17-EF-8	Exhaust Fan Set-Back	40	0.01				\$18.48	\$1,122.00	\$9.65	\$1,112.35	60.19
6	17	EF-1	6-17-EF-1	Exhaust Fan Set-Back	597	0.15				\$121.22	\$1,122.00	\$143.28	\$978.72	8.07
6	17	EF-10	6-17-EF-10	Exhaust Fan Set-Back	2,431	0.61				\$565.50	\$1,122.00	\$583.35	\$538.65	0.95
6	17	EF-11	6-17-EF-11	Exhaust Fan Set-Back	4,696	1.17				\$818.93	\$1,122.00	\$897.60	\$224.40	0.27
6	17	EF-12	6-17-EF-12	Exhaust Fan Set-Back	782	0.20				\$134.75	\$1,122.00	\$187.63	\$934.37	6.93
6	17	EF-13	6-17-EF-13	Exhaust Fan Set-Back	1,844	0.46				\$463.13	\$1,122.00	\$442.47	\$679.53	1.47
6	17	EF-14	6-17-EF-14	Exhaust Fan Set-Back	209	0.05				\$59.69	\$1,122.00	\$50.21	\$1,071.79	17.95
6	17	EF-2	6-17-EF-2	Exhaust Fan Set-Back	884	0.22				\$327.20	\$1,122.00	\$212.06	\$909.94	2.78
6	17	EF-3	6-17-EF-3	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-4	6-17-EF-4	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-5	6-17-EF-5	Exhaust Fan Set-Back	2,006	0.50				\$770.00	\$1,122.00	\$481.44	\$640.56	0.83
6	17	EF-6	6-17-EF-6	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-7	6-17-EF-7	Exhaust Fan Set-Back	1,956	0.49				\$674.95	\$1,122.00	\$469.37	\$652.63	0.97
6	17	EF-8	6-17-EF-8	Exhaust Fan Set-Back	865	0.22				\$292.09	\$1,122.00	\$207.60	\$914.40	3.13
6	17	EF-9	6-17-EF-9	Exhaust Fan Set-Back	462	0.12				\$202.61	\$1,122.00	\$110.99	\$1,011.01	4.99
9	17	EF 2-2	9-17-EF 2-2	Exhaust Fan Set-Back	3,481	0.87				\$536.18	\$1,122.00	\$835.40	\$286.60	0.53
14	17	525	14-17-525	Exhaust Fan Set-Back	2,238	0.56				\$201.42	\$1,122.00	\$537.12	\$584.88	2.90
14	17	RR	14-17-RR	Exhaust Fan Set-Back	2,238	0.56				\$201.42	\$1,122.00	\$537.12	\$584.88	2.90
32	17	FA2-EF-15	32-17-FA2-EF-15	Exhaust Fan Set-Back	604	0.15				\$54.38	\$1,122.00	\$145.02	\$976.98	17.96
32	17	FA2-EF-16	32-17-FA2-EF-16	Exhaust Fan Set-Back	1,460	0.36				\$341.90	\$1,122.00	\$350.34	\$771.66	2.26
32	17	FA2-EF-17	32-17-FA2-EF-17	Exhaust Fan Set-Back	439	0.11				\$145.42	\$1,122.00	\$105.43	\$1,016.57	6.99
32	17	FA3-EF-1	32-17-FA3-EF-1	Exhaust Fan Set-Back	2,263	0.57				\$651.98	\$1,122.00	\$543.18	\$578.82	0.89
32	17	FA3-EF-4	32-17-FA3-EF-4	Exhaust Fan Set-Back	1,265	0.32				\$497.76	\$1,122.00	\$303.63	\$818.37	1.64
32	17	FA3-EF-5	32-17-FA3-EF-5	Exhaust Fan Set-Back	250	0.06				\$89.35	\$1,122.00	\$59.94	\$1,062.06	11.89

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
32	17	FA3-EF-6	32-17-FA3-EF-6	Exhaust Fan Set-Back	7,130	1.78				\$1,712.89	\$1,122.00	\$897.60	\$224.40	0.13
32	17	FA3-EF-7	32-17-FA3-EF-7	Exhaust Fan Set-Back	3,006	0.75				\$765.85	\$1,122.00	\$721.33	\$400.67	0.52
32	17	FA3-EF-8	32-17-FA3-EF-8	Exhaust Fan Set-Back	626	0.16				\$216.08	\$1,122.00	\$150.21	\$971.79	4.50
32	17	FA3-EF-9	32-17-FA3-EF-9	Exhaust Fan Set-Back	1,243	0.31				\$334.76	\$1,122.00	\$298.28	\$823.72	2.46
32	17	FA4-EF-1	32-17-FA4-EF-1	Exhaust Fan Set-Back	449	0.11				\$164.27	\$1,122.00	\$107.82	\$1,014.18	6.17
32	17	FA4-EF-12	32-17-FA4-EF-12	Exhaust Fan Set-Back	23,118	5.78				\$5,020.51	\$1,122.00	\$897.60	\$224.40	0.04
32	17	FA4-EF-12A	32-17-FA4-EF-12A	Exhaust Fan Set-Back	6,016	1.50				\$1,299.32	\$1,122.00	\$897.60	\$224.40	0.17
32	17	FA4-EF-2	32-17-FA4-EF-2	Exhaust Fan Set-Back	17,547	4.39				\$3,756.27	\$1,122.00	\$897.60	\$224.40	0.06
32	17	FA4-EF-3	32-17-FA4-EF-3	Exhaust Fan Set-Back	2,187	0.55				\$657.53	\$1,122.00	\$524.96	\$597.04	0.91
32	17	FA4-EF-4	32-17-FA4-EF-4	Exhaust Fan Set-Back	1,551	0.39				\$312.96	\$1,122.00	\$372.24	\$749.76	2.40
32	17	FA4-EF-5	32-17-FA4-EF-5	Exhaust Fan Set-Back	322	0.08				\$84.70	\$1,122.00	\$77.26	\$1,044.74	12.34
32	17	FA4-EF-6	32-17-FA4-EF-6	Exhaust Fan Set-Back	399	0.10				\$110.24	\$1,122.00	\$95.85	\$1,026.15	9.31
32	17	FA4-EF-7	32-17-FA4-EF-7	Exhaust Fan Set-Back	81	0.02				\$32.05	\$1,122.00	\$19.42	\$1,102.58	34.40
32	17	FA4-EF-8	32-17-FA4-EF-8	Exhaust Fan Set-Back	1,551	0.39				\$312.96	\$1,122.00	\$372.24	\$749.76	2.40
35	17	EF-1	35-17-EF-1	Exhaust Fan Set-Back	20,142	5.04				\$1,812.78	\$1,122.00	\$897.60	\$224.40	0.12
35	17	EF-2	35-17-EF-2	Exhaust Fan Set-Back	614	0.15				\$153.08	\$1,122.00	\$147.32	\$974.68	6.37
35	17	EF-3	35-17-EF-3	Exhaust Fan Set-Back	1,215	0.30				\$282.75	\$1,122.00	\$291.68	\$830.32	2.94
35	17	EF-4	35-17-EF-4	Exhaust Fan Set-Back	3,667	0.92				\$887.26	\$1,122.00	\$879.98	\$242.02	0.27
35	17	EF-5	35-17-EF-5	Exhaust Fan Set-Back	373	0.09				\$33.57	\$1,122.00	\$89.52	\$1,032.48	30.76
35	17	EF-6	35-17-EF-6	Exhaust Fan Set-Back	4,972	1.24				\$1,340.35	\$1,122.00	\$897.60	\$224.40	0.17
35	17	EF-7	35-17-EF-7	Exhaust Fan Set-Back	4,972	1.24				\$1,340.35	\$1,122.00	\$897.60	\$224.40	0.17
51	17	EF-1	51-17-EF-1	Exhaust Fan Set-Back	3,481	0.87				\$536.18	\$1,122.00	\$835.40	\$286.60	0.53
56	17	AA-1	56-17-AA-1	Exhaust Fan Set-Back	18,849	4.71				\$5,411.51	\$1,122.00	\$897.60	\$224.40	0.04
56	17	EF-1	56-17-EF-1	Exhaust Fan Set-Back	3,581	0.90				\$726.02	\$1,122.00	\$859.51	\$262.49	0.36
56	17	EF-10	56-17-EF-10	Exhaust Fan Set-Back	2,534	0.63				\$760.54	\$1,122.00	\$608.12	\$513.88	0.68

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
56	17	EF-11	56-17-EF-11	Exhaust Fan Set-Back	2,293	0.57				\$305.44	\$1,122.00	\$550.33	\$571.67	1.87
56	17	EF-12	56-17-EF-12	Exhaust Fan Set-Back	766	0.19				\$440.44	\$1,122.00	\$183.81	\$938.19	2.13
56	17	EF-13	56-17-EF-13	Exhaust Fan Set-Back	639	0.16				\$199.89	\$1,122.00	\$153.27	\$968.73	4.85
56	17	EF-14	56-17-EF-14	Exhaust Fan Set-Back	407	0.10				\$96.05	\$1,122.00	\$97.62	\$1,024.38	10.66
56	17	EF-2	56-17-EF-2	Exhaust Fan Set-Back	1,312	0.33				\$464.79	\$1,122.00	\$314.79	\$807.21	1.74
56	17	EF-3	56-17-EF-3	Exhaust Fan Set-Back	1,257	0.31				\$360.77	\$1,122.00	\$301.58	\$820.42	2.27
56	17	EF-4	56-17-EF-4	Exhaust Fan Set-Back	3,639	0.91				\$835.25	\$1,122.00	\$873.38	\$248.62	0.30
56	17	EF-5	56-17-EF-5	Exhaust Fan Set-Back	2,352	0.59				\$415.97	\$1,122.00	\$564.36	\$557.64	1.34
56	17	EF-6	56-17-EF-6	Exhaust Fan Set-Back	7,055	1.76				\$1,247.90	\$1,122.00	\$897.60	\$224.40	0.18
56	17	EF-7	56-17-EF-7	Exhaust Fan Set-Back	3,770	0.94				\$1,082.30	\$1,122.00	\$897.60	\$224.40	0.21
56	17	EF-8	56-17-EF-8	Exhaust Fan Set-Back	2,548	0.64				\$786.55	\$1,122.00	\$611.42	\$510.58	0.65
56	17	EF-9	56-17-EF-9	Exhaust Fan Set-Back	33,880	8.47				\$3,606.43	\$1,122.00	\$897.60	\$224.40	0.06
60	17	EF-1	60-17-EF-1	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
60	17	EF-2	60-17-EF-2	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
61	17	EF-1	61-17-EF-1	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
61	17	EF-2	61-17-EF-2	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
62A	17	EF-1	62A-17-EF-1	Exhaust Fan Set-Back	203	0.05				\$49.25	\$1,122.00	\$48.77	\$1,073.23	21.79
62B	17	EF-1	62B-17-EF-1	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
62B	17	EF-2	62B-17-EF-2	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
73	17	EF-1	73-17-EF-1	Exhaust Fan Set-Back	13	0.00				\$24.94	\$1,122.00	\$3.17	\$1,118.83	44.87
73	17	EF-10	73-17-EF-10	Exhaust Fan Set-Back	1,763	0.44				\$311.00	\$1,122.00	\$423.15	\$698.85	2.25
73	17	EF-11	73-17-EF-11	Exhaust Fan Set-Back	11	0.00				\$20.78	\$1,122.00	\$2.64	\$1,119.36	53.87
73	17	EF-12	73-17-EF-12	Exhaust Fan Set-Back	112	0.03				\$10.07	\$1,122.00	\$26.86	\$1,095.14	108.74
73	17	EF-13	73-17-EF-13	Exhaust Fan Set-Back	560	0.14				\$50.36	\$1,122.00	\$134.28	\$987.72	19.62
73	17	EF-14 & 15	73-17-EF-14 & 15	Exhaust Fan Set-Back	31	0.01				\$59.37	\$1,122.00	\$7.54	\$1,114.46	18.77
73	17	EF-16	73-17-EF-16	Exhaust Fan Set-Back	468	0.12				\$79.29	\$1,122.00	\$112.38	\$1,009.62	12.73
73	17	EF-17	73-17-EF-17	Exhaust Fan Set-Back	9	0.00				\$17.81	\$1,122.00	\$2.26	\$1,119.74	62.86
73	17	EF-18	73-17-EF-18	Exhaust Fan Set-Back	615	0.15				\$154.38	\$1,122.00	\$147.49	\$974.51	6.31
73	17	EF-2	73-17-EF-2	Exhaust Fan Set-Back	16	0.00				\$29.69	\$1,122.00	\$3.77	\$1,118.23	37.67
73	17	EF-3	73-17-EF-3	Exhaust Fan Set-Back	1,844	0.46				\$464.43	\$1,122.00	\$442.63	\$679.37	1.46
73	17	EF-4	73-17-EF-4	Exhaust Fan Set-Back	2,475	0.62				\$650.02	\$1,122.00	\$594.08	\$527.92	0.81
73	17	EF-5	73-17-EF-5	Exhaust Fan Set-Back	2,455	0.61				\$611.01	\$1,122.00	\$589.13	\$532.87	0.87
73	17	EF-6	73-17-EF-6	Exhaust Fan Set-Back	4,800	1.20				\$1,015.27	\$1,122.00	\$897.60	\$224.40	0.22
73	17	EF-7	73-17-EF-7	Exhaust Fan Set-Back	4,583	1.15				\$605.68	\$1,122.00	\$897.60	\$224.40	0.37
73	17	EF-8	73-17-EF-8	Exhaust Fan Set-Back	1,233	0.31				\$316.56	\$1,122.00	\$295.97	\$826.03	2.61
73	17	EF-9	73-17-EF-9	Exhaust Fan Set-Back	1,802	0.45				\$385.12	\$1,122.00	\$432.56	\$689.44	1.79
81	17	EF-1	81-17-EF-1	Exhaust Fan Set-Back	414	0.10				\$111.59	\$1,122.00	\$99.43	\$1,022.57	9.16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
81	17	EF-2	81-17-EF-2	Exhaust Fan Set-Back	414	0.10				\$111.59	\$1,122.00	\$99.43	\$1,022.57	9.16
82	17	EF-1	82-17-EF-1	Exhaust Fan Set-Back	75	0.02				\$142.50	\$1,122.00	\$18.09	\$1,103.91	7.75
82	17	EF-2	82-17-EF-2	Exhaust Fan Set-Back	63	0.02				\$118.75	\$1,122.00	\$15.08	\$1,106.92	9.32
82	17	EF-3	82-17-EF-3	Exhaust Fan Set-Back	628	0.16				\$1,187.48	\$1,122.00	\$150.79	\$971.21	0.82
82	17	EF-4	82-17-EF-4	Exhaust Fan Set-Back	628	0.16				\$1,187.48	\$1,122.00	\$150.79	\$971.21	0.82
82	17	EF-8	82-17-EF-8	Exhaust Fan Set-Back	19	0.00				\$35.62	\$1,122.00	\$4.52	\$1,117.48	31.37
82	17	EF-9	82-17-EF-9	Exhaust Fan Set-Back	24	0.01				\$45.12	\$1,122.00	\$5.73	\$1,116.27	24.74
104	17	EF-1	104-17-EF-1	Exhaust Fan Set-Back	2,809	0.70				\$1,280.66	\$1,122.00	\$674.17	\$447.83	0.35
104	17	EF-12	104-17-EF-12	Exhaust Fan Set-Back	2,665	0.67				\$1,007.60	\$1,122.00	\$639.49	\$482.51	0.48
104	17	EF-14	104-17-EF-14	Exhaust Fan Set-Back	1,284	0.32				\$412.78	\$1,122.00	\$308.19	\$813.81	1.97
105	17	EF-1	105-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-2	105-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-3	105-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-4	105-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-1	106-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-2	106-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-3	106-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-4	106-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-1	107-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-2	107-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-3	107-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-4	107-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-1	108-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-2	108-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-3	108-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-4	108-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
109	17	EF-10	109-17-EF-10	Exhaust Fan Set-Back	208	0.05				\$59.00	\$1,122.00	\$50.01	\$1,071.99	18.17
109	17	EF-7	109-17-EF-7	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
109	17	EF-8	109-17-EF-8	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
110	17	EF-10	110-17-EF-10	Exhaust Fan Set-Back	208	0.05				\$59.00	\$1,122.00	\$50.01	\$1,071.99	18.17
110	17	EF-7	110-17-EF-7	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
110	17	EF-8	110-17-EF-8	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
111	17	EF-1	111-17-EF-1	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-2	111-17-EF-2	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-3	111-17-EF-3	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-4	111-17-EF-4	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-1	120-17-EF-1	Exhaust Fan Set-Back	799	0.20				\$170.98	\$1,122.00	\$191.77	\$930.23	5.44
120	17	EF-2	120-17-EF-2	Exhaust Fan Set-Back	799	0.20				\$170.98	\$1,122.00	\$191.77	\$930.23	5.44

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
120	17	EF-3	120-17-EF-3	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-4	120-17-EF-4	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-5	120-17-EF-5	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-6	120-17-EF-6	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-7	120-17-EF-7	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-8	120-17-EF-8	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40

**ECM-18 FAN EFFICIENCY IMPROVEMENTS**

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	18	1	1-18-1	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
1	18	2	1-18-2	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	18	3	1-18-3	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	18	4	1-18-4	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	18	5	1-18-5	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
2	18	1	2-18-1	Fan Efficiency	5,883	1.47				\$529.46	\$5,250.00	\$1,411.89	\$3,838.11	7.25
2	18	2	2-18-2	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
3	18	1	3-18-1	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
3	18	2	3-18-2	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
5	18	1	5-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
9	18	1	9-18-1	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
9	18	2	9-18-2	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
9	18	3	9-18-3	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
9	18	4	9-18-4	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
9	18	5	9-18-5	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
9	18	6	9-18-6	Fan Efficiency	13,972	3.49				\$1,257.47	\$7,500.00	\$3,353.25	\$4,146.75	3.30
9	18	7	9-18-7	Fan Efficiency	13,972	3.49				\$1,257.47	\$7,500.00	\$3,353.25	\$4,146.75	3.30
14	18	1	14-18-1	Fan Efficiency	5,883	1.47				\$529.46	\$5,250.00	\$1,411.89	\$3,838.11	7.25
15	18	1	15-18-1	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
19	18	1	19-18-1	Fan Efficiency	7,721	1.93				\$694.92	\$7,500.00	\$1,853.11	\$5,646.89	8.13
19	18	2	19-18-2	Fan Efficiency	6,618	1.65				\$595.64	\$7,500.00	\$1,588.38	\$5,911.62	9.92
19	18	3	19-18-3	Fan Efficiency	10,295	2.57				\$926.56	\$7,500.00	\$2,470.81	\$5,029.19	5.43
19	18	4	19-18-4	Fan Efficiency	5,883	1.47				\$529.46	\$7,500.00	\$1,411.89	\$6,088.11	11.50
19	18	5	19-18-5	Fan Efficiency	12,869	3.22				\$1,158.19	\$7,500.00	\$3,088.52	\$4,411.48	3.81
19	18	6	19-18-6	Fan Efficiency	5,883	1.47				\$529.46	\$7,500.00	\$1,411.89	\$6,088.11	11.50
21	18	1	21-18-1	Fan Efficiency	2,068	0.52				\$186.14	\$3,500.00	\$496.37	\$3,003.63	16.14
22	18	1	22-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66

Bldg #	ECM #		SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
22	18	1R	22-18-1R	Fan Efficiency	1,287	0.32					\$115.82	\$3,000.00	\$308.85	\$2,691.15	23.24
22	18	1S	22-18-1S	Fan Efficiency	2,574	0.64					\$231.64	\$4,250.00	\$617.70	\$3,632.30	15.68
22	18	2	22-18-2	Fan Efficiency	3,221	0.81					\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
23	18	1	23-18-1	Fan Efficiency	2,941	0.74					\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
23	18	1R	23-18-1R	Fan Efficiency	2,206	0.55					\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
23	18	1S	23-18-1S	Fan Efficiency	2,206	0.55					\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
23	18	2	23-18-2	Fan Efficiency	1,471	0.37					\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
25	18	1S	25-18-1S	Fan Efficiency	3,309	0.83					\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44
25	18	2S	25-18-2S	Fan Efficiency	3,309	0.83					\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44
26	18	1S	26-18-1S	Fan Efficiency	2,206	0.55					\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
26	18	2S	26-18-2S	Fan Efficiency	662	0.17					\$59.56	\$3,000.00	\$158.84	\$2,841.16	47.70
26	18	3S	26-18-3S	Fan Efficiency	3,309	0.83					\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44
26	18	4S	26-18-4S	Fan Efficiency	1,655	0.41					\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84
26	18	5S	26-18-5S	Fan Efficiency	5,515	1.38					\$496.37	\$5,250.00	\$1,323.65	\$3,926.35	7.91
26	18	6S	26-18-6S	Fan Efficiency	1,655	0.41					\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84
32	18	1	32-18-1	Fan Efficiency	7,354	1.84					\$661.83	\$5,250.00	\$1,764.87	\$3,485.13	5.27
32	18	2	32-18-2	Fan Efficiency	7,354	1.84					\$661.83	\$5,250.00	\$1,764.87	\$3,485.13	5.27
32	18	3	32-18-3	Fan Efficiency	2,941	0.74					\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
33	18	1	33-18-1	Fan Efficiency	4,412	1.10					\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
33	18	1S	33-18-1S	Fan Efficiency	2,758	0.69					\$248.18	\$4,250.00	\$661.83	\$3,588.17	14.46
33	18	2	33-18-2	Fan Efficiency	2,206	0.55					\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
33	18	3	33-18-3	Fan Efficiency	2,941	0.74					\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
33	18	4	33-18-4	Fan Efficiency	882	0.22					\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
33	18	5	33-18-5	Fan Efficiency	1,471	0.37					\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
34	18	1	34-18-1	Fan Efficiency	2,941	0.74					\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
34	18	2	34-18-2	Fan Efficiency	882	0.22					\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
34	18	3	34-18-3	Fan Efficiency	4,412	1.10					\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
34	18	4	34-18-4	Fan Efficiency	1,471	0.37					\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
35	18	1	35-18-1	Fan Efficiency	11,766	2.94					\$1,058.92	\$7,500.00	\$2,823.79	\$4,676.21	4.42
35	18	2	35-18-2	Fan Efficiency	4,412	1.10					\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
35	18	3	35-18-3	Fan Efficiency	2,206	0.55					\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
41	18	1	41-18-1	Fan Efficiency	3,221	0.81					\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	2	41-18-2	Fan Efficiency	1,933	0.48					\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	3	41-18-3	Fan Efficiency	3,221	0.81					\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	4	41-18-4	Fan Efficiency	966	0.24					\$86.96	\$3,000.00	\$231.90	\$2,768.10	31.83
41	18	5	41-18-5	Fan Efficiency	1,933	0.48					\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	6	41-18-6	Fan Efficiency	1,933	0.48					\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	7	41-18-7	Fan Efficiency	3,221	0.81					\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68



Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
41	18	8	41-18-8	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	9	41-18-9	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	10	41-18-10	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	11	41-18-11	Fan Efficiency	1,288	0.32				\$115.95	\$3,000.00	\$309.20	\$2,690.80	23.21
41	18	12	41-18-12	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	13	41-18-13	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	14	41-18-14	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	15	41-18-15	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	16	41-18-16	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	17	41-18-17	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	19	41-18-19	Fan Efficiency	1,288	0.32				\$115.95	\$3,000.00	\$309.20	\$2,690.80	23.21
41	18	20	41-18-20	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	21	41-18-21	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	22	41-18-22	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	23	41-18-23	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	24	41-18-24	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
46	18	1	46-18-1	Fan Efficiency	4,831	1.21				\$434.82	\$4,500.00	\$1,159.52	\$3,340.48	7.68
46	18	2	46-18-2	Fan Efficiency	2,416	0.60				\$217.41	\$3,500.00	\$579.76	\$2,920.24	13.43
46	18	3	46-18-3	Fan Efficiency	2,416	0.60				\$217.41	\$3,500.00	\$579.76	\$2,920.24	13.43
46	18	4	46-18-4	Fan Efficiency	1,610	0.40				\$144.94	\$3,000.00	\$386.51	\$2,613.49	18.03
46	18	5	46-18-5	Fan Efficiency	3,221	0.81				\$289.88	\$4,250.00	\$773.01	\$3,476.99	11.99
54	18	1	54-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
54	18	2	54-18-2	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	3	54-18-3	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	4	54-18-4	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	5	54-18-5	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	6	54-18-6	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
55	18	FC-4	55-18-FC-4	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63
55	18	FC-3	55-18-FC-3	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63
55	18	FC-2	55-18-FC-2	Fan Efficiency	1,379	0.34				\$124.09	\$3,000.00	\$330.91	\$2,669.09	21.51
55	18	FC-1	55-18-FC-1	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63
55	18	1CS	55-18-1CS	Fan Efficiency	2,758	0.69				\$248.18	\$4,250.00	\$661.83	\$3,588.17	14.46
55	18	1HS	55-18-1HS	Fan Efficiency	2,068	0.52				\$186.14	\$3,500.00	\$496.37	\$3,003.63	16.14
56	18	1	56-18-1	Fan Efficiency	11,766	2.94				\$1,058.92	\$7,500.00	\$2,823.79	\$4,676.21	4.42
56	18	2	56-18-2	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
56	18	3	56-18-3	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
56	18	4	56-18-4	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
60	18	1	60-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
61	18	1	61-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	1	72-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	2	72-18-2	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	3	72-18-3	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	4	72-18-4	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	5	72-18-5	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	6	72-18-6	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
72	18	7	72-18-7	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	8	72-18-8	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	9	72-18-9	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
73	18	1R	73-18-1R	Fan Efficiency	13,237	3.31				\$1,191.29	\$7,500.00	\$3,176.76	\$4,323.24	3.63
73	18	1S	73-18-1S	Fan Efficiency	26,473	6.62				\$2,382.57	\$9,320.00	\$6,353.52	\$2,966.48	1.25
73	18	2R	73-18-2R	Fan Efficiency	10,479	2.62				\$943.10	\$7,500.00	\$2,514.94	\$4,985.06	5.29
73	18	2S	73-18-2S	Fan Efficiency	20,958	5.24				\$1,886.20	\$9,320.00	\$5,029.87	\$4,290.13	2.27
73	18	3R	73-18-3R	Fan Efficiency	13,237	3.31				\$1,191.29	\$7,500.00	\$3,176.76	\$4,323.24	3.63
73	18	3S	73-18-3S	Fan Efficiency	26,473	6.62				\$2,382.57	\$9,320.00	\$6,353.52	\$2,966.48	1.25
73	18	4R	73-18-4R	Fan Efficiency	4,412	1.10				\$397.10	\$7,500.00	\$1,058.92	\$6,441.08	16.22
73	18	4S	73-18-4S	Fan Efficiency	8,824	2.21				\$794.19	\$9,320.00	\$2,117.84	\$7,202.16	9.07
81	18	1R	81-18-1R	Fan Efficiency	1,655	0.41				\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84
81	18	1S	81-18-1S	Fan Efficiency	4,412	1.10				\$397.10	\$5,250.00	\$1,058.92	\$4,191.08	10.55
85	18	1	85-18-1	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
104	18	1	104-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
120	18	1	120-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
120	18	2	120-18-2	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66

ECM-19—SHIFT POWER PROVIDER

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
82	19	82-19	Foundation Electricity from Campus Grid							\$88,595.00	\$91,500.00	\$-	\$91,500.00	1.03

ECM-20—BEHAVIORAL BASED USAGE

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
73	20	73-20	Behavior Based Conservation	2,143,804	357.30					\$190,869.4	\$-	\$-	\$-	0.00

ECM-21—COMMISSIONING

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	21	1-21	Commissioning	721,140	82.32					\$64,902.60	\$150,740.37	\$120,592.29	\$30,148.07	0.46
2	21	2-21	Commissioning	92,077	10.51					\$8,286.94	\$38,700.00	\$22,098.50	\$16,601.50	2.00
6	21	6-21	Commissioning	383,773	43.81					\$34,539.61	\$161,300.00	\$92,105.64	\$69,194.36	2.00
9	21	9-21	Commissioning	202,712	23.14					\$18,244.11	\$85,200.00	\$48,650.96	\$36,549.04	2.00
10	21	10-21	Commissioning	150,607	17.19					\$13,554.60	\$63,300.00	\$36,145.61	\$27,154.39	2.00
14	21	14-21	Commissioning	95,884	10.95					\$8,629.55	\$40,300.00	\$23,012.13	\$17,287.87	2.00
19	21	19-21	Commissioning	491,554	56.11					\$44,239.83	\$206,600.00	\$117,972.88	\$88,627.12	2.00
24	21	24-21	Commissioning	101,356	11.57					\$9,122.06	\$42,600.00	\$24,325.48	\$18,274.52	2.00
35	21	35-21	Commissioning	199,619	22.79					\$17,965.74	\$83,900.00	\$47,908.64	\$35,991.36	2.00
46	21	46-21	Commissioning	137,997	15.75					\$12,419.70	\$58,000.00	\$33,119.20	\$24,880.80	2.00
47	21	47-21	Commissioning	398,049	45.44					\$35,824.41	\$167,300.00	\$95,531.76	\$71,768.24	2.00
50	21	50-21	Commissioning	206,995	23.63					\$18,629.55	\$87,000.00	\$49,678.80	\$37,321.20	2.00
83	21	83-21	Commissioning	241,970	27.62					\$21,777.30	\$101,700.00	\$58,072.81	\$43,627.19	2.00
85	21	85-21	Commissioning	208,423	23.79					\$18,758.03	\$87,600.00	\$50,021.41	\$37,578.59	2.00

ECM-22—SKYLIGHTS ANALYSIS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
33	22	33-22	Sky Lights	22,400	8.96					\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56
34	22	34-22	Sky Lights	22,400	8.96					\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56
47	22	47-22	Sky Lights	22,400	8.96					\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56

ECM-23—UPGRADE FILTERS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	23	1	1-23-1	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	2	1-23-2	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	3	1-23-3	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	4	1-23-4	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	5	1-23-5	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
5	23	1	5-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
22	23	1	22-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
23	23	1	23-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
32	23	1	32-23-1	Upgrade Filters	2,872	0.72				\$258.50	\$2,023.75	\$689.32	\$1,334.43	5.16
32	23	2	32-23-2	Upgrade Filters	2,872	0.72				\$258.50	\$2,023.75	\$689.32	\$1,334.43	5.16
32	23	4	32-23-4	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	5	32-23-5	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
32	23	6	32-23-6	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
32	23	8	32-23-8	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	10	32-23-10	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
32	23	12	32-23-12	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	14	32-23-14	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
32	23	15	32-23-15	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	16	32-23-16	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	1	41-23-1	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	2	41-23-2	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	3	41-23-3	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	4	41-23-4	Upgrade Filters	172	0.04				\$15.51	\$121.43	\$41.36	\$80.07	5.16
41	23	5	41-23-5	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	6	41-23-6	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	7	41-23-7	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	8	41-23-8	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	9	41-23-9	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	10	41-23-10	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	11	41-23-11	Upgrade Filters	230	0.06				\$20.68	\$161.90	\$55.15	\$106.75	5.16
41	23	12	41-23-12	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	13	41-23-13	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	14	41-23-14	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	15	41-23-15	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	16	41-23-16	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	17	41-23-17	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	18	41-23-18	Upgrade Filters	86	0.02				\$7.75	\$60.71	\$20.68	\$40.03	5.16
41	23	19	41-23-19	Upgrade Filters	230	0.06				\$20.68	\$161.90	\$55.15	\$106.75	5.16
41	23	20	41-23-20	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	21	41-23-21	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	22	41-23-22	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	23	41-23-23	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	24	41-23-24	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
46	23	1	46-23-1	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
46	23	3	46-23-3	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
46	23	5	46-23-5	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
54	23	1	54-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
54	23	2	54-23-2	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	3	54-23-3	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	4	54-23-4	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	5	54-23-5	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	6	54-23-6	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
56	23	1	56-23-1	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
56	23	3	56-23-3	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
56	23	4	56-23-4	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	1	72-23-1	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
72	23	2	72-23-2	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
72	23	3	72-23-3	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	4	72-23-4	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	5	72-23-5	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	6	72-23-6	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
72	23	8	72-23-8	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
73	23	1	73-23-1	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	3	73-23-3	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	5	73-23-5	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	7	73-23-7	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
81	23	1	81-23-1	Upgrade Filters	2,298	0.57				\$206.80	\$1,619.00	\$551.46	\$1,067.54	5.16
104	23	1	104-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
120	23	1	120-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

ECM-24—WINDOW REPLACEMENT-DM

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
10	24	LA-5	10-24	Window Replacement-DM	93,677	23.42				\$8,430.93	\$422,500.00	\$22,482.49	\$400,017.51	47.45
14	24	LA-1	14-24	Window Replacement-DM	59,611	14.90				\$5,365.02	\$268,900.00	\$14,306.72	\$254,593.28	47.45
15	24	FO-2	15-24	Window Replacement-DM	17,772	4.44				\$1,599.50	\$80,200.00	\$4,265.34	\$75,934.66	47.47
15	24	FO3	15-24	Window Replacement-DM	33,947	8.49				\$3,055.25	\$153,100.00	\$8,147.33	\$144,952.67	47.44
23	24	ED-2	23-24	Window Replacement-DM	35,913	8.98				\$3,232.21	\$162,000.00	\$8,619.24	\$153,380.76	47.45
24	24	MHB	24-24	Window Replacement-DM	62,990	15.75				\$5,669.08	\$284,100.00	\$15,117.54	\$268,982.46	47.45
32	24	FA-1	32-24	Window Replacement-DM	22,973	5.74				\$2,067.59	\$103,600.00	\$5,513.58	\$98,086.42	47.44
33	24	FA-2	33-24	Window Replacement-DM	29,745	7.44				\$2,677.04	\$134,200.00	\$7,138.78	\$127,061.22	47.46
82	24	Found	82-24	Window Replacement-DM	100,019	25.00				\$7,128.81	\$451,008.00	\$24,004.56	\$427,003.44	59.90



# 11b

## Energy Conservation Measures by Building

The tables below summarize the Energy Conservation Measures by buildings.

TABLE 1—BUILDING 1

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	1	1-1	Replace with Tankless Water Heater	83,082	9.48		-2,836			\$4,925.37	\$8,900.00	\$7,120.00	\$1,780.00	0.4
1	2	1-2	Insulate DHW Pipes	599	0.07		0			\$53.90	\$126.20	\$100.96	\$25.24	0.47
1	3	1	1-3-1	CRAC AC system to Central Plant	65,525	16.38				\$5,897.23	\$66,250.00	\$15,725.95	\$50,524.05	8.57
1	3	2	1-3-2	CRAC AC system Condenser with Fountain	14,104	3.53				\$3,384.98	\$29,750.00	\$3,384.98	\$26,365.02	7.79
1	4	1-4	Low Flush Urinals						703.58	\$2,955.02	\$9,000.00	\$-	\$9,000.00	3.05
1	6	1-6	Demand Control Ventilation	38,310	9.58					\$3,552.43	\$19,566.00	\$9,194.33	\$10,371.67	2.92
1	7	1-7	Energy Star Appliances	10,517	1.20		0		0.00	\$124.00	\$204.00	\$-	\$204.00	1.65
1	9	1	1-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	2	1-9-2	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	3	1-9-3	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	9	4	1-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
1	10	1	1-10-1	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	2	1-10-2	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	3	1-10-3	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	10	4	1-10-4	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
1	11	1-11	Retrofit Light Fixtures	124,430	37.98					\$13,687.28	\$269,165.00	\$29,863.15	\$239,301.85	17.48
1	16	1-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08
1	17	E-1	1-17-E-1	Exhaust Fan Set-Back	3,357	0.84				\$302.13	\$1,122.00	\$805.68	\$316.32	1.05
1	17	E-2	1-17-E-2	Exhaust Fan Set-Back	3,707	0.93				\$963.85	\$1,122.00	\$889.71	\$232.29	0.24
1	17	E-3	1-17-E-3	Exhaust Fan Set-Back	1,679	0.42				\$151.07	\$1,122.00	\$402.84	\$719.16	4.76
1	17	E-4	1-17-E-4	Exhaust Fan Set-Back	1,679	0.42				\$151.07	\$1,122.00	\$402.84	\$719.16	4.76
1	17	E-5	1-17-E-5	Exhaust Fan Set-Back	2,460	0.62				\$621.15	\$1,122.00	\$590.42	\$531.58	0.86
1	17	E-6	1-17-E-6	Exhaust Fan Set-Back	373	0.09				\$33.57	\$1,122.00	\$89.52	\$1,032.48	30.76
1	18	1	1-18-1	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
1	18	2	1-18-2	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	18	3	1-18-3	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
1	18	4	1-18-4	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	18	5	1-18-5	Fan Efficiency	25,767	6.44				\$2,319.04	\$7,500.00	\$6,184.10	\$1,315.90	0.57
1	21		1-21	Commissioning	721,140	82.32				\$64,902.60	\$150,740.37	\$120,592.29	\$30,148.07	0.46
1	23	1	1-23-1	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	2	1-23-2	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	3	1-23-3	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	4	1-23-4	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
1	23	5	1-23-5	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16

TABLE 2—BUILDING 2

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
2	1	2-1	Replace with Tankless Water Heater				274			\$246.60	\$4,450.00	\$-	\$4,450.00	18.0
2	2	2-2	Insulate DHW Pipes				47			\$42.65	\$126.20	\$-	\$126.20	2.96
2	5	2-1-5	Static Pressure Reset	5,013	1.25					\$451.18	\$1,419.60	\$1,135.68	\$283.92	0.63
2	5	2-2-5	Static Pressure Reset	3,760	0.94					\$338.39	\$1,419.60	\$902.36	\$517.24	1.53
2	9	1	2-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
2	9	1	2-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
2	11	2-11	Retrofit Light Fixtures	86,846	26.32					\$9,553.07	\$65,422.50	\$20,843.06	\$44,579.44	4.67
2	12	1	2-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
2	12	2	2-12-2	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
2	13	2-13	Cool Roof Equivalent PV	28,075	15.38					\$2,636.48	\$79,800.00	\$6,737.95	\$73,062.05	27.71
2	18	1	2-18-1	Fan Efficiency	5,883	1.47				\$529.46	\$5,250.00	\$1,411.89	\$3,838.11	7.25
2	18	2	2-18-2	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
2	21	2-21	Commissioning	92,077	10.51					\$8,286.94	\$38,700.00	\$22,098.50	\$16,601.50	2.00

TABLE 3—BUILDING 3

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
3	5	3-1-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
3	5	3-2-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
3	9	1	3-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
3	9	1	3-9-1	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53



Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
3	10	1	3-10-1	Varibale Frequency Drive	6,065	1.52				\$545.85	\$5,150.00	\$1,455.60	\$3,694.40	6.77
3	11		3-11	Retrofit Light Fixtures	29,680	8.99				\$3,264.82	\$25,090.00	\$7,123.25	\$17,966.75	5.50
3	12	1	3-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
3	13		3-13	Cool Roof Equivalent PV	13,299	7.29				\$1,248.86	\$37,800.00	\$3,191.66	\$34,608.34	27.71
3	18	1	3-18-1	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
3	18	2	3-18-2	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00

TABLE 4—BUILDING 5

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
5	1	5-1	Replace with Tankless Water Heater				390			\$351.05	\$4,450.00	\$-	\$4,450.00	12.7
5	2	5-2	Insulate DHW Pipes				47			\$42.65	\$126.20	\$-	\$126.20	2.96
5	7	5-7	Energy Star Appliances	3,160	0.36		0		0.00	\$36.00	\$60.00	\$-	\$60.00	1.67
5	9	1	5-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
5	9	2	5-9-2	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53
5	9	3	5-9-3	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
5	11	5-11	Retrofit Light Fixtures	15,494	4.70					\$1,704.29	\$13,487.50	\$3,718.44	\$9,769.06	5.73
5	13	5-13	Cool Roof Equivalent PV	29,552	16.19					\$2,775.24	\$84,000.00	\$7,092.58	\$76,907.42	27.71
5	17	E-3	5-17-E-3	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	E-4	5-17-E-4	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	E-5	5-17-E-5	Exhaust Fan Set-Back	1,194	0.30				\$242.44	\$1,122.00	\$286.56	\$835.44	3.45
5	17	EF-1	5-17-EF-1	Exhaust Fan Set-Back	7,121	1.78				\$1,374.03	\$1,122.00	\$897.60	\$224.40	0.16
5	17	EF-2	5-17-EF-2	Exhaust Fan Set-Back	3,549	0.89				\$664.91	\$1,122.00	\$851.75	\$270.25	0.41
5	17	EF-6	5-17-EF-6	Exhaust Fan Set-Back	40	0.01				\$18.48	\$1,122.00	\$9.65	\$1,112.35	60.19
5	17	EF-7	5-17-EF-7	Exhaust Fan Set-Back	884	0.22				\$327.20	\$1,122.00	\$212.06	\$909.94	2.78
5	17	EF-8	5-17-EF-8	Exhaust Fan Set-Back	40	0.01				\$18.48	\$1,122.00	\$9.65	\$1,112.35	60.19
5	18	1	5-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
5	23	1	5-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

TABLE 5—BUILDING 6

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
6	1	6-1	Replace with Tankless Water Heater				1,578			\$1,420.58	\$17,800.00	\$-	\$17,800.00	12.5

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
6	2	6-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17
6	4	6-4	Low Flush Urinals						995.63	\$4,181.63	\$16,000.00	\$3.00	\$15,997.00	3.83
6	11	6-11	Retrofit Light Fixtures	98,003	29.70					\$10,780.37	\$53,202.50	\$23,520.82	\$29,681.68	2.75
6	12	1	6-12-1	High SEER Units	2,277	1.90				\$204.95	\$4,562.50	\$546.53	\$4,015.97	19.59
6	13	6-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
6	17	EF-1	6-17-EF-1	Exhaust Fan Set-Back	597	0.15				\$121.22	\$1,122.00	\$143.28	\$978.72	8.07
6	17	EF-2	6-17-EF-2	Exhaust Fan Set-Back	884	0.22				\$327.20	\$1,122.00	\$212.06	\$909.94	2.78
6	17	EF-3	6-17-EF-3	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-4	6-17-EF-4	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-5	6-17-EF-5	Exhaust Fan Set-Back	2,006	0.50				\$770.00	\$1,122.00	\$481.44	\$640.56	0.83
6	17	EF-6	6-17-EF-6	Exhaust Fan Set-Back	2,017	0.50				\$790.81	\$1,122.00	\$484.08	\$637.92	0.81
6	17	EF-7	6-17-EF-7	Exhaust Fan Set-Back	1,956	0.49				\$674.95	\$1,122.00	\$469.37	\$652.63	0.97
6	17	EF-8	6-17-EF-8	Exhaust Fan Set-Back	865	0.22				\$292.09	\$1,122.00	\$207.60	\$914.40	3.13
6	17	EF-9	6-17-EF-9	Exhaust Fan Set-Back	462	0.12				\$202.61	\$1,122.00	\$110.99	\$1,011.01	4.99
6	17	EF-10	6-17-EF-10	Exhaust Fan Set-Back	2,431	0.61				\$565.50	\$1,122.00	\$583.35	\$538.65	0.95
6	17	EF-11	6-17-EF-11	Exhaust Fan Set-Back	4,696	1.17				\$818.93	\$1,122.00	\$897.60	\$224.40	0.27
6	17	EF-12	6-17-EF-12	Exhaust Fan Set-Back	782	0.20				\$134.75	\$1,122.00	\$187.63	\$934.37	6.93
6	17	EF-13	6-17-EF-13	Exhaust Fan Set-Back	1,844	0.46				\$463.13	\$1,122.00	\$442.47	\$679.53	1.47
6	17	EF-14	6-17-EF-14	Exhaust Fan Set-Back	209	0.05				\$59.69	\$1,122.00	\$50.21	\$1,071.79	17.95
6	21	6-21	Commissioning	383,773	43.81					\$34,539.61	\$161,300.00	\$92,105.64	\$69,194.36	2.00

TABLE 6—BUILDING 7

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
7	1	7-1	Replace with Tankless Water Heater				22,220			\$1,363.84	\$4,450.00	\$3,560.00	\$890.00	0.7
7	11	7-11	Retrofit Light Fixtures	37,359	11.32					\$4,109.52	\$26,422.50	\$8,966.23	\$17,456.27	4.25
7	13	7-13	Cool Roof Equivalent PV	26,597	14.57					\$2,497.72	\$75,600.00	\$6,383.32	\$69,216.68	27.71

TABLE 7—BUILDING 8

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
8	1	8-1	Replace with Tankless Water Heater	2,148	0.25		-73			\$127.33	\$4,450.00	\$515.48	\$3,934.52	30.9
8	11	8-11	Retrofit Light Fixtures	25,658	7.77					\$2,822.33	\$35,522.50	\$6,157.80	\$29,364.70	10.40

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
8	12	1	8-12-1	High SEER Units	500	0.42				\$45.00	\$562.50	\$120.00	\$442.50	9.83
8	13		8-13	Cool Roof Equivalent PV	25,120	13.76				\$2,358.95	\$71,400.00	\$6,028.69	\$65,371.31	27.71

TABLE 8—BUILDING 9

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
9	1	9-1	Replace with Tankless Water Heater				490			\$441.23	\$4,450.00	\$-	\$4,450.00	10.1
9	7	9-7	Energy Star Appliances	3,160	0.36		0		0.00	\$36.00	\$60.00	\$-	\$60.00	1.67
9	11	9-11	Retrofit Light Fixtures	106,174	32.17					\$11,679.16	\$118,365.00	\$25,481.81	\$92,883.19	7.95
9	13	9-13	Cool Roof Equivalent PV	16,254	8.91					\$1,526.38	\$46,200.00	\$3,900.92	\$42,299.08	27.71
9	17	EF 2-2	9-17-EF 2-2	Exhaust Fan Set-Back	3,481	0.87				\$536.18	\$1,122.00	\$835.40	\$286.60	0.53
9	18	1	9-18-1	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
9	18	2	9-18-2	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
9	18	3	9-18-3	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
9	18	4	9-18-4	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
9	18	5	9-18-5	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
9	18	6	9-18-6	Fan Efficiency	13,972	3.49				\$1,257.47	\$7,500.00	\$3,353.25	\$4,146.75	3.30
9	18	7	9-18-7	Fan Efficiency	13,972	3.49				\$1,257.47	\$7,500.00	\$3,353.25	\$4,146.75	3.30
9	21	9-21	Commissioning	202,712	23.14					\$18,244.11	\$85,200.00	\$48,650.96	\$36,549.04	2.00

TABLE 9—BUILDING 10

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
10	1	10-1	Replace with Tankless Water Heater				379			\$341.50	\$4,450.00	\$-	\$4,450.00	13.0
10	2	10-2	Insulate DHW Pipes				47			\$42.05	\$151.44	\$-	\$151.44	3.60
10	5	10-1-5	Static Pressure Reset	23,812	5.95					\$2,143.11	\$1,419.60	\$1,135.68	\$283.92	0.13
10	5	10-2-5	Static Pressure Reset	23,812	5.95					\$2,143.11	\$1,419.60	\$1,135.68	\$283.92	0.13
10	11	10-11	Retrofit Light Fixtures	54,084	16.39					\$5,949.21	\$128,147.50	\$12,980.09	\$115,167.41	19.36
10	13	10-13	Cool Roof Equivalent PV	10,343	5.67					\$971.33	\$29,400.00	\$2,482.40	\$26,917.60	27.71
10	21	10-21	Commissioning	150,607	17.19					\$13,554.60	\$63,300.00	\$36,145.61	\$27,154.39	2.00
10	24	LA-5	10-24	Window Replacement-DM	93,677	23.42				\$8,430.93	\$422,500.00	\$22,482.49	\$400,017.51	47.45

TABLE 10—BUILDING 14

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
14	1	14-1	Replace with Tankless Water Heater	16,682	1.90		-569			\$14,501.06	\$8,900.00	\$4,003.59	\$4,896.41	0.3
14	2	14-2	Insulate DHW Pipes	2,994	0.34		0			\$269.50	\$631.00	\$504.80	\$126.20	0.47
14	5	14-1-5	Static Pressure Reset	10,026	2.51					\$902.36	\$1,419.60	\$1,135.68	\$283.92	0.31
14	11	14-11	Retrofit Light Fixtures	34,927	10.58					\$3,841.99	\$61,230.00	\$8,382.53	\$52,847.47	13.76
14	13	14-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
14	17	RR	14-17-RR	Exhaust Fan Set-Back	2,238	0.56				\$201.42	\$1,122.00	\$537.12	\$584.88	2.90
14	17	525	14-17-525	Exhaust Fan Set-Back	2,238	0.56				\$201.42	\$1,122.00	\$537.12	\$584.88	2.90
14	18	1	14-18-1	Fan Efficiency	5,883	1.47				\$529.46	\$5,250.00	\$1,411.89	\$3,838.11	7.25
14	21		14-21	Commissioning	95,884	10.95				\$8,629.55	\$40,300.00	\$23,012.13	\$17,287.87	2.00
14	24	LA-1	14-24	Window Replacement-DM	59,611	14.90				\$5,365.02	\$268,900.00	\$14,306.72	\$254,593.28	47.45

TABLE 11—BUILDING 15

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
15	1	15-1	Replace with Tankless Water Heater				327			\$293.92	\$4,450.00	\$-	\$4,450.00	15.1
15	9	0	15-9	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
15	10	1	15-10-1	Varibale Frequency Drive	9,097	2.27				\$818.77	\$2,576.00	\$2,183.39	\$392.61	0.48
15	11		15-11	Retrofit Light Fixtures	31,205	9.46				\$3,432.53	\$67,307.50	\$7,489.15	\$59,818.35	17.43
15	13		15-13	Cool Roof Equivalent PV	8,866	4.86				\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71
15	18	1	15-18-1	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
15	24	FO3	15-24	Window Replacement-DM	33,947	8.49				\$3,055.25	\$153,100.00	\$8,147.33	\$144,952.67	47.44
15	24	FO-2	15-24	Window Replacement-DM	17,772	4.44				\$1,599.50	\$80,200.00	\$4,265.34	\$75,934.66	47.47

TABLE 12—BUILDING 16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
16	11	16-11	Retrofit Light Fixtures	9,507	2.88					\$1,045.80	\$22,230.00	\$2,281.75	\$19,948.25	19.07
16	13	16-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71

TABLE 13—BUILDING 17

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
17	11	17-11	Retrofit Light Fixtures	26,030	7.89					\$2,863.34	\$13,877.50	\$6,247.30	\$7,630.20	2.66
17	12	1	17-12-1	High SEER Units	10,572	8.81				\$951.52	\$21,100.00	\$2,537.38	\$18,562.62	19.51
17	12	2	17-12-2	High SEER Units	6,041	5.03				\$543.72	\$11,100.00	\$1,449.93	\$9,650.07	17.75
17	13	17-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71

TABLE 14—BUILDING 19

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
19	2	19-2	Insulate DHW Pipes	2,994	0.34		0			\$269.50	\$631.00	\$504.80	\$126.20	0.47
19	6	19-6	Demand Control Ventilation	147,617	36.90					\$13,555.53	\$44,965.00	\$6,716.80	\$38,248.20	2.82
19	12	1	19-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
19	12	2	19-12-2	High SEER Units	755	0.63				\$67.97	\$900.00	\$181.24	\$718.76	10.58
19	13	19-13	Cool Roof Equivalent PV	31,030	17.00					\$2,914.00	\$88,200.00	\$7,447.20	\$80,752.80	27.71
19	16	19-1-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08
19	16	19-2-16	Self Generation with Micro Turbine & Abs Chiller	1,752,000	200.00					\$54,041.86	\$593,750.00	\$49,220.91	\$544,529.09	10.08
19	18	1	19-18-1	Fan Efficiency	7,721	1.93				\$694.92	\$7,500.00	\$1,853.11	\$5,646.89	8.13
19	18	2	19-18-2	Fan Efficiency	6,618	1.65				\$595.64	\$7,500.00	\$1,588.38	\$5,911.62	9.92
19	18	3	19-18-3	Fan Efficiency	10,295	2.57				\$926.56	\$7,500.00	\$2,470.81	\$5,029.19	5.43
19	18	4	19-18-4	Fan Efficiency	5,883	1.47				\$529.46	\$7,500.00	\$1,411.89	\$6,088.11	11.50
19	18	5	19-18-5	Fan Efficiency	12,869	3.22				\$1,158.19	\$7,500.00	\$3,088.52	\$4,411.48	3.81
19	18	6	19-18-6	Fan Efficiency	5,883	1.47				\$529.46	\$7,500.00	\$1,411.89	\$6,088.11	11.50
19	21	19-21	Commissioning	491,554	56.11					\$44,239.83	\$206,600.00	\$117,972.88	\$88,627.12	2.00

TABLE 15—BUILDING 20

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
20	1	20-1	Replace with Tankless Water Heater	23,585	2.69		-805			\$1,398.19	\$8,900.00	\$5,660.42	\$3,239.58	2.3

TABLE 16—BUILDING 21

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
21	5	21-5	Static Pressure Reset	1,762	0.44					\$158.62	\$1,419.60	\$422.98	\$996.62	6.28
21	11	21-11	Retrofit Light Fixtures	11,583	3.51					\$1,274.13	\$10,270.00	\$2,779.92	\$7,490.08	5.88
21	13	21-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
21	18	1	21-18-1	Fan Efficiency	2,068	0.52				\$186.14	\$3,500.00	\$496.37	\$3,003.63	16.14

TABLE 17—BUILDING 22

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
22	5	22-5	Static Pressure Reset	4,386	1.10					\$394.78	\$1,419.60	\$1,052.76	\$366.84	0.93
22	9	1	22-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
22	9	2	22-9-2	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
22	11	22-11	Retrofit Light Fixtures	31,964	9.69					\$3,516.02	\$34,320.00	\$7,671.31	\$26,648.69	7.58
22	13	22-13	Cool Roof Equivalent PV	8,866	4.86					\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71
22	18	1	22-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
22	18	2	22-18-2	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
22	18	1S	22-18-1S	Fan Efficiency	2,574	0.64				\$231.64	\$4,250.00	\$617.70	\$3,632.30	15.68
22	18	1R	22-18-1R	Fan Efficiency	1,287	0.32				\$115.82	\$3,000.00	\$308.85	\$2,691.15	23.24
22	23	1	22-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

TABLE 18—BUILDING 23

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
23	1	23-1	Replace with Tankless Water Heater	15,793	1.80		-539			\$936.28	\$4,450.00	\$3,560.00	\$890.00	1.0
23	9	1	23-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
23	9	2	23-9-2	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
23	11	23-11	Retrofit Light Fixtures	20,246	6.13					\$2,227.01	\$32,630.00	\$4,858.92	\$27,771.08	12.47
23	13	23-13	Cool Roof Equivalent PV	19,209	10.53					\$1,803.91	\$54,600.00	\$4,610.17	\$49,989.83	27.71
23	18	1	23-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
23	18	2	23-18-2	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
23	18	1S	23-18-1S	Fan Efficiency	2,206	0.55				\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
23	18	1R	23-18-1R	Fan Efficiency	2,206	0.55				\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
23	23	1	23-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
23	24	ED-2	23-24	Window Replacement-DM	35,913	8.98				\$3,232.21	\$162,000.00	\$8,619.24	\$153,380.76	47.45

TABLE 19—BUILDING 24

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
24	1	24-1	Replace with Tankless Water Heater				186			\$167.33	\$4,450.00	\$-	\$4,450.00	26.6
24	9	1	24-9-1	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
24	9	2	24-9-2	Rewound Premium Efficiency Motors	492	0.12				\$44.28	\$239.00	\$118.08	\$120.92	2.73
24	9	3	24-9-3	Rewound Premium Efficiency Motors	492	0.12				\$44.28	\$239.00	\$118.08	\$120.92	2.73
24	9	4	24-9-4	Rewound Premium Efficiency Motors	2,226	0.56				\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
24	10	1	24-10-1	Varibale Frequency Drive	15,162	3.79				\$1,364.62	\$6,240.00	\$3,638.99	\$2,601.01	1.91
24	11	24-11	Retrofit Light Fixtures	26,842	8.13					\$2,952.64	\$59,897.50	\$6,442.13	\$53,455.37	18.10
24	12	1	24-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
24	12	2	24-12-2	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
24	13	24-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71
24	21	24-21	Commissioning	101,356	11.57					\$9,122.06	\$42,600.00	\$24,325.48	\$18,274.52	2.00
24	24	MHB	24-24	Window Replacement-DM	62,990	15.75				\$5,669.08	\$284,100.00	\$15,117.54	\$268,982.46	47.45

TABLE 20—BUILDING 25

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
25	1	25-1	Replace with Tankless Water Heater				146			\$131.22	\$4,450.00	\$-	\$4,450.00	33.9
25	5	25-5	Static Pressure Reset	2,820	0.70					\$253.79	\$1,419.60	\$676.77	\$742.83	2.93
25	9	1	25-9-1	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
25	9	2	25-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
25	9	3	25-9-3	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
25	9	4	25-9-4	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
25	11	25-11	Retrofit Light Fixtures	26,525	8.04					\$2,917.79	\$45,857.50	\$6,366.10	\$39,491.40	13.53
25	12	1	25-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
25	13	25-13	Cool Roof Equivalent PV	22,164	12.14					\$2,081.43	\$63,000.00	\$5,319.43	\$57,680.57	27.71
25	18	1S	25-18-1S	Fan Efficiency	3,309	0.83				\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44
25	18	2S	25-18-2S	Fan Efficiency	3,309	0.83				\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44

TABLE 21—BUILDING 26

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
26	1	26-1	Replace with Tankless Water Heater				306			\$275.66	\$4,450.00	\$-	\$4,450.00	16.1
26	11	26-11	Retrofit Light Fixtures	112,118	33.98					\$12,332.93	\$59,475.00	\$26,908.20	\$32,566.80	2.64
26	18	1S	26-18-1S	Fan Efficiency	2,206	0.55				\$198.55	\$4,250.00	\$529.46	\$3,720.54	18.74
26	18	2S	26-18-2S	Fan Efficiency	662	0.17				\$59.56	\$3,000.00	\$158.84	\$2,841.16	47.70
26	18	3S	26-18-3S	Fan Efficiency	3,309	0.83				\$297.82	\$4,500.00	\$794.19	\$3,705.81	12.44
26	18	4S	26-18-4S	Fan Efficiency	1,655	0.41				\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84
26	18	5S	26-18-5S	Fan Efficiency	5,515	1.38				\$496.37	\$5,250.00	\$1,323.65	\$3,926.35	7.91
26	18	6S	26-18-6S	Fan Efficiency	1,655	0.41				\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84

TABLE 22—BUILDING 27

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
27	9	1	27-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
27	9	2	27-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
27	11	27-11	Retrofit Light Fixtures	5,590	1.69					\$614.92	\$12,512.50	\$1,341.65	\$11,170.85	18.17

TABLE 23—BUILDING 28

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
28	1	28-1	Replace with Tankless Water Heater				121			\$109.29	\$4,450.00	\$-	\$4,450.00	40.7
28	2	28-2	Insulate DHW Pipes				39			\$35.04	\$126.20	\$-	\$126.20	3.60
28	9	1	28-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
28	9	2	28-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
28	9	3	28-9-3	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53
28	9	4	28-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
28	9	5	28-9-5	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
28	11	28-11	Retrofit Light Fixtures	12,745	3.86					\$1,401.91	\$37,927.50	\$3,058.70	\$34,868.80	24.87



TABLE 24—BUILDING 32

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
32	1	32-1	Replace with Tankless Water Heater				152			\$136.54	\$4,450.00	\$-	\$4,450.00	32.6
32	2	32-2	Insulate DHW Pipes				39			\$35.04	\$132.51	\$-	\$132.51	3.78
32	9	1	32-9-1	Rewound Premium Efficiency Motors	2,226	0.56				\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
32	9	2	32-9-2	Rewound Premium Efficiency Motors	2,226	0.56				\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
32	9	3	32-9-3	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
32	10	1	32-10-1	Varibale Frequency Drive	11,372	3.79				\$1,023.47	\$6,240.00	\$2,729.24	\$3,510.76	3.43
32	11	32-11	Retrofit Light Fixtures	14,236	4.31					\$1,565.98	\$25,642.50	\$3,416.69	\$22,225.81	14.19
32	12	1	32-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
32	13	32-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
32	17	FA2-EF-15	32-17-FA2-EF-15	Exhaust Fan Set-Back	604	0.15				\$54.38	\$1,122.00	\$145.02	\$976.98	17.96
32	17	FA2-EF-16	32-17-FA2-EF-16	Exhaust Fan Set-Back	1,460	0.36				\$341.90	\$1,122.00	\$350.34	\$771.66	2.26
32	17	FA2-EF-17	32-17-FA2-EF-17	Exhaust Fan Set-Back	439	0.11				\$145.42	\$1,122.00	\$105.43	\$1,016.57	6.99
32	17	FA3-EF-1	32-17-FA3-EF-1	Exhaust Fan Set-Back	2,263	0.57				\$651.98	\$1,122.00	\$543.18	\$578.82	0.89
32	17	FA3-EF-4	32-17-FA3-EF-4	Exhaust Fan Set-Back	1,265	0.32				\$497.76	\$1,122.00	\$303.63	\$818.37	1.64
32	17	FA3-EF-5	32-17-FA3-EF-5	Exhaust Fan Set-Back	250	0.06				\$89.35	\$1,122.00	\$59.94	\$1,062.06	11.89
32	17	FA3-EF-6	32-17-FA3-EF-6	Exhaust Fan Set-Back	7,130	1.78				\$1,712.89	\$1,122.00	\$897.60	\$224.40	0.13
32	17	FA3-EF-7	32-17-FA3-EF-7	Exhaust Fan Set-Back	3,006	0.75				\$765.85	\$1,122.00	\$721.33	\$400.67	0.52
32	17	FA3-EF-8	32-17-FA3-EF-8	Exhaust Fan Set-Back	626	0.16				\$216.08	\$1,122.00	\$150.21	\$971.79	4.50
32	17	FA3-EF-9	32-17-FA3-EF-9	Exhaust Fan Set-Back	1,243	0.31				\$334.76	\$1,122.00	\$298.28	\$823.72	2.46
32	17	FA4-EF-1	32-17-FA4-EF-1	Exhaust Fan Set-Back	449	0.11				\$164.27	\$1,122.00	\$107.82	\$1,014.18	6.17
32	17	FA4-EF-2	32-17-FA4-EF-2	Exhaust Fan Set-Back	17,547	4.39				\$3,756.27	\$1,122.00	\$897.60	\$224.40	0.06
32	17	FA4-EF-3	32-17-FA4-EF-3	Exhaust Fan Set-Back	2,187	0.55				\$657.53	\$1,122.00	\$524.96	\$597.04	0.91
32	17	FA4-EF-4	32-17-FA4-EF-4	Exhaust Fan Set-Back	1,551	0.39				\$312.96	\$1,122.00	\$372.24	\$749.76	2.40

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
32	17	FA4-EF-5	32-17-FA4-EF-5 Exhaust Fan Set-Back	322	0.08					\$84.70	\$1,122.00	\$77.26	\$1,044.74	12.34
32	17	FA4-EF-6	32-17-FA4-EF-6 Exhaust Fan Set-Back	399	0.10					\$110.24	\$1,122.00	\$95.85	\$1,026.15	9.31
32	17	FA4-EF-7	32-17-FA4-EF-7 Exhaust Fan Set-Back	81	0.02					\$32.05	\$1,122.00	\$19.42	\$1,102.58	34.40
32	17	FA4-EF-8	32-17-FA4-EF-8 Exhaust Fan Set-Back	1,551	0.39					\$312.96	\$1,122.00	\$372.24	\$749.76	2.40
32	17	FA4-EF-12	32-17-FA4-EF-12 Exhaust Fan Set-Back	23,118	5.78					\$5,020.51	\$1,122.00	\$897.60	\$224.40	0.04
32	17	FA4-EF-12A	32-17-FA4-EF-12A Exhaust Fan Set-Back	6,016	1.50					\$1,299.32	\$1,122.00	\$897.60	\$224.40	0.17
32	18	1	32-18-1 Fan Efficiency	7,354	1.84					\$661.83	\$5,250.00	\$1,764.87	\$3,485.13	5.27
32	18	2	32-18-2 Fan Efficiency	7,354	1.84					\$661.83	\$5,250.00	\$1,764.87	\$3,485.13	5.27
32	18	3	32-18-3 Fan Efficiency	2,941	0.74					\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
32	23	1	32-23-1 Upgrade Filters	2,872	0.72					\$258.50	\$2,023.75	\$689.32	\$1,334.43	5.16
32	23	2	32-23-2 Upgrade Filters	2,872	0.72					\$258.50	\$2,023.75	\$689.32	\$1,334.43	5.16
32	23	4	32-23-4 Upgrade Filters	1,723	0.43					\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	5	32-23-5 Upgrade Filters	862	0.22					\$77.55	\$607.13	\$206.80	\$400.33	5.16
32	23	6	32-23-6 Upgrade Filters	1,149	0.29					\$103.40	\$809.50	\$275.73	\$533.77	5.16
32	23	8	32-23-8 Upgrade Filters	1,723	0.43					\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	10	32-23-10 Upgrade Filters	1,149	0.29					\$103.40	\$809.50	\$275.73	\$533.77	5.16
32	23	12	32-23-12 Upgrade Filters	1,723	0.43					\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	14	32-23-14 Upgrade Filters	4,595	1.15					\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
32	23	15	32-23-15 Upgrade Filters	1,723	0.43					\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
32	23	16	32-23-16 Upgrade Filters	862	0.22					\$77.55	\$607.13	\$206.80	\$400.33	5.16
32	24	FA-1	32-24 Window Replacement-DM	22,973	5.74					\$2,067.59	\$103,600.00	\$5,513.58	\$98,086.42	47.44

TABLE 25—BUILDING 33

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
33	1	33-1	Replace with Tankless Water Heater				196			\$176.79	\$4,450.00	\$-	\$4,450.00	25.2
33	2	33-2	Insulate DHW Pipes				39			\$35.04	\$138.82	\$-	\$138.82	3.96
33	5	33-5	Static Pressure Reset	4,700	1.17					\$422.98	\$1,419.60	\$1,127.95	\$291.65	0.69
33	9	1	33-9-1 Rewound Premium Efficiency Motors	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
33	9	2	33-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
33	9	3	33-9-3	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
33	9	4	33-9-4	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
33	9	5	33-9-5	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
33	10	1	33-10-1	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
33	10	2	33-10-2	Varibale Frequency Drive	6,823	2.27				\$614.08	\$3,825.00	\$1,637.54	\$2,187.46	3.56
33	10	3	33-10-3	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
33	10	1	33-10-1	Varibale Frequency Drive	6,065	1.52				\$545.85	\$3,050.00	\$1,455.60	\$1,594.40	2.92
33	10	1	33-10-1	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
33	11		33-11	Retrofit Light Fixtures	8,204	2.49				\$902.42	\$24,830.00	\$1,968.91	\$22,861.09	25.33
33	13		33-13	Cool Roof Equivalent PV	16,254	8.91				\$1,526.38	\$46,200.00	\$3,900.92	\$42,299.08	27.71
33	18	1	33-18-1	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
33	18	2	33-18-2	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
33	18	3	33-18-3	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
33	18	4	33-18-4	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
33	18	5	33-18-5	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
33	18	1S	33-18-1S	Fan Efficiency	2,758	0.69				\$248.18	\$4,250.00	\$661.83	\$3,588.17	14.46
33	22		33-22	Sky Lights	22,400	8.96				\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56
33	24	FA-2	33-24	Window Replacement-DM	29,745	7.44				\$2,677.04	\$134,200.00	\$7,138.78	\$127,061.22	47.46

TABLE 26—BUILDING 34

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
34	1	34-1	Replace with Tankless Water Heater				224			\$201.77	\$4,450.00	\$-	\$4,450.00	22.1
34	2	34-2	Insulate DHW Pipes				39			\$35.04	\$145.13	\$-	\$145.13	4.14
34	9	1	34-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
34	9	2	34-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
34	9	3	34-9-3	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
34	9	4	34-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
34	11		34-11	Retrofit Light Fixtures	4,679	1.42				\$514.73	\$17,680.00	\$1,123.06	\$16,556.94	32.17
34	12	1	34-12-1	High SEER Units	3,580	2.98				\$322.16	\$6,562.50	\$859.09	\$5,703.41	17.70
34	13		34-13	Cool Roof Equivalent PV	17,731	9.72				\$1,665.14	\$50,400.00	\$4,255.55	\$46,144.45	27.71
34	18	1	34-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
34	18	2	34-18-2	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
34	18	3	34-18-3	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
34	18	4	34-18-4	Fan Efficiency	1,471	0.37				\$132.37	\$3,000.00	\$352.97	\$2,647.03	20.00
34	22		34-22	Sky Lights	22,400	8.96				\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56

TABLE 27—BUILDING 35

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
35	1		35-1	Replace with Tankless Water Heater			820			\$738.42	\$4,450.00	\$-	\$4,450.00	6.0
35	2		35-2	Insulate DHW Pipes			39			\$35.04	\$151.44	\$-	\$151.44	4.32
35	9	1	35-9-1	Rewound Premium Efficiency Motors	4,224	1.06				\$380.16	\$2,164.00	\$1,013.76	\$1,150.24	3.03
35	9	2	35-9-2	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
35	9	3	35-9-3	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
35	10	4	35-10-4	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
35	11		35-11	Retrofit Light Fixtures	30,268	9.17				\$3,329.44	\$59,670.00	\$7,264.22	\$52,405.78	15.74
35	12	1	35-12-1	High SEER Units	1,620	1.35				\$145.80	\$2,250.00	\$388.80	\$1,861.20	12.77
35	13		35-13	Cool Roof Equivalent PV	62,060	34.01				\$5,828.00	\$176,400.00	\$14,894.41	\$161,505.59	27.71
35	17	EF-1	35-17-EF-1	Exhaust Fan Set-Back	20,142	5.04				\$1,812.78	\$1,122.00	\$897.60	\$224.40	0.12
35	17	EF-2	35-17-EF-2	Exhaust Fan Set-Back	614	0.15				\$153.08	\$1,122.00	\$147.32	\$974.68	6.37
35	17	EF-3	35-17-EF-3	Exhaust Fan Set-Back	1,215	0.30				\$282.75	\$1,122.00	\$291.68	\$830.32	2.94
35	17	EF-4	35-17-EF-4	Exhaust Fan Set-Back	3,667	0.92				\$887.26	\$1,122.00	\$879.98	\$242.02	0.27
35	17	EF-5	35-17-EF-5	Exhaust Fan Set-Back	373	0.09				\$33.57	\$1,122.00	\$89.52	\$1,032.48	30.76
35	17	EF-6	35-17-EF-6	Exhaust Fan Set-Back	4,972	1.24				\$1,340.35	\$1,122.00	\$897.60	\$224.40	0.17
35	17	EF-7	35-17-EF-7	Exhaust Fan Set-Back	4,972	1.24				\$1,340.35	\$1,122.00	\$897.60	\$224.40	0.17
35	18	1	35-18-1	Fan Efficiency	11,766	2.94				\$1,058.92	\$7,500.00	\$2,823.79	\$4,676.21	4.42
35	18	2	35-18-2	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
35	18	3	35-18-3	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
35	21		35-21	Commissioning	199,619	22.79				\$17,965.74	\$83,900.00	\$47,908.64	\$35,991.36	2.00

TABLE 28—BUILDING 41

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
41	11		41-11	Retrofit Light Fixtures	37,201	11.27				\$4,092.10	\$52,780.00	\$8,928.22	\$43,851.78	10.72
41	18	1	41-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	2	41-18-2	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
41	18	3	41-18-3	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	4	41-18-4	Fan Efficiency	966	0.24				\$86.96	\$3,000.00	\$231.90	\$2,768.10	31.83
41	18	5	41-18-5	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	6	41-18-6	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	7	41-18-7	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	8	41-18-8	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	9	41-18-9	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	10	41-18-10	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	11	41-18-11	Fan Efficiency	1,288	0.32				\$115.95	\$3,000.00	\$309.20	\$2,690.80	23.21
41	18	12	41-18-12	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
41	18	13	41-18-13	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	14	41-18-14	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	15	41-18-15	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	16	41-18-16	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	17	41-18-17	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	19	41-18-19	Fan Efficiency	1,288	0.32				\$115.95	\$3,000.00	\$309.20	\$2,690.80	23.21
41	18	20	41-18-20	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	21	41-18-21	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	22	41-18-22	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	18	23	41-18-23	Fan Efficiency	4,831	1.21				\$434.82	\$3,500.00	\$1,159.52	\$2,340.48	5.38
41	18	24	41-18-24	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
41	23	1	41-23-1	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	2	41-23-2	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	3	41-23-3	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	4	41-23-4	Upgrade Filters	172	0.04				\$15.51	\$121.43	\$41.36	\$80.07	5.16
41	23	5	41-23-5	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	6	41-23-6	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	7	41-23-7	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	8	41-23-8	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	9	41-23-9	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	10	41-23-10	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	11	41-23-11	Upgrade Filters	230	0.06				\$20.68	\$161.90	\$55.15	\$106.75	5.16
41	23	12	41-23-12	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
41	23	13	41-23-13	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	14	41-23-14	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	15	41-23-15	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	16	41-23-16	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
41	23	17	41-23-17	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	18	41-23-18	Upgrade Filters	86	0.02				\$7.75	\$60.71	\$20.68	\$40.03	5.16
41	23	19	41-23-19	Upgrade Filters	230	0.06				\$20.68	\$161.90	\$55.15	\$106.75	5.16
41	23	20	41-23-20	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	21	41-23-21	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	22	41-23-22	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
41	23	23	41-23-23	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
41	23	24	41-23-24	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16

TABLE 29—BUILDING 46

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
46	5	46-1-5	Static Pressure Reset	6,016	1.50					\$541.42	\$1,419.60	\$1,135.68	\$283.92	0.52
46	5	46-2-5	Static Pressure Reset	12,031	3.01					\$1,082.83	\$1,419.60	\$1,135.68	\$283.92	0.26
46	9	1	46-9-1	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
46	9	2	46-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
46	9	3	46-9-3	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
46	9	4	46-9-4	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
46	11	46-11	Retrofit Light Fixtures	131,852	39.95					\$14,503.67	\$111,735.00	\$31,644.36	\$80,090.64	5.52
46	12	1	46-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
46	18	1	46-18-1	Fan Efficiency	4,831	1.21				\$434.82	\$4,500.00	\$1,159.52	\$3,340.48	7.68
46	18	2	46-18-2	Fan Efficiency	2,416	0.60				\$217.41	\$3,500.00	\$579.76	\$2,920.24	13.43
46	18	3	46-18-3	Fan Efficiency	2,416	0.60				\$217.41	\$3,500.00	\$579.76	\$2,920.24	13.43
46	18	4	46-18-4	Fan Efficiency	1,610	0.40				\$144.94	\$3,000.00	\$386.51	\$2,613.49	18.03
46	18	5	46-18-5	Fan Efficiency	3,221	0.81				\$289.88	\$4,250.00	\$773.01	\$3,476.99	11.99
46	21	46-21	Commissioning	137,997	15.75					\$12,419.70	\$58,000.00	\$33,119.20	\$24,880.80	2.00
46	23	1	46-23-1	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
46	23	3	46-23-3	Upgrade Filters	862	0.22				\$77.55	\$607.13	\$206.80	\$400.33	5.16
46	23	5	46-23-5	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

TABLE 30—BUILDING 47

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
47	11	47-11	Retrofit Light Fixtures	51,506	15.61					\$5,665.70	\$90,577.50	\$12,361.54	\$78,215.96	13.81
47	21	47-21	Commissioning	398,049	45.44					\$35,824.41	\$167,300.00	\$95,531.76	\$71,768.24	2.00
47	22	47-22	Sky Lights	22,400	8.96					\$2,016.00	\$14,563.00	\$5,376.00	\$9,187.00	4.56

TABLE 31—BUILDING 49

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
49	9	1	49-9	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
49	11	49-11	Retrofit Light Fixtures	9,174	2.78					\$1,009.14	\$18,752.50	\$2,201.76	\$16,550.74	16.40

TABLE 32—BUILDING 50

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
50	1	50-1	Replace with Tankless Water Heater				851			\$766.21	\$8,900.00	\$-	\$8,900.00	11.6
50	5	50-1-5	Static Pressure Reset	12,282	3.07					\$1,105.39	\$1,419.60	\$1,135.68	\$283.92	0.26
50	5	50-2-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50	5	50-3-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50	5	50-4-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50	5	50-5-5	Static Pressure Reset	9,212	2.30					\$829.04	\$1,419.60	\$1,135.68	\$283.92	0.34
50	11	50-11	Retrofit Light Fixtures	215,012	65.16					\$23,651.27	\$120,640.00	\$51,602.76	\$69,037.24	2.92
50	21	50-21	Commissioning	206,995	23.63					\$18,629.55	\$87,000.00	\$49,678.80	\$37,321.20	2.00

TABLE 33—BUILDING 51

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
51	1	51-1	Replace with Tankless Water Heater	15,883	1.81		-542			\$941.61	\$8,900.00	\$3,812.01	\$5,087.99	5.4
51	2	51-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
51	4	51-4	Low Flush Urinals						136.07	\$571.49	\$1,000.00	\$4.00	\$996.00	1.74
51	5	51-5	Static Pressure Reset	3,071	0.77					\$276.35	\$1,419.60	\$736.93	\$682.67	2.47
51	9	1	51-9-1	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
51	9	2	51-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
51	10	1	51-10-1	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
51	10	2	51-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
51	11		51-11	Retrofit Light Fixtures	18,266	5.54				\$2,009.21	\$38,967.50	\$4,383.72	\$34,583.78	17.21
51	12	1	51-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
51	13		51-13	Cool Roof Equivalent PV	17,731	9.72				\$1,665.14	\$50,400.00	\$4,255.55	\$46,144.45	27.71
51	17	EF-1	51-17-EF-1	Exhaust Fan Set-Back	3,481	0.87				\$536.18	\$1,122.00	\$835.40	\$286.60	0.53

TABLE 34—BUILDING 52

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
52	1		52-1	Replace with Tankless Water Heater	15,885	1.81	-542			\$941.73	\$8,900.00	\$3,812.48	\$5,087.52	5.4
52	2		52-2	Insulate DHW Pipes	749	0.09	0			\$67.37	\$157.75	\$126.20	\$31.55	0.47
52	6		52-6	Demand Control Ventilation	13,482	3.37				\$1,716.89	\$16,755.00	\$3,235.56	\$13,519.44	7.87
52	9	1	52-9-1	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
52	9	2	52-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
52	10	1	52-10-1	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
52	10	2	52-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
52	11		52-11	Retrofit Light Fixtures	15,005	4.55				\$1,650.56	\$22,457.50	\$3,601.22	\$18,856.28	11.42
52	12	1	52-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
52	13		52-13	Cool Roof Equivalent PV	5,910	3.24				\$555.05	\$16,800.00	\$1,418.52	\$15,381.48	27.71

TABLE 35—BUILDING 54

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
54	1		54-1	Replace with Tankless Water Heater			438			\$394.27	\$4,450.00	\$-	\$4,450.00	11.3
54	5		54-5	Static Pressure Reset	4,700	1.17				\$422.98	\$1,419.60	\$1,127.95	\$291.65	0.69
54	9	1	54-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
54	9	2	54-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	3	54-9-3	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	4	54-9-4	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	5	54-9-5	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
54	9	6	54-9-6	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40



Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
54	9	7	54-9-7	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
54	10	2	54-10-2	Varibale Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
54	10	3	54-10-3	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	4	54-10-4	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	5	54-10-5	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	6	54-10-6	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	7	54-10-7	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
54	10	8	54-10-8	Varibale Frequency Drive	3,791	1.52				\$341.16	\$5,150.00	\$909.75	\$4,240.25	12.43
54	11		54-11	Retrofit Light Fixtures	38,643	11.71				\$4,250.73	\$41,210.00	\$9,274.32	\$31,935.68	7.51
54	12	1	54-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
54	12	2	54-12-2	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
54	13		54-13	Cool Roof Equivalent PV	33,985	18.62				\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
54	18	1	54-18-1	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
54	18	2	54-18-2	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	3	54-18-3	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	4	54-18-4	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	5	54-18-5	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	18	6	54-18-6	Fan Efficiency	882	0.22				\$79.42	\$3,000.00	\$211.78	\$2,788.22	35.11
54	23	1	54-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
54	23	2	54-23-2	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	3	54-23-3	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	4	54-23-4	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	5	54-23-5	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16
54	23	6	54-23-6	Upgrade Filters	345	0.09				\$31.02	\$242.85	\$82.72	\$160.13	5.16

TABLE 36—BUILDING 55

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
55	1	55-1	Replace with Tankless Water Heater				175			\$157.75	\$4,450.00	\$-	\$4,450.00	28.2
55	10	1CS	55-10-1CS	Varibale Frequency Drive	6,065	1.52				\$545.85	\$3,050.00	\$1,455.60	\$1,594.40	2.92
55	10	1HS	55-10-1HS	Varibale Frequency Drive	4,549	1.14				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
55	10	FC-1	55-10-FC-1	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
55	10	FC-2	55-10-FC-2	Varibale Frequency Drive	3,032	0.76				\$272.92	\$5,150.00	\$727.80	\$4,422.20	16.20
55	10	FC-3	55-10-FC-3	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29
55	10	FC-4	55-10-FC-4	Varibale Frequency Drive	1,819	0.45				\$163.75	\$2,450.00	\$436.68	\$2,013.32	12.29

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
55	11	55-11	Retrofit Light Fixtures	22,103	7.53					\$2,431.37	\$38,707.50	\$5,304.82	\$33,402.68	13.74
55	13	55-13	Cool Roof Equivalent PV	19,209	10.53					\$1,803.91	\$54,600.00	\$4,610.17	\$49,989.83	27.71
55	18	1CS	55-18-1CS	Fan Efficiency	2,758	0.69				\$248.18	\$4,250.00	\$661.83	\$3,588.17	14.46
55	18	1HS	55-18-1HS	Fan Efficiency	2,068	0.52				\$186.14	\$3,500.00	\$496.37	\$3,003.63	16.14
55	18	FC-1	55-18-FC-1	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63
55	18	FC-2	55-18-FC-2	Fan Efficiency	1,379	0.34				\$124.09	\$3,000.00	\$330.91	\$2,669.09	21.51
55	18	FC-3	55-18-FC-3	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63
55	18	FC-4	55-18-FC-4	Fan Efficiency	827	0.21				\$74.46	\$3,000.00	\$198.55	\$2,801.45	37.63

TABLE 37—BUILDING 56

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
56	1	56-1	Replace with Tankless Water Heater				657			\$591.33	\$4,450.00	\$-	\$4,450.00	7.5
56	9	0	56-9	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
56	10	1	56-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
56	10	2	56-10-2	Varibale Frequency Drive	6,823	2.27				\$614.08	\$3,825.00	\$1,637.54	\$2,187.46	3.56
56	10	3	56-10-3	Varibale Frequency Drive	3,791	1.52				\$341.16	\$5,150.00	\$909.75	\$4,240.25	12.43
56	11	56-11	Retrofit Light Fixtures	65,578	19.87					\$7,213.54	\$118,137.50	\$15,738.62	\$102,398.88	14.20
56	13	56-13	Cool Roof Equivalent PV	50,239	27.53					\$4,717.91	\$142,800.00	\$12,057.38	\$130,742.62	27.71
56	17	EF-1	56-17-EF-1	Exhaust Fan Set-Back	3,581	0.90				\$726.02	\$1,122.00	\$859.51	\$262.49	0.36
56	17	EF-2	56-17-EF-2	Exhaust Fan Set-Back	1,312	0.33				\$464.79	\$1,122.00	\$314.79	\$807.21	1.74
56	17	EF-3	56-17-EF-3	Exhaust Fan Set-Back	1,257	0.31				\$360.77	\$1,122.00	\$301.58	\$820.42	2.27
56	17	EF-4	56-17-EF-4	Exhaust Fan Set-Back	3,639	0.91				\$835.25	\$1,122.00	\$873.38	\$248.62	0.30
56	17	EF-5	56-17-EF-5	Exhaust Fan Set-Back	2,352	0.59				\$415.97	\$1,122.00	\$564.36	\$557.64	1.34
56	17	EF-6	56-17-EF-6	Exhaust Fan Set-Back	7,055	1.76				\$1,247.90	\$1,122.00	\$897.60	\$224.40	0.18
56	17	EF-7	56-17-EF-7	Exhaust Fan Set-Back	3,770	0.94				\$1,082.30	\$1,122.00	\$897.60	\$224.40	0.21
56	17	EF-8	56-17-EF-8	Exhaust Fan Set-Back	2,548	0.64				\$786.55	\$1,122.00	\$611.42	\$510.58	0.65
56	17	EF-9	56-17-EF-9	Exhaust Fan Set-Back	33,880	8.47				\$3,606.43	\$1,122.00	\$897.60	\$224.40	0.06
56	17	EF-10	56-17-EF-10	Exhaust Fan Set-Back	2,534	0.63				\$760.54	\$1,122.00	\$608.12	\$513.88	0.68
56	17	EF-11	56-17-EF-11	Exhaust Fan Set-Back	2,293	0.57				\$305.44	\$1,122.00	\$550.33	\$571.67	1.87
56	17	EF-12	56-17-EF-12	Exhaust Fan Set-Back	766	0.19				\$440.44	\$1,122.00	\$183.81	\$938.19	2.13
56	17	EF-13	56-17-EF-13	Exhaust Fan Set-Back	639	0.16				\$199.89	\$1,122.00	\$153.27	\$968.73	4.85
56	17	EF-14	56-17-EF-14	Exhaust Fan Set-Back	407	0.10				\$96.05	\$1,122.00	\$97.62	\$1,024.38	10.66
56	17	AA-1	56-17-AA-1	Exhaust Fan Set-Back	18,849	4.71				\$5,411.51	\$1,122.00	\$897.60	\$224.40	0.04
56	18	1	56-18-1	Fan Efficiency	11,766	2.94				\$1,058.92	\$7,500.00	\$2,823.79	\$4,676.21	4.42

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
56	18	2	56-18-2	Fan Efficiency	2,206	0.55				\$198.55	\$3,500.00	\$529.46	\$2,970.54	14.96
56	18	3	56-18-3	Fan Efficiency	2,941	0.74				\$264.73	\$4,250.00	\$705.95	\$3,544.05	13.39
56	18	4	56-18-4	Fan Efficiency	4,412	1.10				\$397.10	\$4,500.00	\$1,058.92	\$3,441.08	8.67
56	23	1	56-23-1	Upgrade Filters	4,595	1.15				\$413.59	\$3,238.00	\$1,102.92	\$2,135.08	5.16
56	23	3	56-23-3	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
56	23	4	56-23-4	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16

TABLE 38—BUILDING 57

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
57	4	57-4	Low Flush Urinals						30.98	\$130.10	\$2,000.00	\$9.00	\$1,991.00	15.30
57	9	1	57-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
57	9	1	57-9	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
57	11	57-11	Retrofit Light Fixtures	9,233	2.80					\$1,015.67	\$16,120.00	\$2,216.02	\$13,903.98	13.69
57	13	57-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71

TABLE 39—BUILDING 58

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
58	9	1	58-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
58	10	1	58-10-1	Varibale Frequency Drive	2,274	0.76				\$204.69	\$2,575.00	\$545.85	\$2,029.15	9.91
58	12	1	58-12-1	High SEER Units	3,580	2.98				\$322.16	\$6,562.50	\$859.09	\$5,703.41	17.70
58	13	58-13	Cool Roof Equivalent PV	38,418	21.05					\$3,607.81	\$109,200.00	\$9,220.35	\$99,979.65	27.71

TABLE 40—BUILDING 59

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
59	7	59-7	Energy Star Appliances	11,429	1.30		209		152.00	\$158.00	\$168.00	\$1.00	\$167.00	1.06
59	11	59-11	Retrofit Light Fixtures	25,832	7.83					\$2,841.56	\$18,005.00	\$6,199.78	\$11,805.22	4.15
59	13	59-13	Cool Roof Equivalent PV	8,866	4.86					\$832.57	\$25,200.00	\$2,127.77	\$23,072.23	27.71

TABLE 41—BUILDING 60

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
60	1	60-1	Replace with Tankless Water Heater				450			\$404.92	\$8,900.00	\$-	\$8,900.00	22.0
60	6	60-6	Demand Control Ventilation	23,442	5.86					\$3,552.43	\$8,396.00	\$5,626.08	\$2,769.92	0.78
60	7	60-7	Energy Star Appliances	4,183	0.48		1,880		1,368.00	\$359.00	\$42.00	\$-	\$42.00	0.12
60	9	1	60-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
60	9	2	60-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
60	10	1	60-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
60	10	2	60-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
60	11	60-11	Retrofit Light Fixtures	10,468	3.17					\$1,151.44	\$23,985.00	\$2,512.22	\$21,472.78	18.65
60	13	60-13	Cool Roof Equivalent PV	33,985	18.62					\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
60	17	EF-1	60-17-EF-1	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
60	17	EF-2	60-17-EF-2	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
60	18	1	60-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68

TABLE 42—BUILDING 61

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
61	1	61-1	Replace with Tankless Water Heater				450			\$404.92	\$4,450.00	\$-	\$4,450.00	11.0
61	6	61-6	Demand Control Ventilation	23,442	5.86					\$3,552.43	\$8,396.00	\$5,626.08	\$2,769.92	0.78
61	7	61-7	Energy Star Appliances	4,183	0.48		1,880		1,368.00	\$359.00	\$42.00	\$-	\$42.00	0.12
61	9	1	61-9-1	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
61	9	2	61-9-2	Rewound Premium Efficiency Motors	1,239	0.31				\$111.51	\$552.00	\$297.36	\$254.64	2.28
61	10	1	61-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
61	10	2	61-10-2	Varibale Frequency Drive	3,412	1.14				\$307.04	\$3,050.00	\$818.77	\$2,231.23	7.27
61	11	61-11	Retrofit Light Fixtures	10,511	3.19					\$1,156.16	\$24,082.50	\$2,522.52	\$21,559.98	18.65
61	13	61-13	Cool Roof Equivalent PV	33,985	18.62					\$3,191.53	\$96,600.00	\$8,156.46	\$88,443.54	27.71
61	17	EF-1	61-17-EF-1	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
61	17	EF-2	61-17-EF-2	Exhaust Fan Set-Back	2,517	0.63				\$728.04	\$1,122.00	\$603.99	\$518.01	0.71
61	18	1	61-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68

TABLE 43—BUILDING 66

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
66	1	66-1	Replace with Tankless Water Heater	1,564	0.18		-53			\$92.71	\$4,450.00	\$375.34	\$4,074.66	43.9
66	2	66-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
66	4	66-4	Low Flush Urinals						13.28	\$55.76	\$1,000.00	\$6.00	\$994.00	17.83
66	11	66-11	Retrofit Light Fixtures	2,878	0.87					\$316.54	\$6,110.00	\$690.62	\$5,419.38	17.12
66	13	66-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71

TABLE 44—BUILDING 67

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
67	11	67-11	Retrofit Light Fixtures	1,970	0.60					\$216.71	\$2,470.00	\$472.82	\$1,997.18	9.22

TABLE 45—BUILDING 71

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
71	11	71-11	Retrofit Light Fixtures	90,958	27.56					\$10,005.37	\$66,722.50	\$21,829.90	\$44,892.60	4.49

TABLE 46—BUILDING 72

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
72	1	72-1	Replace with Tankless Water Heater				214			\$192.25	\$4,450.00	\$-	\$4,450.00	23.1
72	6	72-6	Demand Control Ventilation	48,679	12.17					\$5,764.41	\$5,585.00	\$4,468.00	\$1,117.00	0.19
72	9	1	72-9-1	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	2	72-9-2	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	3	72-9-3	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	4	72-9-4	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	5	72-9-5	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	6	72-9-6	1,505	0.38					\$135.45	\$593.00	\$361.20	\$231.80	1.71
72	9	7	72-9-7	942	0.24					\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	8	72-9-8	2,215	0.55					\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	9	72-9-9	1,239	0.31					\$111.51	\$552.00	\$297.36	\$254.64	2.28

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
72	9	10	72-9-10	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
72	9	11	72-9-11	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
72	9	12	72-9-12	Rewound Premium Efficiency Motors	942	0.24				\$84.78	\$334.00	\$226.08	\$107.92	1.27
72	9	13	72-9-13	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
72	9	14	72-9-14	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
72	10	1	72-10-1	Varibale Frequency Drive	1,365	0.45				\$122.82	\$2,450.00	\$327.51	\$2,122.49	17.28
72	10	2	72-10-2	Varibale Frequency Drive	12,282	4.09				\$1,105.34	\$22,050.00	\$2,947.58	\$19,102.42	17.28
72	10	3	72-10-3	Varibale Frequency Drive	4,549	1.52				\$409.39	\$5,150.00	\$1,091.70	\$4,058.30	9.91
72	10	4	72-10-4	Varibale Frequency Drive	13,646	4.55				\$1,228.16	\$7,650.00	\$3,275.09	\$4,374.91	3.56
72	10	5	72-10-5	Varibale Frequency Drive	2,274	0.91				\$204.69	\$4,900.00	\$545.85	\$4,354.15	21.27
72	11		72-11-1	Retrofit Light Fixtures	210,128	63.68				\$23,114.03	\$81,315.00	\$50,430.60	\$30,884.40	1.34
72	11		72-11-2	Retrofit Light Fixtures	14,999	4.55				\$1,649.84	\$32,435.00	\$3,599.64	\$28,835.36	17.48
72	12	1	72-12-1	High SEER Units	2,333	1.94				\$210.00	\$2,500.00	\$560.00	\$1,940.00	9.24
72	12	2	72-12-2	High SEER Units	3,479	2.90				\$313.10	\$3,125.00	\$834.94	\$2,290.06	7.31
72	12	3	72-12-3	High SEER Units	4,960	4.13				\$446.41	\$4,743.75	\$1,190.43	\$3,553.32	7.96
72	12	4	72-12-4	High SEER Units	2,438	2.03				\$219.45	\$2,612.50	\$585.20	\$2,027.30	9.24
72	12	5	72-12-5	High SEER Units	3,553	2.96				\$319.73	\$3,806.25	\$852.60	\$2,953.65	9.24
72	12	6	72-12-6	High SEER Units	1,394	1.16				\$125.48	\$1,493.75	\$334.60	\$1,159.15	9.24
72	12	7	72-12-7	High SEER Units	4,950	4.13				\$445.53	\$5,581.25	\$1,188.08	\$4,393.17	9.86
72	12	8	72-12-8	High SEER Units	2,088	1.74				\$187.95	\$2,237.50	\$501.20	\$1,736.30	9.24
72	12	9	72-12-9	High SEER Units	2,433	2.03				\$218.93	\$2,606.25	\$583.80	\$2,022.45	9.24
72	12	10	72-12-10	High SEER Units	3,137	2.61				\$282.32	\$3,000.00	\$752.84	\$2,247.16	7.96
72	12	11	72-12-11	High SEER Units	7,690	6.41				\$692.12	\$7,637.50	\$1,845.64	\$5,791.86	8.37
72	12	12	72-12-12	High SEER Units	4,764	3.97				\$428.77	\$4,556.25	\$1,143.38	\$3,412.87	7.96
72	12	13	72-12-13	High SEER Units	740	0.62				\$66.64	\$950.00	\$177.70	\$772.30	11.59
72	12	14	72-12-14	High SEER Units	593	0.49				\$53.38	\$668.75	\$142.36	\$526.39	9.86
72	12	15	72-12-15	High SEER Units	1,832	1.53				\$164.85	\$1,962.50	\$439.60	\$1,522.90	9.24
72	12	16	72-12-16	High SEER Units	1,989	1.66				\$179.03	\$2,131.25	\$477.40	\$1,653.85	9.24
72	12	17	72-12-17	High SEER Units	3,442	2.87				\$309.75	\$3,687.50	\$826.00	\$2,861.50	9.24
72	12	18	72-12-18	High SEER Units	3,131	2.61				\$281.79	\$2,812.50	\$751.45	\$2,061.05	7.31
72	12	19	72-12-19	High SEER Units	3,201	2.67				\$288.05	\$2,875.00	\$768.14	\$2,106.86	7.31
72	12	20	72-12-20	High SEER Units	5,470	4.56				\$492.29	\$5,231.25	\$1,312.77	\$3,918.48	7.96
72	13		72-13	Cool Roof Equivalent PV	106,389	58.30				\$9,990.86	\$302,400.00	\$25,533.27	\$276,866.73	27.71
72	13		72-13	Cool Roof Equivalent PV	106,389	58.30				\$9,990.86	\$302,400.00	\$25,533.27	\$276,866.73	27.71
72	18	1	72-18-1	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	2	72-18-2	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	3	72-18-3	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
72	18	4	72-18-4	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	5	72-18-5	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	6	72-18-6	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
72	18	7	72-18-7	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	18	8	72-18-8	Fan Efficiency	9,663	2.42				\$869.64	\$4,500.00	\$2,319.04	\$2,180.96	2.51
72	18	9	72-18-9	Fan Efficiency	3,221	0.81				\$289.88	\$3,000.00	\$773.01	\$2,226.99	7.68
72	23	1	72-23-1	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
72	23	2	72-23-2	Upgrade Filters	574	0.14				\$51.70	\$404.75	\$137.86	\$266.89	5.16
72	23	3	72-23-3	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	4	72-23-4	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	5	72-23-5	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16
72	23	6	72-23-6	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16
72	23	8	72-23-8	Upgrade Filters	1,723	0.43				\$155.10	\$1,214.25	\$413.59	\$800.66	5.16

TABLE 47—BUILDING 73

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
73	1	73-1	Replace with Tankless Water Heater				728			\$654.75	\$17,800.00	\$-	\$17,800.00	27.2
73	2	73-2	Insulate DHW Pipes				237			\$213.26	\$677.00	\$-	\$677.00	3.17
73	6	73-6	Demand Control Ventilation	54,822	13.71					\$5,710.26	\$8,396.00	\$6,716.80	\$1,679.20	0.29
73	7	73-7	Energy Star Appliances	19,684	2.25		209		152.00	\$232.00	\$264.00	\$-	\$264.00	1.14
73	11	73-11	Retrofit Light Fixtures	78,121	23.67					\$8,593.30	\$70,590.00	\$18,749.02	\$51,840.98	6.03
73	12	1	73-12-1	High SEER Units	1,305	1.09				\$117.45	\$1,812.50	\$313.20	\$1,499.30	12.77
73	13	73-13	Cool Roof Equivalent PV	116,732	63.96					\$10,962.20	\$331,800.00	\$28,015.68	\$303,784.32	27.71
73	17	EF-1	73-17-EF-1	Exhaust Fan Set-Back	13	0.00				\$24.94	\$1,122.00	\$3.17	\$1,118.83	44.87
73	17	EF-2	73-17-EF-2	Exhaust Fan Set-Back	16	0.00				\$29.69	\$1,122.00	\$3.77	\$1,118.23	37.67
73	17	EF-3	73-17-EF-3	Exhaust Fan Set-Back	1,844	0.46				\$464.43	\$1,122.00	\$442.63	\$679.37	1.46
73	17	EF-4	73-17-EF-4	Exhaust Fan Set-Back	2,475	0.62				\$650.02	\$1,122.00	\$594.08	\$527.92	0.81
73	17	EF-5	73-17-EF-5	Exhaust Fan Set-Back	2,455	0.61				\$611.01	\$1,122.00	\$589.13	\$532.87	0.87
73	17	EF-6	73-17-EF-6	Exhaust Fan Set-Back	4,800	1.20				\$1,015.27	\$1,122.00	\$897.60	\$224.40	0.22
73	17	EF-7	73-17-EF-7	Exhaust Fan Set-Back	4,583	1.15				\$605.68	\$1,122.00	\$897.60	\$224.40	0.37
73	17	EF-8	73-17-EF-8	Exhaust Fan Set-Back	1,233	0.31				\$316.56	\$1,122.00	\$295.97	\$826.03	2.61
73	17	EF-9	73-17-EF-9	Exhaust Fan Set-Back	1,802	0.45				\$385.12	\$1,122.00	\$432.56	\$689.44	1.79
73	17	EF-10	73-17-EF-10	Exhaust Fan Set-Back	1,763	0.44				\$311.00	\$1,122.00	\$423.15	\$698.85	2.25
73	17	EF-11	73-17-EF-11	Exhaust Fan Set-Back	11	0.00				\$20.78	\$1,122.00	\$2.64	\$1,119.36	53.87

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
73	17	EF-12	73-17-EF-12	Exhaust Fan Set-Back	112	0.03				\$10.07	\$1,122.00	\$26.86	\$1,095.14	108.74
73	17	EF-13	73-17-EF-13	Exhaust Fan Set-Back	560	0.14				\$50.36	\$1,122.00	\$134.28	\$987.72	19.62
73	17	EF-14 & 15	73-17-EF-14 & 15	Exhaust Fan Set-Back	31	0.01				\$59.37	\$1,122.00	\$7.54	\$1,114.46	18.77
73	17	EF-16	73-17-EF-16	Exhaust Fan Set-Back	468	0.12				\$79.29	\$1,122.00	\$112.38	\$1,009.62	12.73
73	17	EF-17	73-17-EF-17	Exhaust Fan Set-Back	9	0.00				\$17.81	\$1,122.00	\$2.26	\$1,119.74	62.86
73	17	EF-18	73-17-EF-18	Exhaust Fan Set-Back	615	0.15				\$154.38	\$1,122.00	\$147.49	\$974.51	6.31
73	18	1S	73-18-1S	Fan Efficiency	26,473	6.62				\$2,382.57	\$9,320.00	\$6,353.52	\$2,966.48	1.25
73	18	1R	73-18-1R	Fan Efficiency	13,237	3.31				\$1,191.29	\$7,500.00	\$3,176.76	\$4,323.24	3.63
73	18	2S	73-18-2S	Fan Efficiency	20,958	5.24				\$1,886.20	\$9,320.00	\$5,029.87	\$4,290.13	2.27
73	18	2R	73-18-2R	Fan Efficiency	10,479	2.62				\$943.10	\$7,500.00	\$2,514.94	\$4,985.06	5.29
73	18	3S	73-18-3S	Fan Efficiency	26,473	6.62				\$2,382.57	\$9,320.00	\$6,353.52	\$2,966.48	1.25
73	18	3R	73-18-3R	Fan Efficiency	13,237	3.31				\$1,191.29	\$7,500.00	\$3,176.76	\$4,323.24	3.63
73	18	4S	73-18-4S	Fan Efficiency	8,824	2.21				\$794.19	\$9,320.00	\$2,117.84	\$7,202.16	9.07
73	18	4R	73-18-4R	Fan Efficiency	4,412	1.10				\$397.10	\$7,500.00	\$1,058.92	\$6,441.08	16.22
73	20		73-20	Behavior Based Conservation	2,143,804	357.30				\$190,869.49	\$-	\$-	\$-	0.00
73	23	1	73-23-1	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	3	73-23-3	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	5	73-23-5	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16
73	23	7	73-23-7	Upgrade Filters	6,893	1.72				\$620.39	\$4,857.00	\$1,654.38	\$3,202.62	5.16

TABLE 48—BUILDING 74

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
74	1	74-1	Replace with Tankless Water Heater	2,593	0.30		-89			\$153.75	\$4,450.00	\$622.43	\$3,827.57	24.9
74	4	74-4	Low Flush Urinals						15.49	\$65.05	\$1,000.00	\$1.00	\$999.00	15.36
74	7	74-7	Energy Star Appliances	3,583	0.41		0		0.00	\$35.00	\$42.00	\$-	\$42.00	1.20
74	11	74-11	Retrofit Light Fixtures	6,369	1.93					\$700.59	\$4,875.00	\$1,528.56	\$3,346.44	4.78
74	12	1	74-12-1	High SEER Units	1,227	1.02				\$110.45	\$2,250.00	\$294.55	\$1,955.45	17.70
74	12	2	74-12-2	High SEER Units	1,227	1.02				\$110.45	\$2,250.00	\$294.55	\$1,955.45	17.70
74	13	74-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71



TABLE 49—BUILDING 75

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
75	1	75-1	Replace with Tankless Water Heater				411			\$369.51	\$4,450.00	\$-	\$4,450.00	12.0
75	2	75-2	Insulate DHW Pipes				71			\$63.98	\$189.30	\$-	\$189.30	2.96
75	7	75-7	Energy Star Appliances	7,266	0.83		313		228.00	\$124.00	\$84.00	\$-	\$84.00	0.68
75	9	1	75-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	2	75-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	3	75-9-3	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	4	75-9-4	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	5	75-9-5	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	6	75-9-6	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	7	75-9-7	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	9	8	75-9-8	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
75	13	75-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71

TABLE 50—BUILDING 76

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
79	11	79-11	Retrofit Light Fixtures	6,059	1.84					\$666.47	\$3,380.00	\$1,454.11	\$1,925.89	2.89

TABLE 51—BUILDING 80

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
80	1	80-1	Replace with Tankless Water Heater	5,865	0.67		-200			\$347.67	\$4,450.00	\$1,407.51	\$3,042.49	8.8
80	4	80-4	Low Flush Urinals						33.19	\$139.39	\$2,000.00	\$5.00	\$1,995.00	14.31
80	7	80-7	Energy Star Appliances	6,553	0.75		0		0.00	\$53.00	\$42.00	\$-	\$42.00	0.79
80	11	80-11	Retrofit Light Fixtures	4,828	1.46					\$531.07	\$9,197.50	\$1,158.70	\$8,038.80	15.14

TABLE 52—BUILDING 81

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
81	1	81-1	Replace with Tankless Water Heater	12,479	1.42		-426			\$739.77	\$4,450.00	\$2,994.87	\$1,455.13	2.0

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
81	2	81-2	Insulate DHW Pipes	299	0.03		0			\$26.95	\$63.10	\$50.48	\$12.62	0.47
81	4	81-4	Low Flush Urinals						108.41	\$455.33	\$3,000.00	\$2.00	\$2,998.00	6.58
81	6	81-6	Demand Control Ventilation	6,120	1.53					\$580.19	\$28,825.00	\$1,468.70	\$27,356.30	47.15
81	7	81-7	Energy Star Appliances	3,678	0.42		0		0.00	\$44.00	\$72.00	\$-	\$72.00	1.64
81	11	81-11	Retrofit Light Fixtures	19,622	5.95					\$2,158.40	\$22,945.00	\$4,709.23	\$18,235.77	8.45
81	12	1	81-12-1	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
81	12	2	81-12-2	High SEER Units	801	0.67				\$72.10	\$1,468.75	\$192.27	\$1,276.48	17.70
81	13	81-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
81	17	EF-1	81-17-EF-1	Exhaust Fan Set-Back	414	0.10				\$111.59	\$1,122.00	\$99.43	\$1,022.57	9.16
81	17	EF-2	81-17-EF-2	Exhaust Fan Set-Back	414	0.10				\$111.59	\$1,122.00	\$99.43	\$1,022.57	9.16
81	18	1S	81-18-1S	Fan Efficiency	4,412	1.10				\$397.10	\$5,250.00	\$1,058.92	\$4,191.08	10.55
81	18	1R	81-18-1R	Fan Efficiency	1,655	0.41				\$148.91	\$3,500.00	\$397.10	\$3,102.90	20.84
81	23	1	81-23-1	Upgrade Filters	2,298	0.57				\$206.80	\$1,619.00	\$551.46	\$1,067.54	5.16

TABLE 53—BUILDING 82

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
82	1	82-1	Replace with Tankless Water Heater	4,366	0.50		-149			\$258.82	\$4,450.00	\$1,047.81	\$3,402.19	13.1
82	4	82-4	Low Flush Urinals						359.53	\$1,510.03	\$3,000.00	\$7.00	\$2,993.00	1.98
82	11	82-11	Retrofit Light Fixtures	33,851	10.26					\$3,723.65	\$46,540.00	\$8,124.34	\$38,415.66	10.32
82	12	1	82-12-1	High SEER Units	1,350	1.13				\$121.50	\$1,875.00	\$324.00	\$1,551.00	12.77
82	13	82-13	Cool Roof Equivalent PV	11,821	6.48					\$1,110.10	\$33,600.00	\$2,837.03	\$30,762.97	27.71
82	17	EF-1	82-17-EF-1	Exhaust Fan Set-Back	75	0.02				\$142.50	\$1,122.00	\$18.09	\$1,103.91	7.75
82	17	EF-2	82-17-EF-2	Exhaust Fan Set-Back	63	0.02				\$118.75	\$1,122.00	\$15.08	\$1,106.92	9.32
82	17	EF-3	82-17-EF-3	Exhaust Fan Set-Back	628	0.16				\$1,187.48	\$1,122.00	\$150.79	\$971.21	0.82
82	17	EF-4	82-17-EF-4	Exhaust Fan Set-Back	628	0.16				\$1,187.48	\$1,122.00	\$150.79	\$971.21	0.82
82	17	EF-8	82-17-EF-8	Exhaust Fan Set-Back	19	0.00				\$35.62	\$1,122.00	\$4.52	\$1,117.48	31.37
82	17	EF-9	82-17-EF-9	Exhaust Fan Set-Back	24	0.01				\$45.12	\$1,122.00	\$5.73	\$1,116.27	24.74
82	19	82-19	Foundation Electricity from Campus Grid							\$88,595.00	\$91,500.00	\$-	\$91,500.00	1.03
82	24	Found	82-24	Window Replacement-DM	100,019	25.00				\$7,128.81	\$451,008.00	\$24,004.56	\$427,003.44	59.90

TABLE 54—BUILDING 83

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
83	21	83-21	Commissioning	241,970	27.62					\$21,777.30	\$101,700.00	\$58,072.81	\$43,627.19	2.00

TABLE 55—BUILDING 84

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
85	9	1	85-9-1	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
85	9	2	85-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
85	9	3	85-9-3	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
85	9	4	85-9-4	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
85	9	5	85-9-5	Rewound Premium Efficiency Motors	2,226	0.56				\$200.34	\$1,025.00	\$534.24	\$490.76	2.45
85	10	1	85-10-1	Varibale Frequency Drive	5,004	0.91				\$450.32	\$4,900.00	\$1,200.87	\$3,699.13	8.21
85	10	2	85-10-2	Varibale Frequency Drive	2,502	0.45				\$225.16	\$2,450.00	\$600.43	\$1,849.57	8.21
85	10	3	85-10-3	Varibale Frequency Drive	8,339	1.52				\$750.54	\$3,050.00	\$2,001.44	\$1,048.56	1.40
85	10	4	85-10-4	Varibale Frequency Drive	25,018	4.55				\$2,251.62	\$7,650.00	\$6,004.33	\$1,645.67	0.73
85	10	5	85-10-5	Varibale Frequency Drive	33,357	6.06				\$3,002.17	\$10,170.00	\$8,005.77	\$2,164.23	0.72
85	13		85-13	Cool Roof Equivalent PV	65,015	35.62				\$6,105.53	\$184,800.00	\$15,603.67	\$169,196.33	27.71
85	18	1	85-18-1	Fan Efficiency	1,933	0.48				\$173.93	\$3,000.00	\$463.81	\$2,536.19	14.58
85	21		85-21	Commissioning	208,423	23.79				\$18,758.03	\$87,600.00	\$50,021.41	\$37,578.59	2.00

TABLE 56—BUILDING 86

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
86	8		86-8	Replace Desiccant Dryer with Refrigerated	5,601	0.64				\$504.13	\$7,500.00	\$1,344.35	\$6,155.65	12.21
86	9	1	86-9-1	Rewound Premium Efficiency Motors	2,215	0.55				\$199.35	\$791.00	\$531.60	\$259.40	1.30
86	9	2	86-9-2	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
86	9	3	86-9-3	Rewound Premium Efficiency Motors	768	0.19				\$69.12	\$350.00	\$184.32	\$165.68	2.40
86	10	1	86-10-1	Varibale Frequency Drive	4,549	3.03				\$409.39	\$3,825.00	\$1,091.70	\$2,733.30	6.68
86	10	2	86-10-2	Varibale Frequency Drive	1,456	0.49				\$131.00	\$2,450.00	\$349.34	\$2,100.66	16.04
86	10	3	86-10-3	Varibale Frequency Drive	97,040	32.35				\$8,733.57	\$20,100.00	\$16,080.00	\$4,020.00	0.46
86	10	4	86-10-4	Varibale Frequency Drive	48,520	16.17				\$4,366.79	\$13,000.00	\$10,400.00	\$2,600.00	0.60
86	10	5	86-10-5	Varibale Frequency Drive	97,040	32.35				\$8,733.57	\$20,100.00	\$16,080.00	\$4,020.00	0.46

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
86	11	86-11	Retrofit Light Fixtures	6,138	1.86					\$675.18	\$7,085.00	\$1,473.12	\$5,611.88	8.31
86	13	86-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71

TABLE 57—BUILDING 89

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
89	12	1	89-12-1	High SEER Units	1,038	0.87				\$93.46	\$3,750.00	\$249.23	\$3,500.77	37.46
89	12	2	89-12-2	High SEER Units	2,700	2.25				\$243.00	\$3,750.00	\$648.00	\$3,102.00	12.77
89	13	89-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71

TABLE 58—BUILDING 101

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
101	11	101-11	Retrofit Light Fixtures	7,917	2.40					\$870.84	\$3,932.50	\$1,900.01	\$2,032.49	2.33

TABLE 59—BUILDING 104

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
104	2	104-1-2	Insulate DHW Pipes				237			\$213.26	\$677.00	\$-	\$677.00	3.17
104	2	104-2-2	Insulate DHW Pipes				195			\$175.20	\$677.00	\$-	\$677.00	3.86
104	6	104-6	Demand Control Ventilation	69,414	17.35					\$3,552.43	\$8,396.00	\$6,716.80	\$1,679.20	0.47
104	9	0	104-9	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
104	10	1	104-10-1	Varibale Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
104	11	104-11	Retrofit Light Fixtures	1,775	0.54					\$195.29	\$3,217.50	\$426.10	\$2,791.40	14.29
104	12	1	104-12-1	High SEER Units	21,060	17.55				\$1,895.40	\$29,250.00	\$5,054.40	\$24,195.60	12.77
104	12	2	104-12-2	High SEER Units	796	0.66				\$71.64	\$1,105.63	\$191.05	\$914.57	12.77
104	13	104-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
104	17	EF-1	104-17-EF-1	Exhaust Fan Set-Back	2,809	0.70				\$1,280.66	\$1,122.00	\$674.17	\$447.83	0.35
104	17	EF-12	104-17-EF-12	Exhaust Fan Set-Back	2,665	0.67				\$1,007.60	\$1,122.00	\$639.49	\$482.51	0.48
104	17	EF-14	104-17-EF-14	Exhaust Fan Set-Back	1,284	0.32				\$412.78	\$1,122.00	\$308.19	\$813.81	1.97

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
104	18	1	104-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
104	23	1	104-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

TABLE 60—BUILDING 105

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
105	1	105-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
105	2	105-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
105	7	105-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
105	11	105-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
105	13	105-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
105	17	EF-1	105-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-2	105-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-3	105-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
105	17	EF-4	105-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68

TABLE 61—BUILDING 106

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
106	1	106-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
106	2	106-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
106	7	106-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
106	11	106-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
106	13	106-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
106	17	EF-1	106-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-2	106-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-3	106-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
106	17	EF-4	106-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68

TABLE 62—BUILDING 107

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
107	1	107-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
107	2	107-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
107	7	107-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
107	11	107-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
107	13	107-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
107	17	EF-1	107-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-2	107-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-3	107-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
107	17	EF-4	107-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68

TABLE 63—BUILDING 108

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
108	1	108-1	Replace with Tankless Water Heater				187			\$168.40	\$4,450.00	\$-	\$4,450.00	26.4
108	2	108-2	Insulate DHW Pipes				97			\$87.60	\$338.50	\$-	\$338.50	3.86
108	7	108-7	Energy Star Appliances	828	0.09		209		152.00	\$108.00	\$240.00	\$-	\$240.00	2.22
108	11	108-11	Retrofit Light Fixtures	8,709	2.64					\$957.96	\$19,922.50	\$2,090.09	\$17,832.41	18.62
108	13	108-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
108	17	EF-1	108-17-EF-1	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-2	108-17-EF-2	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-3	108-17-EF-3	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
108	17	EF-4	108-17-EF-4	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68

TABLE 64—BUILDING 109

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
109	2	109-1-2	Insulate DHW Pipes				58			\$52.56	\$203.10	\$-	\$203.10	3.86
109	2	109-2-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17
109	7	109-7	Energy Star Appliances	414	0.05		104		76.00	\$54.00	\$120.00	\$-	\$120.00	2.22
109	11	109-11	Retrofit Light Fixtures	4,976	1.51					\$547.40	\$11,440.00	\$1,194.34	\$10,245.66	18.72
109	13	109-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
109	17	EF-7	109-17-EF-7	Exhaust Fan Set-Back	103	0.03				\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
109	17	EF-8	109-17-EF-8	Exhaust Fan Set-Back	103					\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
109	17	EF-10	109-17-EF-10	Exhaust Fan Set-Back	208					\$59.00	\$1,122.00	\$50.01	\$1,071.99	18.17

TABLE 65—BUILDING 110

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
110	2	110-1-2	Insulate DHW Pipes				58			\$52.56	\$203.10	\$-	\$203.10	3.86
110	2	110-2-2	Insulate DHW Pipes				118			\$106.63	\$338.50	\$-	\$338.50	3.17
110	7	110-7	Energy Star Appliances	414	0.05		104		76.00	\$54.00	\$120.00	\$-	\$120.00	2.22
110	11	110-11	Retrofit Light Fixtures	4,976	1.51					\$547.40	\$11,440.00	\$1,194.34	\$10,245.66	18.72
110	13	110-13	Cool Roof Equivalent PV	7,388	4.05					\$693.81	\$21,000.00	\$1,773.14	\$19,226.86	27.71
110	17	EF-7	110-17-EF-7	Exhaust Fan Set-Back	103					\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
110	17	EF-8	110-17-EF-8	Exhaust Fan Set-Back	103					\$58.76	\$1,122.00	\$24.60	\$1,097.40	18.68
110	17	EF-10	110-17-EF-10	Exhaust Fan Set-Back	208					\$59.00	\$1,122.00	\$50.01	\$1,071.99	18.17

TABLE 66—BUILDING 111

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
111	1	111-1	Replace with Tankless Water Heater				187			\$168.21	\$4,450.00	\$-	\$4,450.00	26.5
111	13	111-13	Cool Roof Equivalent PV	14,776	8.10					\$1,387.62	\$42,000.00	\$3,546.29	\$38,453.71	27.71
111	17	EF-1	111-17-EF-1	Exhaust Fan Set-Back	406					\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-2	111-17-EF-2	Exhaust Fan Set-Back	406					\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-3	111-17-EF-3	Exhaust Fan Set-Back	406					\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
111	17	EF-4	111-17-EF-4	Exhaust Fan Set-Back	406					\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40

TABLE 67—BUILDING 120

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
120	1	120-1	Replace with Tankless Water Heater				131			\$117.64	\$4,450.00	\$-	\$4,450.00	37.8
120	1	120-1	Replace with Tankless Water Heater				131			\$117.64	\$4,450.00	\$-	\$4,450.00	37.8

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
120	5	120-1-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
120	5	120-2-5	Static Pressure Reset	2,507	0.63					\$225.59	\$1,419.60	\$601.57	\$818.03	3.63
120	7	120-7	Energy Star Appliances	21,912	2.50		104		76.00	\$206.00	\$192.00	\$-	\$192.00	0.93
120	9	1	120-9-1	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
120	9	2	120-9-2	Rewound Premium Efficiency Motors	1,505	0.38				\$135.45	\$593.00	\$361.20	\$231.80	1.71
120	10	1	120-10-1	Variable Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
120	10	2	120-10-2	Variable Frequency Drive	4,549	1.52				\$409.39	\$3,050.00	\$1,091.70	\$1,958.30	4.78
120	12	1	120-12-1	High SEER Units	12,524	10.44				\$1,127.17	\$11,250.00	\$3,005.78	\$8,244.22	7.31
120	12	2	120-12-2	High SEER Units	9,184	7.65				\$826.59	\$8,250.00	\$2,204.24	\$6,045.76	7.31
120	12	3	120-12-3	High SEER Units	1,670	1.39				\$150.29	\$1,500.00	\$400.77	\$1,099.23	7.31
120	12	4	120-12-4	High SEER Units	2,505	2.09				\$225.43	\$2,250.00	\$601.16	\$1,648.84	7.31
120	13	120-13	Cool Roof Equivalent PV	10,343	5.67					\$971.33	\$29,400.00	\$2,482.40	\$26,917.60	27.71
120	17	EF-1	120-17-EF-1	Exhaust Fan Set-Back	799	0.20				\$170.98	\$1,122.00	\$191.77	\$930.23	5.44
120	17	EF-2	120-17-EF-2	Exhaust Fan Set-Back	799	0.20				\$170.98	\$1,122.00	\$191.77	\$930.23	5.44
120	17	EF-3	120-17-EF-3	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-4	120-17-EF-4	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-5	120-17-EF-5	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-6	120-17-EF-6	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-7	120-17-EF-7	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	17	EF-8	120-17-EF-8	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
120	18	1	120-18-1	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
120	18	2	120-18-2	Fan Efficiency	6,442	1.61				\$579.76	\$4,250.00	\$1,546.02	\$2,703.98	4.66
120	23	1	120-23-1	Upgrade Filters	1,149	0.29				\$103.40	\$809.50	\$275.73	\$533.77	5.16

TABLE 68—BUILDING 62A

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
62A	4	62A-4	Low Flush Urinals						27.66	\$116.16	\$1,000.00	\$8.00	\$992.00	8.54
62A	9	0	62A-9	Rewound Premium Efficiency Motors	431	0.11				\$38.79	\$279.00	\$103.44	\$175.56	4.53
62A	10	1	62A-10-1	Variable Frequency Drive	910	0.30				\$81.88	\$2,450.00	\$218.34	\$2,231.66	27.26
62A	12	1	62A-12-1	High SEER Units	2,918	2.43				\$262.64	\$5,350.00	\$700.36	\$4,649.64	17.70
62A	12	2	62A-12-2	High SEER Units	1,602	1.34				\$144.18	\$2,225.00	\$384.48	\$1,840.52	12.77
62A	12	3	62A-12-3	High SEER Units	810	0.68				\$72.90	\$1,125.00	\$194.40	\$930.60	12.77
62A	12	4	62A-12-4	High SEER Units	810	0.68				\$72.90	\$1,125.00	\$194.40	\$930.60	12.77
62A	13	62A-13	Cool Roof Equivalent PV	4,433	2.43					\$416.29	\$12,600.00	\$1,063.89	\$11,536.11	27.71



Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
62A	17	EF-1	62A-17-EF-1	Exhaust Fan Set-Back	203	0.05				\$49.25	\$1,122.00	\$48.77	\$1,073.23	21.79

TABLE 69—BUILDING 62B

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
62B	11	62B-11	Retrofit Light Fixtures	8,323	2.52					\$915.49	\$19,045.00	\$1,997.42	\$17,047.58	18.62
62B	12	1	62B-12-1	High SEER Units	5,010	4.17				\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62B	12	2	62B-12-2	High SEER Units	5,010	4.17				\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62B	12	3	62B-12-3	High SEER Units	5,010	4.17				\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62B	12	4	62B-12-4	High SEER Units	5,010	4.17				\$450.87	\$4,500.00	\$1,202.31	\$3,297.69	7.31
62B	13	62B-13	Cool Roof Equivalent PV	2,955	1.62					\$277.52	\$8,400.00	\$709.26	\$7,690.74	27.71
62B	17	EF-1	62B-17-EF-1	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40
62B	17	EF-2	62B-17-EF-2	Exhaust Fan Set-Back	406	0.10				\$98.49	\$1,122.00	\$97.54	\$1,024.46	10.40

TABLE 70—ALL BUILDINGS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
All	14	All-14	Plug Load Reduction	536,112	61.20					\$48,250.08	\$360,000.00	\$128,666.88	\$231,333.2	4.79

TABLE 71—PARKING LOTS

Bldg #	ECM #	SEP ID Number	Project Name	Electric (kWh/Yr)	Peak Demand (kW)	HW (MMBtu /Yr)	Gas (Therms /Yr)	Chilled Water (Ton-Hrs /Yr)	Water Savings (kGal/Yr)	Total Cost Savings (\$/Yr)	Project Cost	Incentives	Net Cost	Simple Payback (Yrs)
PI	11	PI-11	Parking Lots	103,076	31.38					\$9,276.84	\$882,500.00	\$24,738.24	\$857,761.76	92.46

California State University, Long Beach (CSULB) has adopted the goals set forth by Assembly Bill 32 (AB32) which calls for the reduction of greenhouse gas emissions to 2000 levels by 2010, 1990 levels by 2020 and 80% below 1990 levels by 2050. The Chancellor's policy on energy efficiency also restates these goals except they stipulate in their current draft policy that the greenhouse gas emissions need to be 80% below 1990 levels by 2040. The campus has developed an inventory and complete greenhouse gas emissions calculations for the baseline year starting in 1990 and continuing annually through 2010. In order to determine the potential impact of energy efficiency and renewable energy projects identified in our Strategic Energy Plan (SEP), current, past and future greenhouse gas emissions from purchased electricity and natural gas have been estimated. Greenhouse gas emissions savings for the projects identified have also been calculated in order to compare their impact with the greenhouse gas emissions reduction goals.

## 12.1 Electricity Emissions Factors

The emissions calculations use utility and year specific emissions factors. The calculations for years prior to 2010 use EPA's eGRID emissions factor for the year 2000 CALI – WECC California sub-region of 0.000366 metric tons of CO<sub>2</sub>e/kWh. EPA's eGrid includes greenhouse gas emissions of carbon dioxide, methane, and nitrous oxide and uses global warming potential factors published in the IPCC's Third Assessment Report to convert methane and nitrous oxide emissions to carbon dioxide equivalents. The emissions factors are reported in metric tons of carbon dioxide equivalent per kWh (CO<sub>2</sub>e/kWh) of electricity purchased. The year 2010 GHG emissions have been calculated utilizing 0.0023768 CO<sub>2</sub>e/kWh of electricity purchased per the California Public Utilities Commission Climate Smart current Electric Emissions Rate.

## 12.2 Gas Emissions Factors

The emission factors provided in the California Public Utilities Commission, GHG emissions associated with natural gas usage utilize the ClimateSmart Natural Gas Emissions Rate of 0.006099 metric tons of CO<sub>2</sub>e per therm.

## 12.3 Current Energy Usage and Emissions

Current emissions from purchased utilities are shown in Graph 12.1.

## 12.4 2010 Goals

The California State University of Long Beach has set the goal of meeting greenhouse gas emission levels of year 2000 by 2010. CSULB has developed baseline emissions numbers in order to monitor its progress towards these goals. The energy consumption and greenhouse gas emissions associated with the CSULB campus are shown in Graph 12.1 below.

## 12.5 2020 Goals

CSULB will achieve its 2020 goal -- of achieving a reduction of greenhouse gas emissions to 1990 levels -- by implementing energy efficient measures throughout the campus and through the provision of renewable power sources.

## 12.6 SEP Energy Efficiency and Renewable Energy Projects

The Strategic Energy Plan has identified energy efficiency and renewable energy projects to help meet the greenhouse gas emissions targets. The impact of these proposed projects on greenhouse gas emissions is shown in this report and identified in Graph 12.2 below.

FIGURE 12-1—GREENHOUSE GAS EMISSIONS BY YEAR

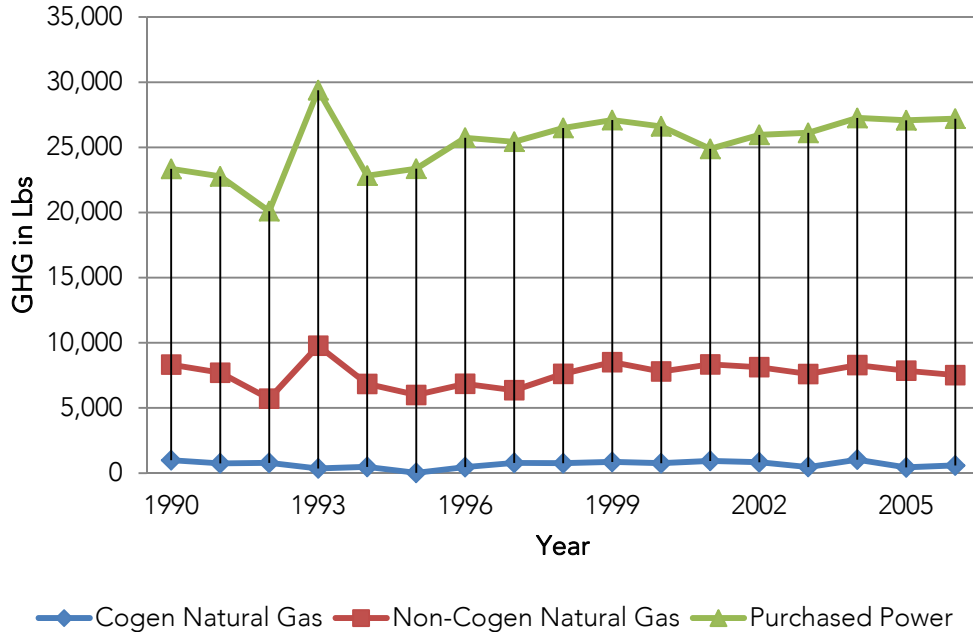
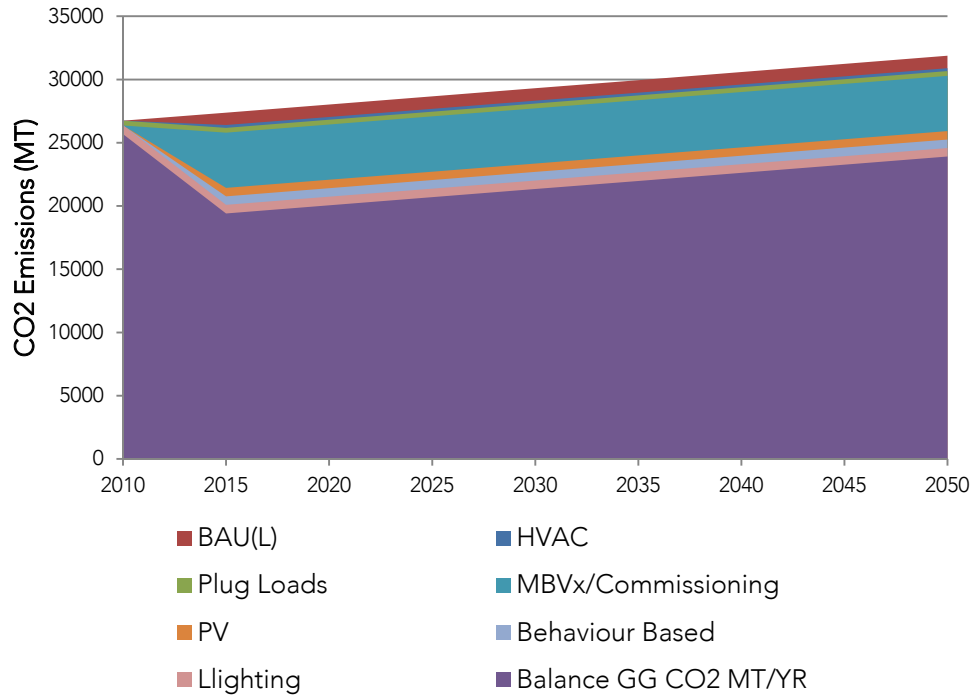


FIGURE 12-2—BUSINESS AS USUAL VS. POTENTIAL EMISSION REDUCTION INITIATIVES



## 13.1 Next Steps and Recommendations

### 13.1.1 Action Plan

The CSULB Strategic Energy Plan was driven by the Executive Order 987 and Chancellor's Policy on Sustainable Practices and Energy Efficiency which stipulates that the system (1) reduce system wide growth-adjusted energy consumption by 10 percent or more by 2014 from the year 2000 base consumption level, and (2) reduce GHG emissions to 2000 levels by 2014. To accomplish these goals, the campus must create a strategic action plan for implementing energy-saving projects through the year 2014. The plan should address both State and Non-state funded facilities to align with the campus's emission reduction goals. The SEP project list is a starting point to guide these action plans, but the campus will continuously evaluate the feasibility of additional energy-saving measures. For each year in going forward, the campus will re-evaluate and modify the action plan to reflect actual progress towards goals and necessary future steps.

### 13.1.2 University Performance: Measurement and Reporting

To ensure meeting the goals and requirements of the Campus Policy on Sustainable Practices, the campus must measure, evaluate, and report energy use and greenhouse gas emissions regularly. A Sustainability Working Group at the campus is currently developing a protocol to allow for growth adjustment and normalization of data and accurate reporting procedures. These Working Groups will monitor progress toward reaching the stated goals for GHG reduction, and will evaluate suggestions for programs to reach these goals. The system is in the process of choosing to register the campus with the California Climate Action Registry to track emissions. The registry protocol tracks emissions on a calendar year basis and the university tracks electricity use on a fiscal year basis, so some adjustments may be required to make these two protocols align.

## 13.2 Funding Sources

Significant financial investment will be required to accomplish the Campus Policy on Sustainable Practices goals. A variety of financing programs and funding sources are available to the University. Two major funding sources designed specifically to support energy efficiency projects are the Utility Incentive Programs and the Campus Energy Efficiency Financing program.

### 13.2.1 Utility Incentive Programs

Most Utilities in California offer incentives to customers to support the implementation of energy-saving projects. The University of California/California State University/Investor-Owned Utility (UC/CSU/IOU) Energy Efficiency Partnership Program provides funding to all campuses served by San Diego Gas and Electric (SDG&E), Southern California Gas (SCG), Southern California Edison (SCE), Pacific Gas and Electric (PG&E). Through the Partnership, these IOUs distribute incentives from Public Purpose Programs (formerly Public Good Charges) that customers pay on their utility bills. Since 2004, the IOUs have paid the campus almost \$5.5million in incentives through this Partnership and the IOUs have offered to increase campus funding in future years. Current UC/CSU/IOU Partnership incentive rates are \$0.24 per kilowatt-hour saved in the first year and \$1.00 per therm saved in the first year, and the Partnership will pay up to 50% for lighting projects and up to 80% of the HVAC project cost. This incentive structure is anticipated to remain unchanged in the future program years.

### 13.2.2 Campus Energy Efficiency Financing

The campus utilizes the savings in operating costs resulting from energy efficiency projects for executing future energy projects at the campus. In addition, all the incentives received from the utility companies are also utilized for future energy projects.