SCHOOLS/LOCAL GOVERNMENT ENERGY MANAGEMENT PROGRAM

For

CANYON
INDEPENDENT SCHOOL DISTRICT
Canyon, Texas

An Energy Efficient Partnership Service
of
COMPTROLLER of the STATE of TEXAS
STATE ENERGY CONSERVATION OFFICE
111 E. 17th Street
Austin, Texas 78774

Professional Engineering Services By:

ESA ENERGY SYSTEMS ASSOCIATES, Inc
100 East Main Street, Suite 201
Round Rock, Texas 78664
(512) 258-0547

April 3, 2009

James W. Brown, P.E.
Texas Registration # 51926

ESA-Energy Systems Associates, Inc.
F-4882

Table of Contents

1.0 EXECUTIVE SUMMARY:

This **Energy Efficient Partnership Service** is provided to public school districts and hospitals as a portion of the state's ***Schools/ Local Government Energy Management Program***; a program sponsored by the **State Energy Conservation Office (SECO)**, a division of the **State of Texas Comptroller of Public Accounts**.

Program Administrator: Glenda Baldwin
Phone: 512-463-1731
Address: State Energy Conservation Office
LBJ State Office Building
111 E. 17th Street
Austin, Texas 78774

The service assists these public, non-profit institutions to take basic steps towards energy efficient facility operation. Active involvement in the partnership from the entire administration and staff within the agencies and institutions is critical in developing a customized blueprint for energy efficiency for their facilities.

In March 2009, **SECO** received a request for technical assistance from *Randy McDowell*, Assistant Superintendent for Canyon I.S.D. **SECO** responded by sending **ESA Energy Systems Associates, Inc.**, a registered professional engineering firm, to prepare this preliminary report for the school district. This report is intended to provide support for the district as it determines the most appropriate path for facility renovation, especially as it pertains to the heating and cooling systems around the facility. It is our opinion that significant decreases in annual energy costs, as well as major maintenance cost reductions, can be achieved through the efficiency recommendations provided herein.

This study has focused on energy efficiency and systems operations. To that end, an analysis of the utility usage and costs for **Canyon ISD,** (hereafter known as CISD) was completed by **ESA Energy Systems Associates, Inc**., (hereafter known as *Engineer*) to determine the annual energy cost index (ECI) and energy use index (EUI) for each campus or facility. A complete listing of the Base Year Utility Costs and Consumption is provided in Appendix IV of this report.

Following the utility analysis and a preliminary consultation with Mr. McDowell, a walk-through energy analysis was conducted throughout three campuses. Specific findings of this survey and the resulting recommendations for both operation and maintenance procedures and cost-effective energy retrofit installations are identified in Section 6.0 of this report.

We estimate that as much as **$176,777** may be saved annually if all recommended projects are implemented. The estimated installed cost of these projects should total approximately **$2,511,988**, yielding an average simple payback of **14-1/4** years.

SUMMARY TABLE:

SUMMARY:	*IMPLEMENTATION COST*	*ESTIMATED SAVINGS*	*SIMPLE PAYBACK*
HVAC	*$2,307,875*	*$ 142,758*	*16-1/4 Years*
Lighting	*$ 204,113*	*$ 34,019*	*6 Years*
TOTAL PROJECTS	*$ 2,511,988*	*$ 176,777*	*14-1/4 Years*

(See Section 6.0 for a detailed description of each recommended project.)

Although additional savings from reduced maintenance expenses are anticipated, these savings projections are not included in the estimates provided above. As a result, the actual Return of Investment (ROI), for this retrofit program should be even faster than noted within these calculations.

Our final "summary" comment is that **SECO** views the completion and presentation of this report as a beginning, rather than an end, of our relationship with **CISD**. We hope to be ongoing partners in assisting you to implement the recommendations listed in this report. Please call us if you have further questions or comments regarding your Energy Management Issues.

*ESA Energy Systems Associates, Inc. James W. Brown (512) 258-0547

2.0 ENERGY ASSESSMENT PROCEDURE:

Involvement in this on-site analysis program was initiated through completion of a Preliminary Energy Assessment Service Agreement. This PEASA serves as the agreement to form a "partnership" between the client and the State Energy Conservation Office (SECO) for the purposes of energy costs and consumption reduction within owned and operated facilities. After receipt of the PEASA, an on-site visit was conducted by the professional engineering firm contracted by SECO to provide service within that area of the state. A summary of the *Partner's* most recent twelve months of utility bills was provided to the engineer for the preliminary assessment of the Energy Performance Indicators. ESA then toured the facilities to evaluate changes in maintenance, operations and/or equipment which would produce potential savings in energy consumption and cost.

3.0 CAMPUS DESCRIPTIONS:

Canyon ISD consists of eight campuses, however the survey was conducted at three facilities that the administration felt represented their primary concerns as to energy use in the district. We will be focusing on two elementary schools and a junior high school. There was a bond passed in May 2007 in the amount of $30.5 million to construct two new schools and make an addition to Randall High School. Since funds for renovations have not been budgeted for the coming year, the amount of money available to implement energy conservation projects will depend on the bond funds remaining after completion of those projects. As specified by the district, the first priority for use of the left over funds is to replace fifty of the rooftop HVAC units at Randall High School.

Lakeview ES

Originally built in 1987, this single story brick clad structure has acoustical tile ceilings with insulation installed in the plenum space. The flooring is a combination of tile flooring and carpet. Other than a gymnasium addition, the facility has had no significant additions or renovations since 1987.

The campus lighting is entirely a T12 system. Each classroom has eighteen (18) suspended two-lamp fixtures. *We recommend the district retrofit the T12 fixtures with T8 lamps and electronic ballasts throughout the campus.* This recommendation will also assist the district in meeting lighting renovation directives of House Bill HB3693 passed in June 2007.

During the walk-through, it was noted that the corridors are significantly overlit. *We recommend that the district de-lamp the corridor fixtures from 4-lamp to 2-lamp.* This will allow the district to maintain light levels in the corridors recommended by the Illumination Engineering Society of North America (IESNA) and save significant amounts of energy in the process. The dressing rooms currently have sixteen 300-watt incandescent fixtures. *We recommend that these fixtures be replaced with more efficient 2-lamp linear fluorescent fixtures.*

The HVAC system consists predominantly of rooftop units with concentric ducts. The units are controlled at this campus with an automatic time clock system that controls the operational hours of the Honeywell thermostat. The Kitchen exhaust hood does not currently have make-up air

incorporated into the system. *We recommend replacing the existing unit with a new kitchen hood that includes make up air*.

The kitchen also has is an electric dishwasher booster heater. The electric dishwasher is not as cost effective as a gas heated booster heater and can have a significant impact on the electric utility demand each month. *We recommend replacing the electric unit with a gas model*.

Note: Arden Road ES is identical to Lakeview ES.

Reeves Hinger ES

Originally this campus was two separate elementary schools, but has since been annexed into one. The original buildings were constructed in 1954 and in 1964 the two campuses were combined. This single story brick clad structure has a combination of sloped and flat roofs, CMU (brick) interior, acoustic tile ceiling with insulation, and VCT flooring.

The campus T12 lighting system has been partially retrofit with T8 lamps and electronic ballasts. However, half of the corridor fixtures and all of the classroom fixtures are still T12 components. The fixtures in the classrooms are two-lamp F96T12 (eight-foot) fixtures. *We recommend the district complete the renovation to T8 lamps and electronic ballasts throughout the lighting system.*

The HVAC System is predominantly rooftop units with concentric ductwork. Most of the units were installed in 1986-1987 and, at 23 years old, have past their useful life expectancy of 15-20 years. We recommend the units be replaced with new high efficiency units. Current control of the units is accomplished with and energy management system that limits operation of the thermostat to student occupied hours and a night setback of 55°F. The current kitchen exhaust hood does not incorporate makeup air and is therefore exhausting conditioned air out of the Kitchen. *We recommend replacing with a new kitchen hood that includes make up air*. This will greatly improve occupant comfort and improve the efficiency of the HVAC systems in the Kitchen. Also, similar to the other facilities in the district, the Kitchen has a 54kW electric booster heater for dishwashing activities. *We recommend replacing the electric booster heater with a gas unit*.

Canyon Junior High

This single story, brick clad structure, built with a flat roof was constructed in 1960 and has had some additions since. The entire campus lighting system utilizes T12 linear fluorescent fixtures. *We recommend the district perform a retrofit to T8 lamps and electronic ballasts throughout the facility.* The library currently has (96) 4-foot T12 fluorescent indirect lighting fixtures. We recommend replacing this lighting with T5 fluorescent fixtures.

The Kitchen has a 36kW electric booster heater for dishwashing activities. *We recommend replacing the electric booster heater with a gas unit*.

The HVAC System at the old Auditorium consists of a two-pipe 30-ton Carrier reciprocal chiller and two Fitzgibbons hot water boilers, one of which no longer operates. *We recommend renovating the system with three (3) 10-ton rooftop units.*

The remainder of the HVAC System consists of rooftop units, some of which were installed as far back in time as 1977. *We recommend all units older than 13 years old be replaced.*

4.0 ENERGY PERFORMANCE INDICATORS:

In order to easily assess the *Partner's* energy utilization and current level of efficiency, there are two key "Energy Performance Indicators" calculated within this report.

1. **Energy Utilization Index**

The Energy Utilization Index (EUI) depicts the total annual energy consumption per square foot of building space, and is expressed in "British Thermal Units" (BTU's).

To calculate the EUI, the consumption of electricity and gas are first converted to equivalent BTU consumption via the following formulas:

ELECTRICITY Usage
[Total KWH /yr] x [3413 BTUs/KWH] = _____ BTUs / yr

NATURAL GAS Usage
[Total MCF/yr] x [1,030,000 BTUs/MCF] = _____ BTUs / yr

After adding the BTU consumption of each fuel, the total BTU's are then divided by the building area.

EUI = [Electricity BTU's + Gas BTU's] divided by [Total square feet]

2. **Energy Cost Index**

The Energy Cost Index (ECI) depicts the total annual energy cost per square foot of building space.

To calculate the ECI, the annual costs of electricity and gas are totaled and divided by the total square footage of the facility:

ECI = [Electricity Cost + Gas Cost] divided by [Total square feet]

These indicators may be used to compare the facility's current cost and usage to past years, or to other similar facilities in the area. Although the comparisons will not provide specific reasons for unusual operation, they serve as indicators that problems may exist within the energy consuming systems.

THE CURRENT ENERGY PERFORMANCE INDICATORS FOR :

CANYON ISD

CAMPUS	ENERGY UTILIZATION INDEX (EUI) (Btu/sf-year)	ENERGY COST INDEX (ECI) ($/sf-year)
2008 Canyon Intermediate School	**46,668**	**$0.79**
Region 16 2006 Average ES:	55,848	$0.55
2008 Arden Road Elementary	**46,119**	**$0.93**
Region 16 2006 Average ES:	55,848	$0.55
2008 Crestview Elementary	**55,420**	**$0.71**
Region 16 2006 Average ES:	55,848	$0.55
2008 Gene Howe Elementary	**60,271**	**$0.95**
Region 16 2006 Average ES:	55,848	$0.55
2008 Greenways Intermediate	**44,479**	**$0.85**
Region 16 2006 Average ES:	55,848	$0.55
2008 Lakeview Elementary	**56,409**	**$0.95**
Region 16 2006 Average ES:	55,848	$0.55
2008 Reeves-Hinger Elementary	**50,071**	**$0.77**
Region 16 2006 Average ES:	55,848	$0.55
2008 Sundown Lane Elementary	**54,890**	**$1.01**
Region 16 2006 Average ES:	55,848	$0.55
2008 Canyon Junior High	**58,448**	**$0.88**
Region 16 2006 Average ES:	61,177	$0.54

2008 Westover Park Junior High	**49,740**	**$0.77**
Region 16 2006 Average ES:	61,177	$0.54
2008 Canyon High School	**67,926**	**$1.17**
Region 16 2006 Average ES:	74,213	$0.69
2008 Randall High School East	**63,735**	**$0.97**
Region 16 2006 Average ES:	74,213	$0.69
2008 Randall High School West	**53,119**	**$0.98**
Region 16 2006 Average ES:	74,213	$0.69

Comparison: Canyon ISD to Regional Averages: The EUIs for the Canyon facilities are below regional averages at all campuses except Gene Howe and Lakeview Elementary Schools. The ECIs are considerably higher than the regional averages, but much of this difference is likely due to the fact that the regional averages used are from 2006 and therefore a portion of the energy price increases experienced from 2006 are not included in the averages, but are represented in the calculations made for the district's 2007-2008 utility billings.

5.0 RATE SCHEDULE ANALYSIS:

ELECTRIC UTILITY: Xcel Energy

ELECTRIC RATE: Large School Service

CUSTOMER CHARGE	=	$15.00 per meter
DEMAND CHARGE:		
Summer Consumption Charge (June through September)	=	$7.69 per kW
Winter Consumption Charge (October through May)	=	$6.33 per kW
ENERGY CHARGE:	=	$0.00417 per kWh
FUEL COST FACTORS (Vary per Month)	=	$0.044616 per kWh Average

Average Savings for consumption:	**=**	**$0.04879/kWh**
Average Savings for demand:	**=**	**$7.69 in summer; $6.33 in winter**

NATURAL GAS PROVIDER: Atmos

Rate Schedule Unavailable: Average cost per MCF determined from utility billings.

Total Cost of Natural Gas purchased for Canyon ISD:	$347,256
Total Quantity of Natural Gas purchased for Canyon ISD:	37,283 MCF

Cost / Quantity = Average Unit Cost
$ 347,256 / 37,283 mcf = **$9.31 per mcf of natural gas**

6.0 RECOMMENDATIONS:

A. MAINTENANCE AND OPERATIONS PROCEDURES

1. Replace existing Kitchen exhaust hoods with units that include make-up air.
This will eliminate exhausting of conditioned air out of building and improve occupant comfort.

2. Replace electric booster heaters with natural gas units to reduce electrical demand costs.

3. Implement SECO's Watt Watcher program to turn lights off in unoccupied areas.
The Watt Watcher program gets the students involved with helping to have lights turned off when not in use. Refer to Appendix VII for more information on the Watt Watcher Program.

B. CAPITAL EXPENSE PROJECTS

I. HVAC

There are recommendations to renovate the HVAC system at several facilities within CISD:
Note: The projects include replacement of Auditorium central system with RTUs at Canyon Jr. High.

Randall High School West: (506.5 tons of total cooling capacity)

40 each 2-ton RTUs	13 each 5-ton RTUs
4 each 2-1/2-ton RTUs	7 each 7-1/2-ton RTUs
2 each 3-ton RTUs	1 each 10-ton RTU
10 each 3-1/2-ton RTUs	2 each 12-ton RTUs
11 each 4-ton RTUs	12 each 15-ton RTUs

Canyon Junior High: (208 tons of total cooling capacity)

9 each 2-ton RTUs	6 each 5-ton RTUs
17 each 2-1/2-ton RTUs	4 each 7-1/2-ton RTUs
9 each 3-ton RTUs	1 each 10-ton RTU
1 each 3-1/2-ton RTU	1 each 20-ton RTU
3 each 4-ton RTUs	

Arden Road Elementary: (131.5 tons of total cooling capacity)

23 each 2-ton RTUs	1 each 4-ton RTU
10each 2-1/2-ton RTUs	6each 5-ton RTUs
1 each 3-ton RTU	2 each 10-ton RTUs
1 each 3-1/2-ton RTU	

Reeves-Hinger Elementary: (179.5 tons of total cooling capacity)

1 each 2-ton RTU	8 each 4-ton RTUs
4 each 2-1/2-ton RTUs	1 each 5-ton RTUs
46 each 3-ton RTUs	

Gene Howe Elementary: (98 tons of total cooling capacity)

3 each 2-ton RTUs	4 each 3-1/2-ton RTUs
22 each 3-ton RTUs	3 each 4-ton RTUs

Lakeview Elementary: (124 tons of total cooling capacity)

23 each 2-ton RTUs	1 each 4-ton RTUs
10 each 2-1/2-ton RTUs	6 each 5-ton RTUs
2 each 3-1/2-ton RTUs	1 each 12-ton RTU

SUMMARY HVAC ALL SCHOOLS: 1,248 TONS OF COOLING CAPACITY

Estimated Installed Cost	=	$2,307,875
Estimated Energy Cost Savings	=	$ 142,758
Simple Payback Period	=	16-1/4 Years

The long payback for the HVAC project is exaggerated because the deferred maintenance costs that will be avoided by not having to maintain units that are up to 23 years old is not included in this calculation. The district has done an excellent job of limiting the operation of the units to student occupied hours with the existing energy management system and therefore the actual energy savings generated from the project is minimal. However, from a maintenance perspective, these units need to be replaced in a budget controlled process before the district faces the potentially catastrophic emergency replacement costs associated with frequent and simultaneous unit failure around the district.

II. Lighting Retrofit from T12 to T8 Lighting System Components

Complete the T12 fluorescent lighting renovation to T8 lamps and electronic ballasts.

Estimated Installed Cost	=	$204,113
Estimated Energy Cost Savings	=	$ 34,019
Simple Payback Period	=	6 Years

SUMMARY:	***IMPLEMENTATION COST***	***ESTIMATED SAVINGS***	***SIMPLE PAYBACK***
HVAC	*$2,307,875*	*$ 142,758*	*16-1/4 Years*
Lighting	*$ 204,113*	*$ 34,019*	*6 Years*
TOTAL PROJECTS	*$ 2,511,988*	*$ 176,777*	*14-1/4 Years*

Financing of these projects may be provided using a variety of methods as Bond Programs, municipal leases, or state financing programs like the SECO LoanSTAR Program.

In-House Funding	=	$ 2,511,988	
10 year commercial loan principal	=	$ 2,511,988	
10 year commercial loan interest (5%) paid	=	$ 685,236	
10 year commercial loan TOTAL	=	$ 3,197,224	
Commercial Loan Annual Payment	=	$ 26,644/month	= $ 319,728/yr
Total Annual Payment Minus Annual Energy Cost Savings = $319,728–176,777 = $ 142,951			
Annual Cost to ISD (without considering Maintenance Cost Reduction)			**= $ 142,951**

More information regarding financial programs available to CISD can be found in:

APPENDIX I: *SUMMARY OF FUNDING AND PROCUREMENT OPTIONS FOR CAPITAL EXPENDITURE PROJECTS*

APPENDIX I

SUMMARY OF FUNDING AND PROCUREMENT OPTIONS FOR CAPITAL EXPENDITURE PROJECTS

SUMMARY OF FUNDING OPTIONS FOR CAPITAL EXPENDITURE PROJECTS
Several options are available for funding retrofit measures which require capital expenditures.

LoanSTAR Program:
The Texas LoanSTAR program is administered by the State Energy Conservation Office (SECO). It is a revolving loan program available to all public school districts in the state as well as other institutional facilities. SECO loans money at 3% interest for the implementation of energy conservation measures which have a combined payback of eight years or less. The amount of money available varies, depending upon repayment schedules of other facilities with outstanding loans, and legislative actions. Check with Theresa Sifuentes of SECO (512-463-1896) for an up-to-date evaluation of prospects for obtaining a loan in the amounts desired.

TASB (Texas Association Of School Boards) Capital Acquisition Program:
TASB makes loans to school districts for acquiring personal property for "maintenance purposes". Energy conservation measures are eligible for these loans. The smallest loan TASB will make is $100,000. Financing is at 4.4% to 5.3%, depending upon length of the loan and the school district's bond rating. Loans are made over a three year, four year, seven year, or ten year period. The application process involves filling out a one page application form, and submitting the school district's most recent budget and audit. Contact Cheryl Kepp at TASB (512-467-0222) for further information.

Loans On Commercial Market:
Local lending institutions are another source for the funding of desired energy conservation measures. Interest rates obtainable may not be as attractive as that offered by the LoanSTAR or TASB programs, but advantages include "unlimited" funds available for loan, and local administration of the loan.

Leasing Corporations:
Leasing corporations have become increasingly interested in the energy efficiency market. The financing vehicle frequently used is the municipal lease. Structured like a simple loan, a municipal leasing agreement is usually a lease-purchase agreement. Ownership of the financed equipment passes to the district at the beginning of the lease, and the lessor retains a security interest in the purchase until the loan is paid off. A typical lease covers the total cost of the equipment and may include installation costs. At the end of the contract period a nominal amount, usually a dollar, is paid by the lessee for title to the equipment.

Bond Issue:
The may choose to have a bond election to provide funds for capital improvements. Because of its political nature, this funding method is entirely dependent upon the mood of the voters, and may require more time and effort to acquire the funds than the other alternatives.

SUMMARY OF PROCUREMENT OPTIONS FOR CAPITAL EXPENDITURE PROJECTS

State Purchasing:
The General Services Commission has competitively bid contracts for numerous items which are available for direct purchase by school districts. Contracts for this GSC service may be obtained from Sue Jager at (512) 475-2351.

Design/Bid/Build (Competitive Bidding):
Plans and specifications are prepared for specific projects and competitive bids are received from installation contractors. This traditional approach provides the district with more control over each aspect of the project, and task items required by the contractors are presented in detail.

Design/Build:
These contracts are usually structured with the engineer and contractor combined under the same contract to the owner. This type team approach was developed for fast-track projects, and to allow the contractor a position in the decision making process. The disadvantage to the district is that the engineer is not totally independent and cannot be completely focused upon the interest of the district. The district has less control over selection of equipment and quality control.

Purchasing Standardization Method:
This method will result in significant dollar savings if integrated into planned facility improvements. For larger purchases which extend over a period of time, standardized purchasing can produce lower cost per item expense, and can reduce immediate up-front expenditures. This approach includes traditional competitive bidding with pricing structured for present and future phased purchases.

Performance Contracting:
Through this arrangement, an energy service company (ESCO) using in-house or third party financing to implement comprehensive packages of energy saving retrofit projects. Usually a turnkey service, this method includes an initial assessment of energy savings potential, design of the identified projects, purchase and installation of the equipment, and overall project management. The ESCO guarantees that the cost savings generated will, at a minimum, cover the annual payment due over the term of the contract. The laws governing Performance Contracting for school districts are detailed in the Texas Education Code, Subchapter Z, Section 44.901. Senate Bill SB 3035, passed by the seventy-fifth Texas Legislature, amends some of these conditions. Performance Contracting is a highly competitive field, and interested districts may wish to contact Theresa Sifuentes of State Energy Conservation Office, (SECO), at 512-463-1896 for assistance in preparing requests for proposals or requests for qualifications.

Solution Center

How to Finance Your Energy Program

Cost and financing issues are pivotal factors in determining which energy-efficiency measures will be included in your final energy management plan. Before examining financing options, you need to have a reasonably good idea of the measures that may be implemented. For this purpose, you will want to perform cost/benefit analyses on each candidate measure to identify those with the best investment potential. This document presents a brief introduction to cost/benefit methods and then suggests a variety of options for financing your program.

Selecting a Cost/Benefit Analysis Method

Cost/benefit analysis can determine if and when an improvement will pay for itself through energy savings and to help you set priorities among alternative improvement projects. Cost/benefit analysis may be either a simple payback analysis or the more sophisticated life cycle cost analysis. Since most electric utility rate schedules are based on both consumption and peak demand, your analyst should be skilled at assessing the effects of changes in both electricity use and demand on total cost savings, regardless of which type of analysis is used. Before beginning any cost/benefit analyses, you must first determine acceptable design alternatives that meet the heating, cooling, lighting, and control requirements of the building being evaluated. The criteria for determining whether a design alternative is "acceptable" includes reliability, safety, conformance with building codes, occupant comfort, noise levels, and space limitations. Since there will usually be a number of acceptable alternatives for any project, cost/benefit analysis allows you to select those that have the best savings potential.

Simple Payback Analysis

A highly simplified form of cost/benefit analysis is called simple payback. In this method, the total first cost of the improvement is divided by the first-year energy cost savings produced by the improvement. This method yields the number of years required for the improvement to pay for itself.

This kind of analysis assumes that the service life of the energy-efficiency measure will equal or exceed the simple payback time. Simple payback analysis provides a relatively easy way to examine the overall costs and savings potentials for a variety of project alternatives. However, it does not consider a number of factors that are difficult to predict, yet can have a significant impact on cost savings. These factors may be considered by performing a life-cycle cost (LCC) analysis.

Simple Payback

As an example of simple payback, consider the lighting retrofit of a 10,000-square-foot commercial office building. Relamping with T-8 lamps and electronic, high-efficiency ballasts may cost around $13,300 ($50 each for 266 fixtures) and produce annual savings of around $4,800 per year (80,000 kWh at $0.06/kWh). This simple payback for this improvement would be

$$\frac{\$13{,}300}{\$4{,}800/\text{year}} = 2.8 \text{ years}$$

That is, the improvement would pay for itself in 2.8 years, a 36% simple return on the investment (1/2.8 = 0.36).

Life-Cycle Cost Analysis

Life-cycle cost analysis (LCC) considers the total cost of a system, device, building, or other capital equipment or facility over its anticipated useful life. LCC analysis allows a comprehensive assessment of all anticipated costs associated with a design alternative. Factors commonly considered in LCC analyses include initial capital cost, operating costs, maintenance costs, financing costs, the expected useful life of equipment, and its future salvage values. The result of the LCC analysis is generally expressed as the value of initial and future costs in today's dollars, as reflected by an appropriate discount rate.

The first step in this type of analysis is to establish the general study parameters for the

continued

How to Finance Your Energy Program *continued*

project, including the base date (the date to which all future costs are discounted), the service date (the date when the new system will be put into service), the study period (the life of the project or the number of years over which the investor has a financial interest in the project), and the discount rate. When two or more design alternatives are compared (or even when a single alternative is compared with an existing design), these variables must be the same for each to assure that the comparison is valid. It is meaningless to compare the LCC of two or more alternatives if they are computed using different study periods or different discount rates.

Decision makers in both the public and private sectors have long used LCC analysis to obtain an objective assessment of the total cost of owning, operating, and maintaining a building or building system improvement over its useful life. Nevertheless, an LCC analysis does require a good understanding of acceptable alternatives, useful life, equipment efficiencies, and discount rates.

Selecting the "Best" Alternatives

Generally, all project alternatives should be screened using simple payback analyses. A more detailed and costly LCC analysis should be reserved for large projects or those improvements that entail a large investment, since a detailed cost analysis would then be a small part of the overall cost. Both simple payback and LCC analyses will allow you to set priorities based on measures that represent the greatest return on investment. In addition, these analyses can help you select appropriate financing options:

- Energy-efficiency measures with short payback periods, such as one to two years, are economically very attractive and should be implemented using operating reserves or other readily available internal funds, if possible.
- Energy-efficiency measures with payback periods from three to five years may be considered for funding from available internal capital investment monies, or may be attractive candidates for third-party financing through energy service companies or equipment leasing arrangements.
- Frequently, short payback measures can be combined with longer payback measures (10 years or more) in order to increase the number of measures that can be cost-effectively included in a project. Projects that combine short- and long-term paybacks are recommended to avoid "cream-skimming" (implementing only those measures that are highly cost effective and have quick paybacks) at the expense of other worthwhile measures. A selected set of measures with a combination of payback periods can be financed either from available internal funds or through third party alternatives.

If simple payback time is long, 10 or more years, economic factors can be very significant and LCC analysis is recommended. In contrast, if simple payback occurs within three to five years, more detailed LCC analysis may not be necessary, particularly if price and inflation changes are assumed to be moderate.

Weighing Non-Cost Impacts

Some factors related to building heating, air conditioning, and lighting system design are not considered in either simple payback or LCC analyses. Examples include the thermal comfort of occupants in a building and the adequacy of task lighting, both of which affect productivity. A small loss in productivity due to reduced comfort or poor lighting can quickly offset any energy cost savings.

Conventional cost/benefit analyses also normally do not consider the ancillary societal benefits that can result from reduced energy use (e.g., reduced carbon emissions, improved indoor air quality). In some cases, these ancillary benefits can be assigned an agreed upon monetary value, but the values to be used are strongly dependent on local factors. In general, if societal benefits have been assigned appropriate monetary values by a local utility, they can be easily considered in your savings calculations. However, your team should discuss this issue with your local utility or with consultants working on such values in your area.

Finally, in any cost analysis, it can be very important to include avoided cost as part of the benefit of the retrofit. When upgrading or replacing building equipment, the avoided cost of maintaining existing equipment should be considered a cost savings provided by the improvement.

2

How to Finance Your Energy Program *continued*

Financing Mechanisms

Capital for energy-efficiency improvements is available from a variety of public and private sources, and can be accessed through a wide and flexible range of financing instruments. While variations may occur, there are five general financing mechanisms available today for investing in energy-efficiency:

- **Internal Funds.** Energy-efficiency improvements are financed by direct allocations from an organization's own internal capital or operating budget.
- **Debt Financing.** Energy-efficiency improvements are financed with capital borrowed directly by an organization from private lenders.
- **Lease or Lease-Purchase Agreements.** Energy-efficient equipment is acquired through an operating or financing lease with no up-front costs, and payments are made over five to ten years.
- **Energy Performance Contracts.** Energy-efficiency measures are financed, installed, and maintained by a third party, which guarantees savings and payments based on those savings.
- **Utility Incentives.** Rebates, grants, or other financial assistance are offered by an energy utility for the design and purchase of certain energy-efficient systems and equipment.

These financing mechanisms are not mutually exclusive (i.e., an organization may use several of them in various combinations). The most appropriate set of options will depend on the size and complexity of a project, internal capital constraints, in-house expertise, and other factors. Each of these mechanisms is discussed briefly below, followed by some additional funding sources and considerations.

Internal Funds

The most direct way for the owner of a building or facility to pay for energy-efficiency improvements is to allocate funds from the internal capital or operating budget. Financing internally has two clear advantages over the other options discussed below -- it retains internally all savings from increased energy-efficiency, and it is usually the simplest option administratively. The resulting savings may be used to decrease overall operating expenses in future years or retained within a revolving fund used to support additional efficiency investments. Many public and private organizations regularly finance some or all of their energy-efficiency improvements from internal funds.

In some instances, competition from alternative capital investment projects and the requirement for relatively high rates of return may limit the use of internal funds for major, standalone investments in energy-efficiency. In most organizations, for example, the highest priorities for internal funds are business or service expansion, critical health and safety needs, or productivity enhancements. In both the public and private sectors, capital that remains available after these priorities have been met will usually be invested in those areas that offer the highest rates of return. The criteria for such investments commonly include an annual return of 20 percent to 30 percent or a simple payback of three years or less.

Since comprehensive energy-efficiency improvements commonly have simple paybacks of five to six years, or about a 12 percent annual rate of return, internal funds often cannot serve as the sole source of financing for such improvements. Alternatively, however, internal funding can be used well and profitably to achieve more competitive rates of return when combined with one or more of the other options discussed below.

Debt Financing

Direct borrowing of capital from private lenders can be an attractive alternative to using internal funds for energy-efficiency investments. Financing costs can be repaid by the savings that accrue from increased energy-efficiency. Additionally, municipal governments can often issue bonds or other long-term debt instruments at substantially lower interest rates than can private corporate entities. As in the case of internal funding, all savings from efficiency improvements (less only the cost of financing) are retained internally.

Debt financing is administratively more complex than internal funding, and financing costs will vary according to the credit rating of the borrower. This approach may also be restricted by formal debt ceilings imposed by municipal

How to Finance Your Energy Program *continued*

policy, accounting standards, and/or Federal or state legislation.

In general, debt financing should be considered for larger retrofit projects that involve multiple buildings or facilities. When considering debt financing, organizations should weigh the cost and complexity of this type of financing against the size and risk of the proposed projects.

Lease and Lease-Purchase Agreements

Leasing and lease-purchase agreements provide a means to reduce or avoid the high, up-front capital costs of new, energy-efficient equipment. These agreements may be offered by commercial leasing corporations, management and financing companies, banks, investment brokers, or equipment manufacturers. As with direct borrowing, the lease should be designed so that the energy savings are sufficient to pay for the financing charges. While the time period of a lease can vary significantly, leases in which the lessee assumes ownership of the equipment generally range from five to ten years. There are several different types of leasing agreements, as shown in the sidebar. Specific lease agreements will vary according to lessor policies, the complexity of the project, whether or not engineering and design services are included, and other factors.

Energy Performance Contracts

Energy performance contracts are generally financing or operating leases provided by an Energy Service Company (ESCo) or equipment manufacturer. The distinguishing features of these contracts are that they provide a guarantee on energy savings from the installed retrofit measures, and they provide payments to the ESCo from the savings, freeing the customer from any need of up-front payments to the ESCo. The contract period can range from five to 15 years, and the customer is required to have a certain minimum level of capital investment (generally $200,000 or more) before a contract will be considered.

Under an energy performance contract, the ESCo provides a service package that typically includes the design and engineering, financing, installation, and maintenance of retrofit measures to improve energy-efficiency. The scope of these improvements can range from measures that affect a single part of a building's energy-using

Types of Leasing Agreements

Operating Leases are usually for a short term, occasionally for periods of less than one year. At the end of the lease period, the lessee may either renegotiate the lease, buy the equipment for its fair market value, or acquire other equipment. The lessor is considered the owner of the leased equipment and can claim tax benefits for its depreciation.

Financing Leases are agreements in which the lessee essentially pays for the equipment in monthly installments. Although payments are generally higher than for an operating lease, the lessee may purchase the equipment at the end of the lease for a nominal amount (commonly $1). The lessee is considered the owner of the equipment and may claim certain tax benefits for its depreciation.

Municipal Leases are available only to tax-exempt entities such as school districts or municipalities. Under this type of lease, the lessor does not have to pay taxes on the interest portion of the lessee's payments, and can therefore offer an interest rate that is lower than the rate for usual financing leases. Because of restrictions against multi-year liabilities, the municipality specifies in the contract that the lease will be renewed year by year. This places a higher risk on the lessor, who must be prepared for the possibility that funding for the lease may not be appropriated. The lessor may therefore charge an interest rate that is as much as 2 percent above the tax-exempt bond rate, but still lower than rates for regular financing leases. Municipal leases nonetheless are generally faster and more flexible financing tools than tax-exempt bonds.

Guaranteed Savings Leases are the same as financing or operating leases but with the addition of a guaranteed savings clause. Under this type of lease, the lessee is guaranteed that the annual payments for leasing the energy-efficiency improvements will not exceed the energy savings generated by them. The owner pays the contractor a fixed payment per month. If actual energy savings are less than the fixed payment, however, the owner pays only the small amount saved and receives a credit for the difference.

4

How to Finance Your Energy Program *continued*

infrastructure (such as lighting) to a complete package of measures for multiple buildings and facilities. Generally, the service provider will guarantee savings as a result of improvements in both energy and maintenance efficiencies. Flat-fee payments tend to be structured to maintain a positive cash flow to the customer with whom the agreement is made. With the increasing deregulation of conventional energy utilities, several larger utilities have formed unregulated subsidiaries that offer a full range of energy-efficiency services under performance agreements.

An energy performance contract must define the methodology for establishing the baseline costs and cost savings and for the distribution of those savings among the parties. The contract must also specify how those savings will be determined, and must address contingencies such as utility rate changes and variations in the use and occupancy of a building. While several excellent guidance documents exist for selecting and negotiating energy performance contracts, large or complicated contracts should be negotiated with the assistance of experienced legal counsel.

Utility Incentives

Some utilities still offer financial incentives for the installation of energy-efficient systems and equipment, although the number and extent of such programs appears to be decreasing as utility deregulation proceeds. These incentives are available for a variety of energy-efficient products including lighting, HVAC systems, energy management controls, and others. The most common incentives are equipment rebates, design assistance, and low-interest loans.

In general, the primary purpose of utility incentives is to lower peak demand; overall energy-efficiency is an important, but secondary consideration. Incentives are much more commonly offered by electric utilities than by natural gas utilities.

Additional Financing Sources and Considerations

State and Federal Assistance. Matching grants, loans, or other forms of financial assistance (in addition to those listed above) may be available from the Federal government or state governments. If your community is considering energy-efficiency improvements for public or assisted multifamily housing, your program could be eligible to receive assistance through various programs of the U.S. Department of Housing and Urban Development. A variety of state-administered programs for building efficiency improvements may also be available, some of which are funded through Federal block grants and programs. Federal assistance available through states include Federal block grants and State Energy Conservation Program funds. An example of individual state programs is the Texas LoanSTAR program, which provides low-interest loans for state agencies and schools.

Utility Assistance

Equipment Rebates. Some utilities offer rebates on the initial purchase price of selected energy-efficient equipment. The amount of the rebate varies substantially depending on the type of equipment. For example, a rebate of $.50 to $1 may be offered for the replacement of an incandescent bulb with a more efficient fluorescent lamp, while the installation of an adjustable speed drive may qualify for a rebate of $10,000 or more.

Design Assistance. A smaller number of utilities provide direct grants or financial assistance to architects and engineers for incorporating energy-efficiency improvements in their designs. This subsidy can be based on the square footage of a building, and/or the type of energy-efficiency measures being considered. Generally, a partial payment is made when the design process is begun, with the balance paid once the design has been completed and installation has commenced.

Low-Interest Loans. Loans with below-market rates are provided by other utilities for the purchase of energy-efficient equipment and systems. Typically, these low-interest loans will have an upper limit in the $10,000 to $20,000 range, with monthly payments scheduled over a two- to five-year period.

How to Finance Your Energy Program *continued*

Bulk Purchasing. Large organizations generally have purchasing or materials procurement departments that often buy standard materials in bulk or receive purchasing discounts because of the volume of their purchases. Such organizations can help reduce the costs of energy-efficiency renovations if their bulk purchasing capabilities can be used to obtain discounts on the price of materials (e.g., lamps and ballasts). While some locales may have restrictions that limit the use of this option, some type of bulk purchasing can usually be negotiated to satisfy all parties involved.

Project Transaction Costs. Certain fixed costs are associated with analyzing and installing energy measures in each building included in a retrofit program. Each additional building, for example, could represent additional negotiations and transactions with building owners, building analysts, energy auditors, equipment installers, commissioning agents, and other contractors. Similarly, each additional building will add to the effort involved in initial data analysis as well as in tracking energy performance after the retrofit. For these reasons, it is often possible to achieve target energy savings at lower cost by focusing only on those buildings that are the largest energy users. One disadvantage with larger buildings is that the energy systems in the building can be more difficult to understand, but overall, focusing on the largest energy users is often the most efficient use of your financial resources.

Direct Value-Added Benefits. The primary value of retrofits to buildings and facilities lies in the reduction of operating costs through improved energy-efficiency and maintenance savings. Nevertheless, the retrofit may also directly help address a variety of related concerns, and these benefits (and avoided costs) should be considered in assessing the true value of an investment. A few examples of these benefits include the improvement of indoor air quality in office buildings and schools; easier disposal of toxic or hazardous materials found in energy-using equipment; and assistance in meeting increasingly stringent state or Federal mandates for water conservation. Effective energy management controls for buildings can also provide a strong electronic infrastructure for improving security systems and telecommunications.

Economic Development Benefits. In addition to direct savings on operating costs and the added-value benefits mentioned above, investments in energy-efficiency can also support a community's economic development and employment opportunities. Labor will typically constitute about 60 percent of a total energy investment, and about 50 percent of equipment can be expected to be purchased from local equipment suppliers; as a result, about 85 percent of the investment is retained within the local economy. Additionally, funds retained in urban areas will generally be re-spent in the local economy. The Department of Commerce estimates that each dollar retained in an urban area will be re-spent three times. This multiplier effect results in a three-fold increase in the economic benefits of funds invested in energy-efficiency, without even considering the savings from lower overall fuel costs.

For more information contact the Rebuild America Clearinghouse at 252-459-4664 or visit www.rebuild.gov

Rebuild America
U.S. Dept. of Energy

6

APPENDIX II

ELECTRIC UTILITY RATE SCHEDULE

Xcel Energy™
SOUTHWESTERN PUBLIC SERVICE

Section No. IV
Sheet No. IV-182
Revision No. 1 T

Page 1 of 2

ELECTRIC TARIFF

LARGE SCHOOL SERVICE

APPLICABLE: To all public and private schools supplied electric service at secondary voltage and at one point of delivery, and measured through one meter, where facilities of adequate capacity and suitable voltage are adjacent to the premises to be served, in excess of 10 kW of demand in any month.

Not applicable to temporary, breakdown, standby, supplementary, resale or shared service, or to service for which a specific rate schedule is provided.

TERRITORY: Texas service territory.

RATE: Service Availability Charge: $15.00 per month

Energy Charge: 0.417¢ per kWh for all kWh used during the month

Demand Charge:
$7.69 per kW of demand used per month during each summer month
$6.33 per kW of demand used per month during each winter month

PUBLIC UTILITY COMMISSION OF TEXAS
INTERIM APPROVAL GRANTED
APR -2 '08 DOCKET 35407
TF #_____ BY_____
TARIFF CLERK

WINTER MONTHS: The billing months of October through May.

SUMMER MONTHS: The billing months of June through September.

DEMAND: The Company will furnish at its expense the necessary metering equipment to measure the customer's kW demand for the 30-minute period of greatest use during the month. In the absence of a demand meter the Company will bill the customer's demand using the monthly kilowatt-hours and an average load factor of 41.30 percent. In no month, shall the billing demand be greater than the kW value determined by dividing the kWh sales for the billing period by 80 hours. T T

POWER FACTOR: Applicable to customers on this rate schedule with a peak demand of 200 kW or greater. Customer, at all times, will maintain at Company's point of delivery a power factor of not less than 90% lagging.

In the event a low voltage condition due to lagging power factor exists in a degree sufficient to impair the Company's service, customer will install suitable capacitor or other equipment necessary to raise the overall power factor at the point of delivery to a satisfactory value. Where such power factor correction equipment is used, customer will install and maintain a relay, switch, or other regulating equipment for purpose of disconnecting or controlling the power factor correction equipment in order to prevent excessive voltage variations on Company's lines.

FUEL COST RECOVERY AND ADJUSTMENTS: The charge per kilowatt hour of the above rate shall be increased by the applicable fuel cost recovery factor per kilowatt hour as provided in PUCT Sheet IV-69. This rate schedule is subject to other applicable rate adjustments as in effect from time to time in this tariff.

PUBLIC UTILITY COMMISSION OF TEXAS

PRESIDENT & CEO,
SOUTHWESTERN PUBLIC SERVICE COMPANY

Date 16

Xcel Energy™
SOUTHWESTERN PUBLIC SERVICE

Section No. IV
Sheet No. IV-182
Revision No. 1 T

Page 2 of 2

ELECTRIC TARIFF

LARGE SCHOOL SERVICE

CHARACTER OF SERVICE: A-C; 60 hertz; single or three phase, at one available standard voltage.

LINE EXTENSIONS: The Company will make line extensions in accordance with its standard line extension policy.

TERMS OF PAYMENT: Net in 16 days after mailing date; 5 percent added to bill after 16 days. If the sixteenth day falls on a holiday or weekend, the due date will be the next work day.

FRANCHISE FEE: All current and future franchise fees not included in base rates shall be separately assessed in the municipality where the excess franchise fee is authorized. Bills computed under the above rate will be increased by the additional franchise fees imposed by the appropriate municipality or taxing authority in which jurisdiction the customer's consuming facility resides, when applicable. The franchise fee will appear on the bill as a separate item.

RULES, REGULATIONS AND CONDITIONS OF SERVICE: Service supplied under this schedule is subject to the terms and conditions set forth in the Company's Rules, Regulations and Conditions of Service on file with The Public Utility Commission of Texas and the following conditions:

For those customers receiving secondary service distribution voltage who desire to elect primary distribution voltage, they may do so subject to the terms and conditions of Primary/Secondary Conversion. T

PUBLIC UTILITY COMMISSION OF TEXAS
INTERIM APPROVAL GRANTED
APR -2 '08 DOCKET 35407
TF #_____ BY_____
TARIFF CLERK

PUBLIC UTILITY COMMISSION OF TEXAS

PRESIDENT & CEO,
SOUTHWESTERN PUBLIC SERVICE COMPANY

Page 17

FCASUM08.xls Summary 1/8/2009 9:36 AM

SOUTHWESTERN PUBLIC SERVICE COMPANY
CALCULATED AS OF NOVEMBER 2008

FUEL COST FACTORS BY $/KWH

	Jan-08	Feb-08	06-Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	14-Sep-08	16-Sep-08	Oct-08	Nov-08	Dec-08
#01															
#02															
#03	0.040398	0.040398	0.041422	0.041422	0.041422	0.053034	0.053034	0.053034	0.053034	0.053034	0.053034	0.053034	0.053034	0.044076	0.044076
#04															
#05	0.039847	0.039847	0.040892	0.040892	0.040892	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.043512	0.043512
#06	(0.001098)	0.000173	0.000173	0.000317	0.000245	(0.000164)	(0.000053)	0.000298	0.000749	0.001417	0.001417	0.001417	0.000221	0.000787	0.000802
#07	0.038140	0.038140	0.038323	0.038323	0.038323	0.049066	0.049066	0.049066	0.049066	0.049066	0.049066	0.049066	0.049066	0.040778	0.040778
#08															
#09	0.037924	0.037924	0.038049	0.038049	0.038049	0.048715	0.048715	0.048715	0.048715	0.048715	0.048715	0.048715	0.048715	0.040487	0.040487
#10															
#11															
#12												(0.006916)	(0.013046)	(0.011120)	(0.010709)
#12 True-Up												(0.004076)	(0.002641)		
#13	0.036031	0.040013	0.040013	0.051973	0.055066	0.051590	0.060490	0.058013	0.049863	0.035513	0.035513				
#13 True-Up	0.002720	0.001448	0.001448	0.000908	0.000844	0.005893	0.001636	0.007537	(0.001171)	(0.004466)	(0.004466)				
#14	(0.006058)	(0.001740)	(0.001740)	0.010292	0.017487	0.014149	0.023000	0.017854	0.009957	(0.004215)	(0.004215)	(0.004215)	(0.010345)	(0.008419)	(0.008008)
#14 True-Up	0.003375	0.001486	0.001486	0.001593	0.001332	0.005856	0.001850	0.007417	(0.001120)	(0.004076)	(0.004076)	(0.004076)	(0.002641)		
#15	(0.001415)	0.002773	0.002773	0.014442	0.017487	0.014149	0.023000	0.020633	0.012736	(0.001436)	(0.001436)				
#15 True-Up	0.003311	0.001478	0.001478	0.001577	0.001398	0.005940	0.001791	0.007371	(0.001130)	(0.004201)	(0.004201)				
#16	(0.005745)	(0.001557)	(0.001557)	0.010112	0.013157	0.009819	0.018670	0.016303	0.008406	(0.001436)	(0.001436)	(0.001436)	(0.007566)	(0.005640)	(0.005229)
# 16 True-Up	0.003311	0.001478	0.001478	0.001577	0.001398	0.005940	0.001791	0.007371	(0.001130)	(0.004201)	(0.004201)	(0.004201)	(0.002672)		
#17	0.036309	0.040322	0.040322	0.052374	0.055490	0.051987	0.060956	0.058460	0.050247	0.035787	0.035787	0.035787	0.029589	0.031467	0.031748
#17 True-Up	0.002307	(0.000284)	(0.000284)	0.000675	0.000357	0.005917	0.000347	0.005539	0.000198	(0.002039)	(0.002039)	(0.002039)	(0.000567)	(0.005885)	
#18	0.039847	0.039847	0.040892	0.040892	0.040892	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.052355	0.043512	0.043512
#19	0.015242	0.015242	0.016287	0.016287	0.016287	0.027750	0.027750	0.027750	0.027750	0.027750	0.027750	0.027750	0.027750	0.018907	0.018907
#20	0.021808	0.027101	0.027101	0.015024	0.011262	0.029354	0.035856	0.031906	0.033482	0.058688	0.058688	0.058688	0.046759	0.022508	0.024104
#21	0.029092	0.026841	0.026841	0.009601	0.015915	0.025548	0.039085	0.038494	0.060620	0.055198	0.033701	0.033701	0.000392	(0.029058)	(0.019458)
#22															
#23															
#24															
#25															
#26															
#29	0.035005	0.031512	0.031512	0.030508	0.031091	0.043370	0.045288	0.047438	0.049971	0.053538	0.053538	0.053538	0.042958	0.030307	0.024040
#30	0.038566	0.035834	0.035834	0.049810	0.056599	0.054293	0.052173	0.072703	0.062940	0.042284	0.042284	0.042284	0.034750	0.030878	0.024040

#01	---------	#10	---------	#19	JM Huber (Engineered Carbons) Credit Factor	
#02	---------	#11	---------	#20	JM Huber (Engineered Carbons) Excess Power Credit Factor	
#03	Texas Retail Secondary	#12	WTMPA, Tri-County, Full Requirements	#21	New Mexico Retail #1957	
#04	---------	#13	WTMPA, Tri-County - ended 9-15-08	#22	---------	
#05	Texas Retail Primary	#14	Golden Spread	#23	---------	
#06	Celanese - CZ #2	#15	Full Requirements - ended 9-15-08	#24	---------	
#07	Texas Retail Sub-Transmission	#16	PNM Interruptible	#25	---------	
#08	---------	#17	EPE	#26	---------	
#09	Texas Retail Backbone Transmission	#18	JM Huber (Engineered Carbons) Fuel Factor - Rate 733	#29	USDA Experiment Credit	
				#30	Wind Power Generation Credit	

APPENDIX III

UTILITIES CONSUMPTION HISTORY

OWNER:	Canyon ISD				BUILDING:	Canyon Intermediate		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	105,700		0		6,163	581	**4,799.0**
FEBRUARY	2008	101,480		0		6,746	447	**4,711.0**
MARCH	2008	79,140		0		5,751	271	**2,967.0**
APRIL	2008	76,780		0		6,123	131	**1,568.0**
MAY	2008	86,260		133		7,896	54	**858.0**
JUNE	2008	28,280		224		3,548	15	**381.0**
JULY	2008	32,780		169		3,388	12	**412.0**
AUGUST	2008	86,920		409		8,625	17	**411.0**
SEPTEMBER	2007	113,340		0		8,367	47	**507.0**
OCTOBER	2007	81,580		0		6,320	61	**669.0**
NOVEMBER	2007	82,400		0		5,694	290	**3,029.0**
DECEMBER	2007	105,020		0		6,620	658	**5,990.0**
TOTAL		**979,680**	**0**	**935**	**0**	**75,241**	**2,584**	**26,302**

					Energy Use Index:			
Annual Total Energy Cost =		$101,543	Per Year		Total Site BTU's/yr		46,668	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		3,343.65	x 106					
Total MCF x 1.03 =		2,661.52	x 106		**Energy Cost Index:**			
Total Other x ____			x 106		Total Energy Cost/yr		$0.79	$/s.f. yr
Total Site BTU's/yr		6,005.17	x 106		Total Area (sq.ft.)			
Floor area:		128,679	s.f.					
Electric Utility		**Account #**	**Meter#**		**Gas Utility**	**Account #**		
Xcel Energy		5683			Atmos	7894		
		3960				7900		
						7904		

OWNER:	Canyon ISD				BUILDING:	Arden Road Elementary		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	47,640		0		3,351	194	$1,643
FEBRUARY	2008	43,200		0		3,141	191	$1,889
MARCH	2008	0		0		3,304	136	$1,450
APRIL	2008	40,320		182		3,467	69	$769
MAY	2008	37,080		205		3,784	28	$393
JUNE	2008	13,320		37		1,128	6	$79
JULY	2008	20,880		146		2,458	4	$61
AUGUST	2008	60,600		577		8,322	5	$55
SEPTEMBER	2007	50,760		0		4,134	18	$150
OCTOBER	2007	38,280		0		2,940	23	$211
NOVEMBER	2007	42,240		0		2,983	74	$674
DECEMBER	2007	43,680		0		3,089	329	$2,774
TOTAL		**438,000**	**0**	**1,147**	**0**	**42,101**	**1,077**	**10,148**

					Energy Use Index:			
Annual Total Energy Cost =		$52,249	Per Year		Total Site BTU's/yr		46,119	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		1,494.89	x 106					
Total MCF x 1.03 =		1,109.31	x 106		**Energy Cost Index:**			
Total Other x ____			x 106		Total Energy Cost/yr		$0.93	$/s.f. yr
Total Site BTU's/yr		2,604.20	x 106		Total Area (sq.ft.)			
Floor area:		56,467	s.f.					
Electric Utility		**Account #**	**Meter#**		**Gas Utility**	**Account #**		
Xcel Energy		2283			Atmos	9917		

OWNER:	Canyon ISD				BUILDING:	Crestview Elementary		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	50,400		0		2,801	165	$1,366
FEBRUARY	2008	37,800		0		2,713	114	$1,197
MARCH	2008	36,600		0		2,525	626	$685
APRIL	2008	34,560		0		2,836	274	$329
MAY	2008	38,040		188		3,572	12	$186
JUNE	2008	36,720		64		1,158	4	$89
JULY	2008	33,840		72		1,310	3	$111
AUGUST	2008	35,520		188		3,870	4	$85
SEPTEMBER	2007	50,400		0		3,820	14	$152
OCTOBER	2007	37,800		0		2,954	20	$216
NOVEMBER	2007	36,600		0		2,601	61	$637
DECEMBER	2007	34,560		0		2,576	143	$1,305
TOTAL		462,840	0	512	0	32,736	1,440	6,358
					Energy Use Index:			
Annual Total Energy Cost =		$39,094	Per Year		Total Site BTU's/yr		55,420	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		1,579.67	x 106					
Total MCF x 1.03 =		1,483.20	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.71	$/s.f. yr
Total Site BTU's/yr		3,062.87	x 106		Total Area (sq.ft.)			
Floor area:		55,267	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		300082			Atmos	7896		

OWNER:	Canyon ISD				BUILDING:	Gene Howe Elementary		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	42,400		0		2,969	428	$3,626
FEBRUARY	2008	40,000		0		2,798	378	$3,742
MARCH	2008	35,040		0		2,644	269	$2,859
APRIL	2008	33,680		0		3,019	170	$1,893
MAY	2008	32,320		194		3,394	86	$1,202
JUNE	2008	12,960		64		1,320	43	$615
JULY	2008	20,000		75		1,841	2	$21
AUGUST	2008	48,960		224		4,806	6	$65
SEPTEMBER	2007	47,200		0		3,761	57	$477
OCTOBER	2007	39,360		0		2,953	72	$647
NOVEMBER	2007	42,880		0		2,881	184	$1,674
DECEMBER	2007	4,270		0		2,928	424	$3,576
TOTAL		399,070	0	557	0	35,314	2,119	20,397
					Energy Use Index:			
Annual Total Energy Cost =		$55,711	Per Year		Total Site BTU's/yr		60,271	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		1,362.03	x 106					
Total MCF x 1.03 =		2,182.57	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.95	$/s.f. yr
Total Site BTU's/yr		3,544.60	x 106		Total Area (sq.ft.)			
Floor area:		58,811	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		523			Atmos Energy	9915		

OWNER:	Canyon ISD				BUILDING:	Greenways Intermediate		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	58,400		0		4,228	370	$4,070
FEBRUARY	2008	59,200		0		4,343	271	$2,981
MARCH	2008	58,240		258		4,566	206	$2,266
APRIL	2008	57,360		300		5,305	104	$1,144
MAY	2008	56,480		342		6,044	45	$495
JUNE	2008	30,720		101		2,761	13	$143
JULY	2008	35,520		262		4,365	11	$121
AUGUST	2008	77,120		390		8,013	14	$154
SEPTEMBER	2007	78,400		0		6,471	21	$231
OCTOBER	2007	83,520		0		5,904	92	$1,012
NOVEMBER	2007	63,680		0		4,744	147	$1,617
DECEMBER	2007	56,480		0		4,113	317	$3,487
TOTAL		715,120	0	1,653	0	60,857	1,611	17,721
					Energy Use Index:			
Annual Total Energy Cost =		$78,578	Per Year		Total Site BTU's/yr		44,479	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		2,440.70	x 106					
Total MCF x 1.03 =		1,659.33	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.85	$/s.f. yr
Total Site BTU's/yr		4,100.03	x 106		Total Area (sq.ft.)			
Floor area:		92,180	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		1476			Atmos Energy	1205		

OWNER:	Canyon ISD				BUILDING:	Lakeview Elementary		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	47,880		0		3,251	330	$3,269
FEBRUARY	2008	43,320		0		2,982	129	$1,352
MARCH	2008	36,600		0		2,846	267	$2,902
APRIL	2008	42,720		184		3,550	80	$1,051
MAY	2008	41,160		200		3,963	66	$901
JUNE	2008	20,280		76		1,866	23	$335
JULY	2008	23,640		128		2,486	5	$98
AUGUST	2008	60,600		233		5,594	0	$183
SEPTEMBER	2007	60,000		0		4,576	24	$292
OCTOBER	2007	47,640		0		3,604	54	$566
NOVEMBER	2007	51,000		0		3,452	165	$1,470
DECEMBER	2007	49,560		0		3,298	409	$3,184
TOTAL		524,400	0	821	0	$41,468	1,552	$15,603
					Energy Use Index:			
Annual Total Energy Cost =		$57,071	Per Year		Total Site BTU's/yr		56,409	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		1,789.78	x 106					
Total MCF x 1.03 =		1,598.56	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.95	$/s.f. yr
Total Site BTU's/yr		3,388.34	x 106		Total Area (sq.ft.)			
Floor area:		60,067	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		3961			Atmos Energy	8918		

OWNER:	Canyon ISD				BUILDING:	Reeves- Hinger		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	59,078		0		3,768	655	$5,414
FEBRUARY	2008	57,551		0		3,748	351	$3,701
MARCH	2008	49,199		0		3,431	303	$3,315
APRIL	2008	53,667		0		4,151	148	$1,776
MAY	2008	67,184		16		6,099	45	$713
JUNE	2008	65,517		5		2,956	4	$111
JULY	2008	18,979		5		1,634	2	$77
AUGUST	2008	68,177		14		6,770	4	$94
SEPTEMBER	2007	89,554		0		6,733	21	$229
OCTOBER	2007	59,964		0		4,749	75	$819
NOVEMBER	2007	55,565		0		3,647	295	$3,081
DECEMBER	2007	59,583		0		3,771	594	$5,410
TOTAL		704,018	0	40	0	51,457	2,497	24,740
					Energy Use Index:			
Annual Total Energy Cost =		$76,197	Per Year		Total Site BTU's/yr		50,071	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		2,402.81	x 106					
Total MCF x 1.03 =		2,571.91	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.77	$/s.f. yr
Total Site BTU's/yr		4,974.72	x 106		Total Area (sq.ft.)			
Floor area:		99,354	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		7926			Atmos	7895		
		6024						

OWNER:	Canyon ISD				BUILDING:	Sundown Lane Elementary		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
MONTH	YEAR	CONSUMPTION KWH	METERED KW/KVA	CHARGED KW/KVA	COST OF DEMAND	TOTAL ALL ELECTRICAL COSTS $	CONSUMPTION MCF	$ COSTS
JANUARY	2008	51,343		0		3,550	209	$2,106
FEBRUARY	2008	46,964		0		3,315	131	$1,368
MARCH	2008	39,660		0		2,903	113	$1,252
APRIL	2008	40,067		185		3,534	53	$709
MAY	2008	35,300		212		3,570	35	$506
JUNE	2008	17,950		94		1,781	14	$224
JULY	2008	23,056		109		2,297	13	$160
AUGUST	2008	46,479		213		4,504	23	$240
SEPTEMBER	2007	47,748		0		3,626	26	$471
OCTOBER	2007	39,652		0		2,891	38	$413
NOVEMBER	2007	46,903		0		3,269	100	$902
DECEMBER	2007	50,623		0		3,685	231	$1,811
TOTAL		485,745	0	813	0	38,925	986	10,162
					Energy Use Index:			
Annual Total Energy Cost =		$49,087	Per Year		Total Site BTU's/yr		54,890	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		1,657.85	x 106					
Total MCF x 1.03 =		1,015.58	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$1.01	$/s.f. yr
Total Site BTU's/yr		2,673.43	x 106		Total Area (sq.ft.)			
Floor area:		48,705	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		4408			Atmos Energy	497		
		228						

OWNER:	Canyon ISD				BUILDING:	Canyon Junior High		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	115,145		0		7,799	1,394	**11,529.0**
FEBRUARY	2008	118,656		0		8,037	1,153	**12,152.0**
MARCH	2008	106,179		0		7,559	779	**8,525.0**
APRIL	2008	112,135		10		8,351	369	**4,767.0**
MAY	2008	133,283		108		11,475	129	**2,027.0**
JUNE	2008	57,840		78		5,265	19	**473.0**
JULY	2008	57,921		83		5,321	2	**57.0**
AUGUST	2008	130,113		108		12,254	6	**130.0**
SEPTEMBER	2007	147,880		0		12,282	97	**1,063.0**
OCTOBER	2007	122,462		0		9,199	187	**2,041.0**
NOVEMBER	2007	117,775		0		8,070	743	**7,759.0**
DECEMBER	2007	118,991		0		7,961	1,553	**14,137.0**
TOTAL		**1,338,380**	**0**	**387**	**0**	**103,573**	**6,431**	**64,660**
					Energy Use Index:			
Annual Total Energy Cost =		$168,233	Per Year		Total Site BTU's/yr		58,448	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		4,567.89	x 106					
Total MCF x 1.03 =		6,623.93	x 106		**Energy Cost Index:**			
Total Other x ____			x 106		Total Energy Cost/yr		$0.88	$/s.f. yr
Total Site BTU's/yr		11,191.82	x 106		Total Area (sq.ft.)			
Floor area:		191,482	s.f.					
Electric Utility		**Account #**	**Meter#**		**Gas Utility**	**Account #**		
Xcel Energy		7903			Atmos	7897		
		9209				7898		
						7899		

OWNER:	Canyon ISD				BUILDING:	Westover Park Junior High		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	95,000		0		6,242	525	$4,448
FEBRUARY	2008	102,000		0		6,702	333	$3,301
MARCH	2008	90,500		305		6,277	172	$1,823
APRIL	2008	93,000		300		7,345	95	$1,051
MAY	2008	95,500		360		8,413	34	$481
JUNE	2008	53,500		160		4,578	7	$106
JULY	2008	36,500		160		3,531	7	$101
AUGUST	2008	119,500		395		10,505	7	$80
SEPTEMBER	2007	115,500		0		8,289	18	$147
OCTOBER	2007	98,000		0		6,869	39	$352
NOVEMBER	2007	134,500		0		8,298	162	$1,467
DECEMBER	2007	68,000		0		5,044	372	$3,133
TOTAL		**1,101,500**	**0**	**1,680**	**0**	**82,093**	**1,771**	**4,448**
					Energy Use Index:			
Annual Total Energy Cost =		$86,541	Per Year		Total Site BTU's/yr		49,740	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		3,759.42	x 106					
Total MCF x 1.03 =		1,824.13	x 106		**Energy Cost Index:**			
Total Other x ____			x 106		Total Energy Cost/yr		$0.77	$/s.f. yr
Total Site BTU's/yr		5,583.55	x 106		Total Area (sq.ft.)			
Floor area:		112,254	s.f.					
Electric Utility		**Account #**	**Meter#**		**Gas Utility**	**Account #**		
Xcel Energy		6573			Atmos Energy	9918		

OWNER:	Canyon ISD			BUILDING:	Canyon High School		
MONTH / YEAR		ELECTRIC				NAT'L GAS / FUEL	
			DEMAND				
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	187,220		419		13,993	1,588	$13,120
FEBRUARY	2008	204,220		410		15,166	1,462	$15,299
MARCH	2008	185,580		424		13,958	921	$9,919
APRIL	2008	192,240		411		14,966	610	$7,014
MAY	2008	191,880		434		17,283	183	$2,465
JUNE	2008	202,640		387		20,316	42	$597
JULY	2008	111,360		157		10,748	19	$272
AUGUST	2008	161,900		328		19,641	34	$317
SEPTEMBER	2007	303,120		419		23,128	82	$695
OCTOBER	2007	258,820		416		21,371	298	$2,880
NOVEMBER	2007	199,880		411		14,571	844	$8,683
DECEMBER	2007	215,360		406		15,362	1,481	$13,483
TOTAL		2,414,220	0	4,622	0	200,503	7,564	74,744
					Energy Use Index:			
Annual Total Energy Cost =		$275,247	Per Year		Total Site BTU's/yr		67,926	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		8,239.73	x 106					
Total MCF x 1.03 =		7,790.92	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$1.17	$/s.f. yr
Total Site BTU's/yr		16,030.65	x 106		Total Area (sq.ft.)			
Floor area:		236,000	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Electric		4764			Atmos Energy	9538		

OWNER:	Canyon ISD			BUILDING:	Randall High School East		
MONTH / YEAR		ELECTRIC				NAT'L GAS / FUEL	
			DEMAND				
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	123,600		312		7,569	772	$6,536
FEBRUARY	2008	111,000		334		7,196	609	$6,028
MARCH	2008	99,120		288		6,426	393	$4,175
APRIL	2008	75,000		288		5,297	187	$2,078
MAY	2008	75,120		263		5,946	55	$778
JUNE	2008	79,800		324		7,277	41	$589
JULY	2008	43,440		113		3,586	46	$649
AUGUST	2008	57,240		263		5,625	43	$464
SEPTEMBER	2007	106,320		903		7,464	46	$388
OCTOBER	2007	101,400		361		7,110	73	$657
NOVEMBER	2007	79,920		287		5,514	277	$2,515
DECEMBER	2007	106,440		304		6,746	839	$7,074
TOTAL		1,058,400	0	4,040	0	75,756	3,381	31,931
					Energy Use Index:			
Annual Total Energy Cost =		$107,687	Per Year		Total Site BTU's/yr		63,735	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		3,612.32	x 106					
Total MCF x 1.03 =		3,482.43	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.97	$/s.f. yr
Total Site BTU's/yr		7,094.75	x 106		Total Area (sq.ft.)			
Floor area:		111,316	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		2292			Atmos Energy	9916		

OWNER:	Canyon ISD				BUILDING:	Randall High School West		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	139,028		736		11,167	949	$8,031
FEBRUARY	2008	136,410		743		11,153	744	$7,371
MARCH	2008	126,913		736		11,009	440	$4,674
APRIL	2008	146,029		737		13,082	199	$2,209
MAY	2008	168,950		737		15,758	52	$723
JUNE	2008	87,390		193		6,954	12	$174
JULY	2008	111,241		419		10,206	8	$114
AUGUST	2008	207,865		660		18,064	11	$122
SEPTEMBER	2007	195,207		736		14,477	25	$209
OCTOBER	2007	135,418		742		11,029	39	$349
NOVEMBER	2007	139,944		739		11,159	290	$2,634
DECEMBER	2007	136,275		739		11,001	967	$8,126
TOTAL		1,730,670	0	7,917	0	145,059	3,736	$34,736
					Energy Use Index:			
Annual Total Energy Cost =		$179,795	Per Year		Total Site BTU's/yr		53,119	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		5,906.78	x 106					
Total MCF x 1.03 =		3,848.08	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$0.98	$/s.f. yr
Total Site BTU's/yr		9,754.86	x 106		Total Area (sq.ft.)			
Floor area:		183,640	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		6143			Atmos Energy	9914		
		3716						
		3276						

OWNER:	Canyon ISD				BUILDING:	Central Admin Office		
MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	$
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	COSTS
JANUARY	2008	17,960		0		1,211	121	998
FEBRUARY	2008	18,720		0		1,263	101	1067
MARCH	2008	19,000		0		1,375	63	685
APRIL	2008	22,040		74		1,664	26	311
MAY	2008	25,840		96		2,263	6	101
JUNE	2008	28,760		86		2,468	1	15
JULY	2008	29,200		96		2,574	2	57
AUGUST	2008	29,440		90		2,541	2	39
SEPTEMBER	2007	25,360		0		1,844	1	10
OCTOBER	2007	20,600		0		1,433	10	108
NOVEMBER	2007	18,040		0		1,237	65	674
DECEMBER	2007	17,600		0		1,186	136	1,241
TOTAL		272,560	0	442	0	21,059	534	5,306
					Energy Use Index:			
Annual Total Energy Cost =		$26,365	Per Year		Total Site BTU's/yr		80,101	BTU/s.f.yr
					Total Area (sq.ft.)			
Total KWH x 0.003413 =		930.25	x 106					
Total MCF x 1.03 =		550.02	x 106		Energy Cost Index:			
Total Other x ____			x 106		Total Energy Cost/yr		$1.43	$/s.f. yr
Total Site BTU's/yr		1,480.27	x 106		Total Area (sq.ft.)			
Floor area:		18,480	s.f.					
Electric Utility		Account #	Meter#		Gas Utility	Account #		
Xcel Energy		3733				7901		

APPENDIX IV

ENERGY POLICY

ENERGY POLICY

[Name of Institution]

Recognizing our responsibility as Trustees of _____,
we believe that every effort should be made to conserve energy and natural resources. As a result, we are establishing this Energy Management Policy which shall be implemented within each of our facilities. We believe that this policy will be beneficial for taxpayers and community residents in the prudent management of our financial and energy resources.

The fulfillment of this policy shall be the joint responsibility of the trustees, administrators, staff and support personnel. The success of the policy is dependent upon total cooperation from all levels within the system.

The board will designate an Energy Manager to coordinate and implement the overall Energy Policy. The Energy Manager will also maintain accurate records of energy consumption and cost on a monthly and annual basis. Energy audits will be conducted annually at each facility and recommendations will be made for updating and improving the energy program. Energy efficiency guidelines and procedures will be reviewed and accepted or rejected by the board. In addition, the procedures required for implementation of the program, and the results achieved from its administration, will be published for administrative and staff information.

Adopted this_____day of _____, 200 .

_____
President, Board of Trustees

Attest: _____
Secretary, Board of Trustees

APPENDIX V

Preliminary Energy Assessment Service Agreement

Mar. 23. 2009 3:08PM Canyon ISD No. 0435 P. 1

Preliminary Energy Assessment Service Agreement

Investing in our communities through improved energy efficiency in public buildings is a win-win opportunity for our communities and the State. Energy-efficient buildings reduce energy costs, increase available capital, spur economic growth, and improve working and living environments. The Preliminary Energy Assessment Service provides a viable strategy to achieve these goals.

Description of the Service

The State Energy Conservation Office (SECO) will analyze electric, gas and other utility data and work with CANYON ISD, hereinafter referred to as Partner, to identify energy cost-savings potential. To achieve this potential, SECO and Partner have agreed to work together to complete an energy assessment of mutually selected facilities.

SECO agrees to provide this service at no cost to the Partner with the understanding that the Partner is ready and willing to consider implementing the energy savings recommendations.

Principles of the Agreement

Specific responsibilities of the Partner and SECO in this agreement are listed below.

- Partner will select a contact person to work with SECO and its contractor to establish an Energy Policy and set realistic energy efficiency goals.
- SECO's contractor will go on site to provide walk through assessments of selected facilities. SECO will provide a report which identifies no cost/low cost recommendations, Capital Retrofit Projects, and potential sources of funding. Portions of this report may be posted on the SECO Website.
- Partner will schedule a time for SECO's contractor to make a presentation of the assessment findings and recommendations to key decision makers.

Acceptance of Agreement

This agreement should be signed by your organization's chief executive officer or other upper management staff.

Signature: _____ Date: 3-13-09

Name (Mr./Ms./Dr.) Randy McDowell Title: Asst. Supt. of Business Operations

Organization: Canyon ISD Phone: 806-677-2629

Street Address: 508 16th St. Fax: 806-677-2659

Mailing Address: Box 899 EMail: rmcdowell@canyonisd.net

Canyon, Tx. 79015 County Randall

CONTACT INFORMATION:

Name (Mr./Ms./Dr.): Same Title: _____

Phone: _____ Fax: _____

E-Mail: _____ County _____

Please sign & **FAX** or mail to Glenda Baldwin at State Energy Conservation Office. **FAX: 512-475-2569**
Address: LBJ State Office Building, 111 E. 17th Street, Austin, Texas 78774. Phone: 512-463-1731
AND also, please fax a copy to your SECO Contractor: ESA Energy Systems Associates, Inc.; Attn: Yvonne Huneycutt **FAX: 512-388-3312** Phone: 512-258-0547 x124

APPENDIX VI

AMORTIZATION SCHEDULE

Loan Amortization Schedule

	Enter values
Loan amount	$ 2,511,988.00
Annual interest rate	5.00 %
Loan period in years	10
Number of payments per year	12
Start date of loan	7/1/2009
Optional extra payments	$ -

	Loan summary
Scheduled payment	$ 26,643.53
Scheduled number of payments	120
Actual number of payments	120
Total early payments	$ -
Total interest	$ 685,235.62

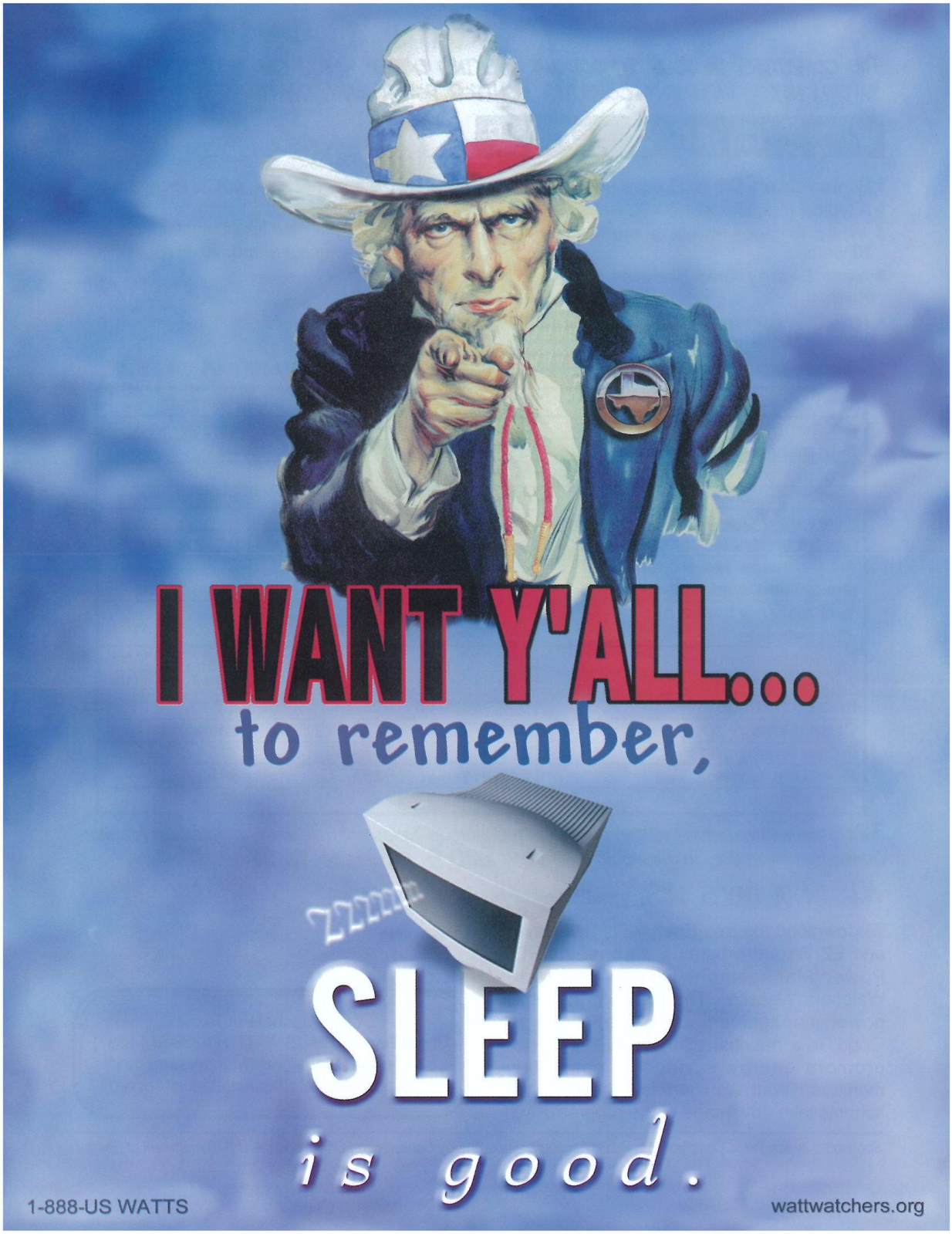
Lender name:

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
1	8/1/2009	$ 2,511,988.00	$ 26,643.53	$ -	$ 26,643.53	$ 16,176.91	$ 10,466.62	$2,495,811.09	$ 10,466.62
2	9/1/2009	2,495,811.09	26,643.53	-	26,643.53	16,244.32	10,399.21	2,479,566.77	20,865.83
3	10/1/2009	2,479,566.77	26,643.53	-	26,643.53	16,312.00	10,331.53	2,463,254.77	31,197.36
4	11/1/2009	2,463,254.77	26,643.53	-	26,643.53	16,379.97	10,263.56	2,446,874.80	41,460.92
5	12/1/2009	2,446,874.80	26,643.53	-	26,643.53	16,448.22	10,195.31	2,430,426.58	51,656.23
6	1/1/2010	2,430,426.58	26,643.53	-	26,643.53	16,516.75	10,126.78	2,413,909.83	61,783.01
7	2/1/2010	2,413,909.83	26,643.53	-	26,643.53	16,585.57	10,057.96	2,397,324.25	71,840.97
8	3/1/2010	2,397,324.25	26,643.53	-	26,643.53	16,654.68	9,988.85	2,380,669.58	81,829.82
9	4/1/2010	2,380,669.58	26,643.53	-	26,643.53	16,724.07	9,919.46	2,363,945.50	91,749.27
10	5/1/2010	2,363,945.50	26,643.53	-	26,643.53	16,793.76	9,849.77	2,347,151.75	101,599.05
11	6/1/2010	2,347,151.75	26,643.53	-	26,643.53	16,863.73	9,779.80	2,330,288.01	111,378.85
12	7/1/2010	2,330,288.01	26,643.53	-	26,643.53	16,934.00	9,709.53	2,313,354.02	121,088.38
13	8/1/2010	2,313,354.02	26,643.53	-	26,643.53	17,004.56	9,638.98	2,296,349.46	130,727.35
14	9/1/2010	2,296,349.46	26,643.53	-	26,643.53	17,075.41	9,568.12	2,279,274.05	140,295.48
15	10/1/2010	2,279,274.05	26,643.53	-	26,643.53	17,146.55	9,496.98	2,262,127.50	149,792.45
16	11/1/2010	2,262,127.50	26,643.53	-	26,643.53	17,218.00	9,425.53	2,244,909.50	159,217.98
17	12/1/2010	2,244,909.50	26,643.53	-	26,643.53	17,289.74	9,353.79	2,227,619.76	168,571.77
18	1/1/2011	2,227,619.76	26,643.53	-	26,643.53	17,361.78	9,281.75	2,210,257.98	177,853.52
19	2/1/2011	2,210,257.98	26,643.53	-	26,643.53	17,434.12	9,209.41	2,192,823.86	187,062.93
20	3/1/2011	2,192,823.86	26,643.53	-	26,643.53	17,506.76	9,136.77	2,175,317.09	196,199.70
21	4/1/2011	2,175,317.09	26,643.53	-	26,643.53	17,579.71	9,063.82	2,157,737.38	205,263.52
22	5/1/2011	2,157,737.38	26,643.53	-	26,643.53	17,652.96	8,990.57	2,140,084.43	214,254.09
23	6/1/2011	2,140,084.43	26,643.53	-	26,643.53	17,726.51	8,917.02	2,122,357.91	223,171.11
24	7/1/2011	2,122,357.91	26,643.53	-	26,643.53	17,800.37	8,843.16	2,104,557.54	232,014.27
25	8/1/2011	2,104,557.54	26,643.53	-	26,643.53	17,874.54	8,768.99	2,086,683.00	240,783.26
26	9/1/2011	2,086,683.00	26,643.53	-	26,643.53	17,949.02	8,694.51	2,068,733.98	249,477.77
27	10/1/2011	2,068,733.98	26,643.53	-	26,643.53	18,023.81	8,619.72	2,050,710.18	258,097.49
28	11/1/2011	2,050,710.18	26,643.53	-	26,643.53	18,098.90	8,544.63	2,032,611.27	266,642.12
29	12/1/2011	2,032,611.27	26,643.53	-	26,643.53	18,174.32	8,469.21	2,014,436.96	275,111.33
30	1/1/2012	2,014,436.96	26,643.53	-	26,643.53	18,250.04	8,393.49	1,996,186.92	283,504.82
31	2/1/2012	1,996,186.92	26,643.53	-	26,643.53	18,326.08	8,317.45	1,977,860.83	291,822.27
32	3/1/2012	1,977,860.83	26,643.53	-	26,643.53	18,402.44	8,241.09	1,959,458.39	300,063.35
33	4/1/2012	1,959,458.39	26,643.53	-	26,643.53	18,479.12	8,164.41	1,940,979.27	308,227.76
34	5/1/2012	1,940,979.27	26,643.53	-	26,643.53	18,556.12	8,087.41	1,922,423.15	316,315.18
35	6/1/2012	1,922,423.15	26,643.53	-	26,643.53	18,633.43	8,010.10	1,903,789.72	324,325.27
36	7/1/2012	1,903,789.72	26,643.53	-	26,643.53	18,711.07	7,932.46	1,885,078.64	332,257.73
37	8/1/2012	1,885,078.64	26,643.53	-	26,643.53	18,789.04	7,854.49	1,866,289.61	340,112.22
38	9/1/2012	1,866,289.61	26,643.53	-	26,643.53	18,867.32	7,776.21	1,847,422.28	347,888.43
39	10/1/2012	1,847,422.28	26,643.53	-	26,643.53	18,945.94	7,697.59	1,828,476.35	355,586.02
40	11/1/2012	1,828,476.35	26,643.53	-	26,643.53	19,024.88	7,618.65	1,809,451.47	363,204.67
41	12/1/2012	1,809,451.47	26,643.53	-	26,643.53	19,104.15	7,539.38	1,790,347.32	370,744.06
42	1/1/2013	1,790,347.32	26,643.53	-	26,643.53	19,183.75	7,459.78	1,771,163.57	378,203.84
43	2/1/2013	1,771,163.57	26,643.53	-	26,643.53	19,263.68	7,379.85	1,751,899.89	385,583.68
44	3/1/2013	1,751,899.89	26,643.53	-	26,643.53	19,343.95	7,299.58	1,732,555.94	392,883.27
45	4/1/2013	1,732,555.94	26,643.53	-	26,643.53	19,424.55	7,218.98	1,713,131.39	400,102.25
46	5/1/2013	1,713,131.39	26,643.53	-	26,643.53	19,505.48	7,138.05	1,693,625.91	407,240.30
47	6/1/2013	1,693,625.91	26,643.53	-	26,643.53	19,586.76	7,056.77	1,674,039.16	414,297.07
48	7/1/2013	1,674,039.16	26,643.53	-	26,643.53	19,668.37	6,975.16	1,654,370.79	421,272.24
49	8/1/2013	1,654,370.79	26,643.53	-	26,643.53	19,750.32	6,893.21	1,634,620.47	428,165.45
50	9/1/2013	1,634,620.47	26,643.53	-	26,643.53	19,832.61	6,810.92	1,614,787.86	434,976.37
51	10/1/2013	1,614,787.86	26,643.53	-	26,643.53	19,915.25	6,728.28	1,594,872.61	441,704.65
52	11/1/2013	1,594,872.61	26,643.53	-	26,643.53	19,998.23	6,645.30	1,574,874.38	448,349.95
53	12/1/2013	1,574,874.38	26,643.53	-	26,643.53	20,081.55	6,561.98	1,554,792.83	454,911.93
54	1/1/2014	1,554,792.83	26,643.53	-	26,643.53	20,165.23	6,478.30	1,534,627.60	461,390.23
55	2/1/2014	1,534,627.60	26,643.53	-	26,643.53	20,249.25	6,394.28	1,514,378.35	467,784.51
56	3/1/2014	1,514,378.35	26,643.53	-	26,643.53	20,333.62	6,309.91	1,494,044.73	474,094.42
57	4/1/2014	1,494,044.73	26,643.53	-	26,643.53	20,418.34	6,225.19	1,473,626.39	480,319.61
58	5/1/2014	1,473,626.39	26,643.53	-	26,643.53	20,503.42	6,140.11	1,453,122.97	486,459.72
59	6/1/2014	1,453,122.97	26,643.53	-	26,643.53	20,588.85	6,054.68	1,432,534.12	492,514.40
60	7/1/2014	1,432,534.12	26,643.53	-	26,643.53	20,674.64	5,968.89	1,411,859.48	498,483.29
61	8/1/2014	1,411,859.48	26,643.53	-	26,643.53	20,760.78	5,882.75	1,391,098.70	504,366.04
62	9/1/2014	1,391,098.70	26,643.53	-	26,643.53	20,847.29	5,796.24	1,370,251.41	510,162.28
63	10/1/2014	1,370,251.41	26,643.53	-	26,643.53	20,934.15	5,709.38	1,349,317.26	515,871.66
64	11/1/2014	1,349,317.26	26,643.53	-	26,643.53	21,021.37	5,622.16	1,328,295.89	521,493.82
65	12/1/2014	1,328,295.89	26,643.53	-	26,643.53	21,108.96	5,534.57	1,307,186.93	527,028.39

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest
66	1/1/2015	1,307,186.93	26,643.53	-	26,643.53	21,196.92	5,446.61	1,285,990.01	532,475.00
67	2/1/2015	1,285,990.01	26,643.53	-	26,643.53	21,285.24	5,358.29	1,264,704.77	537,833.29
68	3/1/2015	1,264,704.77	26,643.53	-	26,643.53	21,373.93	5,269.60	1,243,330.84	543,102.89
69	4/1/2015	1,243,330.84	26,643.53	-	26,643.53	21,462.98	5,180.55	1,221,867.86	548,283.44
70	5/1/2015	1,221,867.86	26,643.53	-	26,643.53	21,552.41	5,091.12	1,200,315.44	553,374.55
71	6/1/2015	1,200,315.44	26,643.53	-	26,643.53	21,642.22	5,001.31	1,178,673.23	558,375.87
72	7/1/2015	1,178,673.23	26,643.53	-	26,643.53	21,732.39	4,911.14	1,156,940.84	563,287.01
73	8/1/2015	1,156,940.84	26,643.53	-	26,643.53	21,822.94	4,820.59	1,135,117.89	568,107.59
74	9/1/2015	1,135,117.89	26,643.53	-	26,643.53	21,913.87	4,729.66	1,113,204.02	572,837.25
75	10/1/2015	1,113,204.02	26,643.53	-	26,643.53	22,005.18	4,638.35	1,091,198.84	577,475.60
76	11/1/2015	1,091,198.84	26,643.53	-	26,643.53	22,096.87	4,546.66	1,069,101.97	582,022.26
77	12/1/2015	1,069,101.97	26,643.53	-	26,643.53	22,188.94	4,454.59	1,046,913.03	586,476.85
78	1/1/2016	1,046,913.03	26,643.53	-	26,643.53	22,281.39	4,362.14	1,024,631.64	590,838.99
79	2/1/2016	1,024,631.64	26,643.53	-	26,643.53	22,374.23	4,269.30	1,002,257.41	595,108.29
80	3/1/2016	1,002,257.41	26,643.53	-	26,643.53	22,467.46	4,176.07	979,789.95	599,284.36
81	4/1/2016	979,789.95	26,643.53	-	26,643.53	22,561.07	4,082.46	957,228.88	603,366.82
82	5/1/2016	957,228.88	26,643.53	-	26,643.53	22,655.08	3,988.45	934,573.80	607,355.28
83	6/1/2016	934,573.80	26,643.53	-	26,643.53	22,749.47	3,894.06	911,824.33	611,249.33
84	7/1/2016	911,824.33	26,643.53	-	26,643.53	22,844.26	3,799.27	888,980.07	615,048.60
85	8/1/2016	888,980.07	26,643.53	-	26,643.53	22,939.45	3,704.08	866,040.62	618,752.68
86	9/1/2016	866,040.62	26,643.53	-	26,643.53	23,035.03	3,608.50	843,005.59	622,361.19
87	10/1/2016	843,005.59	26,643.53	-	26,643.53	23,131.01	3,512.52	819,874.59	625,873.71
88	11/1/2016	819,874.59	26,643.53	-	26,643.53	23,227.39	3,416.14	796,647.20	629,289.85
89	12/1/2016	796,647.20	26,643.53	-	26,643.53	23,324.17	3,319.36	773,323.03	632,609.22
90	1/1/2017	773,323.03	26,643.53	-	26,643.53	23,421.35	3,222.18	749,901.68	635,831.40
91	2/1/2017	749,901.68	26,643.53	-	26,643.53	23,518.94	3,124.59	726,382.74	638,955.99
92	3/1/2017	726,382.74	26,643.53	-	26,643.53	23,616.94	3,026.59	702,765.81	641,982.58
93	4/1/2017	702,765.81	26,643.53	-	26,643.53	23,715.34	2,928.19	679,050.47	644,910.77
94	5/1/2017	679,050.47	26,643.53	-	26,643.53	23,814.15	2,829.38	655,236.32	647,740.15
95	6/1/2017	655,236.32	26,643.53	-	26,643.53	23,913.38	2,730.15	631,322.94	650,470.30
96	7/1/2017	631,322.94	26,643.53	-	26,643.53	24,013.02	2,630.51	607,309.92	653,100.81
97	8/1/2017	607,309.92	26,643.53	-	26,643.53	24,113.07	2,530.46	583,196.85	655,631.27
98	9/1/2017	583,196.85	26,643.53	-	26,643.53	24,213.54	2,429.99	558,983.30	658,061.26
99	10/1/2017	558,983.30	26,643.53	-	26,643.53	24,314.43	2,329.10	534,668.87	660,390.36
100	11/1/2017	534,668.87	26,643.53	-	26,643.53	24,415.74	2,227.79	510,253.13	662,618.14
101	12/1/2017	510,253.13	26,643.53	-	26,643.53	24,517.48	2,126.05	485,735.65	664,744.20
102	1/1/2018	485,735.65	26,643.53	-	26,643.53	24,619.63	2,023.90	461,116.02	666,768.10
103	2/1/2018	461,116.02	26,643.53	-	26,643.53	24,722.21	1,921.32	436,393.81	668,689.41
104	3/1/2018	436,393.81	26,643.53	-	26,643.53	24,825.22	1,818.31	411,568.58	670,507.72
105	4/1/2018	411,568.58	26,643.53	-	26,643.53	24,928.66	1,714.87	386,639.92	672,222.59
106	5/1/2018	386,639.92	26,643.53	-	26,643.53	25,032.53	1,611.00	361,607.39	673,833.59
107	6/1/2018	361,607.39	26,643.53	-	26,643.53	25,136.83	1,506.70	336,470.56	675,340.29
108	7/1/2018	336,470.56	26,643.53	-	26,643.53	25,241.57	1,401.96	311,228.99	676,742.25
109	8/1/2018	311,228.99	26,643.53	-	26,643.53	25,346.74	1,296.79	285,882.25	678,039.03
110	9/1/2018	285,882.25	26,643.53	-	26,643.53	25,452.35	1,191.18	260,429.89	679,230.21
111	10/1/2018	260,429.89	26,643.53	-	26,643.53	25,558.41	1,085.12	234,871.49	680,315.33
112	11/1/2018	234,871.49	26,643.53	-	26,643.53	25,664.90	978.63	209,206.59	681,293.97
113	12/1/2018	209,206.59	26,643.53	-	26,643.53	25,771.84	871.69	183,434.75	682,165.66
114	1/1/2019	183,434.75	26,643.53	-	26,643.53	25,879.22	764.31	157,555.53	682,929.97
115	2/1/2019	157,555.53	26,643.53	-	26,643.53	25,987.05	656.48	131,568.49	683,586.45
116	3/1/2019	131,568.49	26,643.53	-	26,643.53	26,095.33	548.20	105,473.16	684,134.66
117	4/1/2019	105,473.16	26,643.53	-	26,643.53	26,204.06	439.47	79,269.10	684,574.13
118	5/1/2019	79,269.10	26,643.53	-	26,643.53	26,313.24	330.29	52,955.86	684,904.41
119	6/1/2019	52,955.86	26,643.53	-	26,643.53	26,422.88	220.65	26,532.98	685,125.06
120	7/1/2019	26,532.98	26,643.53	-	26,532.98	26,422.42	110.55	0.00	685,235.62

APPENDIX VII

SECO PROGRAM CONTACTS
WATT WATCHERS OF TEXAS


I WANT Y'ALL...
to remember,
Zzzzz
SLEEP
is good.
1-888-US WATTS
wattwatchers.org

THE COMPUTERS IN YOUR SCHOOL ARE WASTING ENERGY. YOU CAN HELP YOUR SCHOOL SAVE MONEY. IMPLEMENT COMPUTER MONITOR POWER MANAGEMENT.

WHAT Y'ALL NEED TO REMEMBER:

- Screen savers **DO NOT** save energy!
- A typical monitor uses 60-90 watts
- While in sleep mode a monitor uses 2-10 watts
- Your Energy Star features may not be enabled
- Use free Energy Star software to capture savings
- Utilize your network, put all monitors to sleep at once
- Turn off your monitor at night
- Save energy, save money, prevent pollution

SOME ACTUAL EXAMPLES FROM DISTRICTS THAT ALREADY SET THEIR MONITORS TO SLEEP:

	District A	District B	District C
# of computers	3,000	10,000	15,000
% of monitors enabled	55	0	50
% of monitors enabled after mandate	100	100	100
Cost of electricity	7.5¢	5.8¢	6.0¢
Hours monitors are used per week	9	9	9
Days monitors are used per week	5	5	5
% of monitors that are turned off at night and weekends	35	35	35
% of monitors turned off after mandate	65	65	65
Current energy use	953,620 kWh	5,522,790 kWh	5,087,745 kWh
Future energy use	349,479 kWh	1,164,930 kWh	1,747,395 kWh
Energy savings	**604,141 kWh**	**4,357,860 kWh**	**3,340,350 kWh**
Current energy costs	$71,522	$320,322	$305,265
Future energy costs	$26,211	$67,566	$104,844
Monetary savings	**$45,311**	**$252,756**	**$200,421**
% of savings	63	79	65

If all of the estimated 1.2 million computer monitors in Texas schools were enabled for monitor power management, Texas would save up to **$20.5 MILLION EACH YEAR!**

ALL IN A DAY'S REST...

To download the free Energy Star EZ Save and EZ Wizard programs, click on the PC Power Management link on the Watt Watchers Website. The computer monitor power management campaign, Sleep is Good, is a national effort by EPA/DOE to promote energy savings in computer monitors. Watt Watchers is helping Texas schools take advantage of the program.

Watt Watchers of Texas
Phone/Fax 1-888-US WATTS (1-888-879-2887)
e-mail info@wattwatchers.org
Visit our website http://wattwatchers.org

Sponsored by the Texas Comptroller of Public Accounts, State Energy Conservation Office, and the U.S. Department of Energy.


I WANT Y'ALL
FOR WATT WATCHERS
1-888 US WATTS
wattwatchers.org
SPONSORED BY THE TEXAS STATE ENERGY CONSERVATION OFFICE

-IT'S FREE!-IT'S SIMPLE!-IT WORKS!-

START YOUR PROGRAM TODAY!

Watt Watchers of Texas is a FREE energy efficiency program for Texas schools sponsored by the Texas Comptroller of Public Accounts, State Energy Conservation Office, and the U.S. Department of Energy. The program is designed to help school districts save energy and money by getting students involved. It is simple and effective! Students patrol the halls of the schools reducing energy waste by turning off lights and leaving "tickets" for empty classrooms with the lights on. Turning out the lights in a classroom during two unoccupied hours per day (lunch & after school) can save $50 over a school year.

GET STARTED

Call 1-888-USWATTS or

Sign up for a free kit. Call 1-888-USWATTS or go on-line at http://wattwatchers.org to enroll. You will receive a free kit which includes a set of 4 Watt Watchers binders, 4 name badges and 4 name tags with 4 lanyards, 4 pencils, a complete instruction manual on CD-ROM, plus a supply of forms, sample tickets and thank you notes. Everything you need — open your kit and get started today! Not only will your school be provided with all of the materials listed above (approximately a $25 value), Watt Watchers will provide free support for the program, including:

- *WATTS NEWS* — Quarterly 20 page Newspaper
- Toll Free Phone & Toll Free Fax support line
- Website and e-mail support
- E-Mail Update – Monthly news for Watt Watchers
- Workshops – Watt Watchers sponsors regional workshops
- Conferences – Watt Watchers attends educational conferences – see you there.
- CD-ROM with all the materials – 0ver 450MB!
- Five Year Lapel Pins for dedicated Watt Watchers sponsors
- Watt Watchers Certificates for participation and Zero Hero Awards

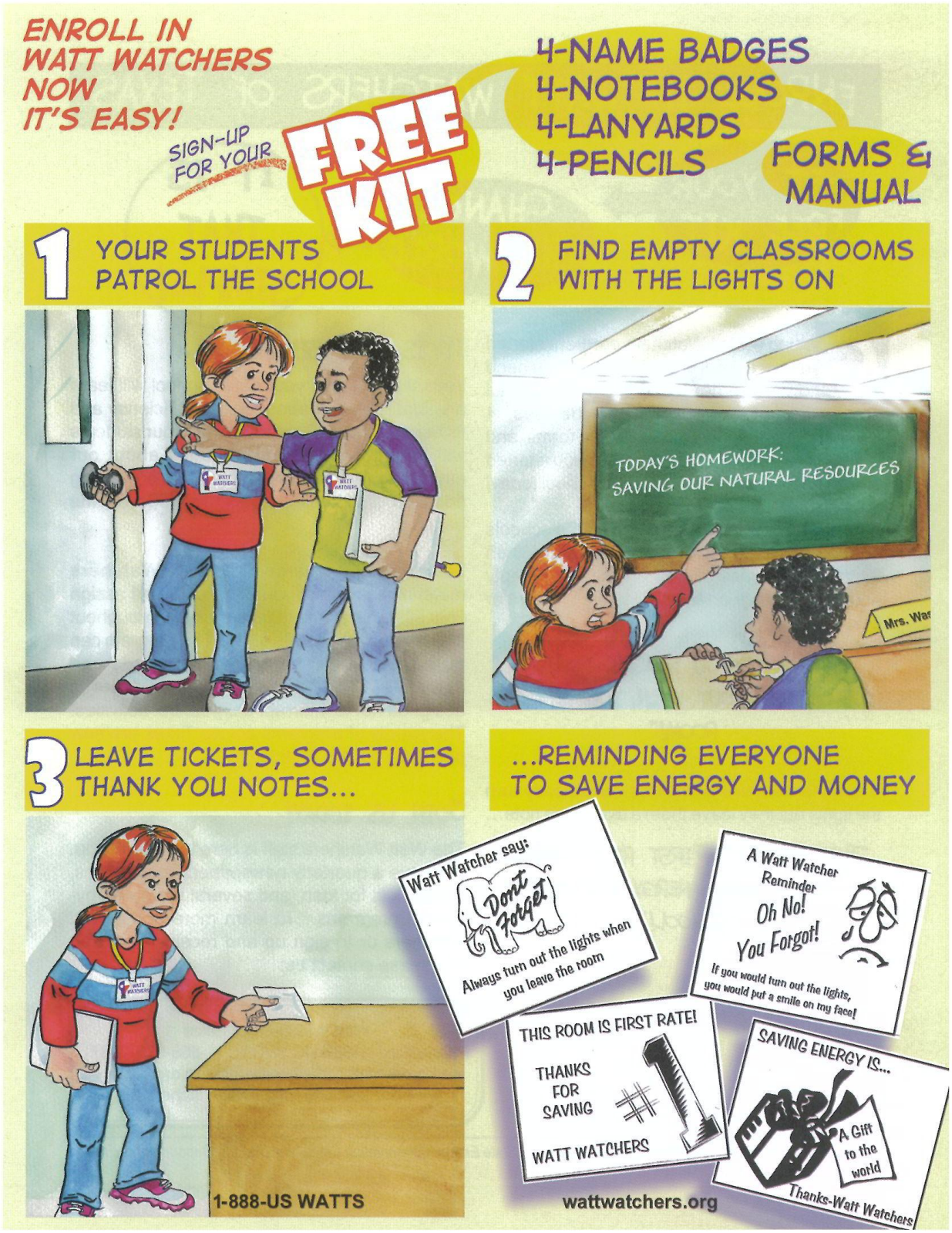
BUT THAT'S NOT ALL, Y'ALL!

In addition to student energy patrols that find waste and raise awareness, Watt Watchers also has additional programs for your school:

- Traveling Energy Exploration Stations – free loans of hands-on kits for classes
- Knowledge is Power – an energy efficiency curriculum supplement
- Sleep Is Good – a computer monitor power management program
- Junior Solar Sprint – a model solar race car project
- Energy Encounter – a one day workshop for high school students
- District Energy Council – students assisting energy managers
- The Weatherization Project – a residential community energy project
- Benchmarking – compare your school district energy use nationally

Watt Watchers of Texas
Phone/Fax 1-888-US WATTS (1-888-879-2887)
e-mail info@wattwatchers.org
Visit our website http://wattwatchers.org

Sponsored by the Texas Comptroller of Public Accounts, State Energy Conservation Office, and the U.S. Department of Energy.


ENROLL IN WATT WATCHERS NOW IT'S EASY!
SIGN-UP FOR YOUR
FREE KIT
4-NAME BADGES
4-NOTEBOOKS
4-LANYARDS
4-PENCILS
FORMS & MANUAL
1 YOUR STUDENTS PATROL THE SCHOOL
2 FIND EMPTY CLASSROOMS WITH THE LIGHTS ON
TODAY'S HOMEWORK: SAVING OUR NATURAL RESOURCES
3 LEAVE TICKETS, SOMETIMES THANK YOU NOTES...
...REMINDING EVERYONE TO SAVE ENERGY AND MONEY
Watt Watcher say:
Don't Forget
Always turn out the lights when you leave the room
A Watt Watcher Reminder
Oh No! You Forgot!
If you would turn out the lights, you would put a smile on my face!
THIS ROOM IS FIRST RATE!
THANKS FOR SAVING
WATT WATCHERS
SAVING ENERGY IS...
A Gift to the world
Thanks-Watt Watchers
1-888-US WATTS
wattwatchers.org

ENROLL IN WATT WATCHERS OF TEXAS

Getting a Watt Watchers program started in your school is so simple. All you need to do is order the FREE kit! Your kit comes complete with 4 name badges, 4 lanyards, 4 notebooks, 4 pencils, the forms, and a CD-ROM with a manual to get you started saving energy and money for your school today!

Your students will patrol the halls of the schools to see where energy is being wasted. When they locate a classroom or office that is empty and the lights are on they will leave a reminder ticket …

"OH, NO -YOU FORGOT TO TURN YOUR LIGHTS OUT WHEN YOU LEFT THE ROOM!"

If they notice classrooms that consistently turn the lights out they leave them a thank-you note…

"THIS ROOM IS FIRST RATE -THANKS FOR SAVING ENERGY FOR OUR SCHOOL!"

IT IS THAT SIMPLE.

Your students and your entire school will learn a valuable lesson about energy efficiency and its benefits that will last a lifetime. Your students will change habits and attitudes about our environment while saving money and preventing pollution. You will change the world for the better.

Teachers, just place the Watt Watchers materials in a bin at your front door and assign your students a time to go on patrols throughout the day and the work is done. The program can be adapted to fit your teaching needs and demands. The Watt Watchers program is designed not to interrupt daily school activities. Thousands of programs across Texas are now patrolling quickly and quietly.

JOIN US TODAY!

The Watt Watchers staff is here to support you. We have a quarterly newspaper, lesson plans, energy kits for loan, and several more energy-related programs. To learn more about Watt Watchers or to sign up and receive your free kit, please contact us:

Watt Watchers of Texas
Phone/Fax 1-888-US WATTS (1-888-879-2887)
e-mail info@wattwatchers.org
Visit our website http://wattwatchers.org

Sponsored by the Texas Comptroller of Public Accounts, State Energy Conservation Office, and the U.S. Department of Energy

APPENDIX VIII

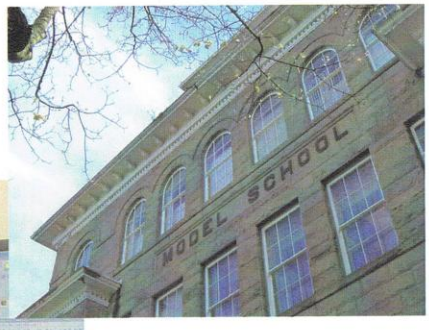
TEXAS ENERGY MANAGERS ASSOCIATION (TEMA)

ANNOUNCING!

TEMA

TEXAS ENERGY MANAGERS ASSOCIATION

A PROFESSIONAL ASSOCIATION FOR THOSE RESPONSIBLE FOR ENERGY MANAGEMENT IN TEXAS PUBLIC FACILITIES



- Networking
- Sharing Knowledge and Resources
- Training Workshops
- Regional Meetings
- Annual Conference
- Certification
- Legislative Updates
- Money-Saving Opportunities

WWW.TEXASEMA.ORG

Check the website for Membership and Association information.

Texas Energy Managers Association

SECO
State Energy Conservation Office

APPENDIX IX

UTILITY CHARTS ON DISKETTE