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Texas Comptroller of Public Accounts

Facility Preliminary Energy Assessments and Recommendations

Prepared by:

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City of Waller

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ESA-Energy Systems Associates, Inc.
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SECO
State Energy Conservation Office

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1.0 EXECUTIVE SUMMARY

This **Energy Efficient Partnership Service** is provided to local government facilities 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**.

SECO
State Energy Conservation Office

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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 June, 2008, **SECO** received a request for technical assistance from *Mr. Gene Schmidt*, Superintendent for Public Works for the City of Waller. **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 energy consuming 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 **City of Waller,** 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 Section 3.0 of this report.

Following the utility analysis and a preliminary consultation with *Mr. Schmidt,* a walk-through energy analysis was conducted throughout the City. 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 **$4,630** may be saved annually if all recommended projects are implemented. The estimated installed cost of these projects should total approximately **$39,280**, yielding an average simple payback of **8-1/2** years.

SUMMARY:	IMPLEMENTATION COST	ESTIMATED SAVINGS	SIMPLE PAYBACK
HVAC ECRM 1a	$12,300	$ 1,530	8 Years
HVAC ECRM 1b	$15,000	$ 1,375	11 Years
HVAC ECRM 1c	$8,500	$1,025	8-1/4 Years
Lighting ECRM #1	$3,480	$ 700	5 Years
TOTAL PROJECTS	**$39,280**	**$4,630**	**8-1/2 Years**

The total utility cost for CITY OF WALLER from March 2009 to February 2010 was $23,833 for the City Hall, Police Station and Public Library. The projected savings of $4,630 would represent a decrease in utility expenditures for the district of 19.4%. 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 has been calculated and shown in Section 7.0 of this report.

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 **City of Waller**. 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 initial visit was conducted by the professional engineering firm contracted by SECO to provide service within that area of the state to review the program elements that SECO provides to school districts and determine which elements could best benefit the district. 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. After reviewing the utility bill data analysis and consultation with SECO to determine the program elements to be provided to City of Waller, ESA returned to the facilities to perform the following tasks:

1. Design and monitor customized procedures to control run times of energy consuming systems.
2. Analyzing systems for code and standard compliance in areas such as cooling system refrigerants used, outside air quantity, and lighting illumination levels.
3. Develop an accurate definition of system and equipment replacement projects along with installation cost estimates, estimated energy and cost savings and analyses for each recommended project.
4. Develop a prioritized schedule for replacement projects.
5. Assist in development of guidelines for efficiency levels of future equipment purchases.

3.0 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" (BTUs).

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 BTUs are then divided

by the building area.

EUI = [Electricity BTUs + Gas BTUs] 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:

City of Waller

Facility	Energy Utilization Index (EUI) BTUs/sf-yr	Energy Cost Index (ECI) $/sf-yr
Library	49,142	$2.26
Police Station	89,070	$4.06
City Hall	164,213	$6.37

The electricity and gas consumption charts for the City of Waller City Hall, Police Department and Public Library are as follows:

OWNER: City Of Waller **BUILDING:** Library

MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	COSTS
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	$
JANUARY	2010	2,926	0	0	85	446	0	$15
FEBRUARY	2010	3,934	0	0	111	597	1	$15
MARCH	2010	1,485	0	0	46	230	0	$14
APRIL	2010	875	0	0	30	138	0	$13
MAY	2010	1,417	16	16	158	333	0	$13
JUNE	2009	2,844	0	0	79	430	0	$12
JULY	2009	2,611	0	0	73	295	0	$13
AUGUST	2009	1,781	0	0	52	272	0	$12
SEPTEMBER	2009	1,186	0	0	37	183	0	$12
OCTOBER	2009	1,470	0	0	44	226	0	$12
NOVEMBER	2009	1,838	0	0	54	281	0	$13
DECEMBER	2009	4,602	0	0	130	698	0	$14
TOTAL		**26,969**	**16**	**16**	**899**	**$4,129**	**1**	**$158**

Annual Total Energy Cost =	$4,287	Per Year
Total KWH x 0.003413 =	92.05	x 106
Total MCF x 1.03 =	1.03	x 106
Total Other x ____		x 106
Total Site BTU's/yr	93.08	x 106
Floor area:	1,894	s.f.

Energy Use Index:
Total Site BTU's/yr / Total Area (sq.ft.) = 49,142 BTU/s.f.yr

Energy Cost Index:
Total Energy Cost/yr / Total Area (sq.ft.) = $2.26 $/s.f. yr

OWNER: **City Of Waller** **BUILDING:** **Police Dpt**

MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	COSTS
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	$
JANUARY	2010	2,760	24	24	146	486		
FEBRUARY	2010	2,830	24	24	146	495		
MARCH	2010	2,596	16	16	115	436		
APRIL	2010	2,967	13	13	111	477		
MAY	2009	1,542	0	0	0	236		
JUNE	2009	5,832	12	12	113	832		
JULY	2009	5,261	13	13	114	763	All Electric Facility	
AUGUST	2009	5,545	13	13	115	799		
SEPTEMBER	2009	4,564	11	11	109	672		
OCTOBER	2009	3,792	12	12	109	577		
NOVEMBER	2009	2,456	24	24	143	446		
DECEMBER	2009	3,542	24	24	147	585		
TOTAL		43,687	186	186	1,368	$6,804	0	$0

Annual Total Energy Cost = $6,804 Per Year

Total KWH x 0.003413 = 149.10 x 106
Total MCF x 1.03 = 0.00 x 106
Total Other x ____ x 106
Total Site BTU's/yr 149.10 x 106

Floor area: 1,674 s.f.

Energy Use Index:
Total Site BTU's/yr / Total Area (sq.ft.) 89,070 BTU/s.f.yr

Energy Cost Index:
Total Energy Cost/yr / Total Area (sq.ft.) $4.06 $/s.f. yr

OWNER: **City Of Waller** **BUILDING:** **City Hall**

MONTH / YEAR		ELECTRIC					NAT'L GAS / FUEL	
			DEMAND					
		CONSUMPTION	METERED	CHARGED	COST OF	TOTAL ALL ELECTRICAL	CONSUMPTION	COSTS
MONTH	YEAR	KWH	KW/KVA	KW/KVA	DEMAND	COSTS $	MCF	$
JANUARY	2010	5,600	20	20	138	829	12	$180
FEBRUARY	2010	3,200	16	16	126	521	6	$87
MARCH	2010	3,480	16	16	127	556	3	$25
APRIL	2010	4,040	16	16	128	626	2	$12
MAY	2009	8,040	24	24	154	1,146	1	$12
JUNE	2009	11,600	24	24	161	1,593	0	$12
JULY	2009	9,840	28	28	178	1,392	2	$25
AUGUST	2009	9,880	28	28	179	1,398	1	$12
SEPTEMBER	2009	8,400	24	24	156	1,192	3	$35
OCTOBER	2009	6,360	24	24	132	936	3	$38
NOVEMBER	2009	4,960	20	20	135	747	2	$26
DECEMBER	2009	9,360	22	22	146	1,301	3	$41
TOTAL		84,760	262	262	1,760	$12,237	38	$505

Annual Total Energy Cost = $12,742 Per Year

Total KWH x 0.003413 = 289.29 x 106
Total MCF x 1.03 = 39.14 x 106
Total Other x ____ x 106
Total Site BTU's/yr 328.43 x 106

Floor area: 2,000 s.f.

Energy Use Index:
Total Site BTU's/yr / Total Area (sq.ft.) 164,213 BTU/s.f.yr

Energy Cost Index:
Total Energy Cost/yr / Total Area (sq.ft.) $6.37 $/s.f. yr

The district has one electricity provider; Constellation New Energy. Copies of the electric rate schedules are included in Appendix II.

4.0 RATE SCHEDULE ANALYSIS

A. ELECTRICITY PROVIDER

City of Waller

RETAIL ELECTRIC PROVIDER (REP): Constellation New Energy [$0.12313 per kWh]

TRANSMISSION AND DISTRIBUTION (T&D): Centerpoint

Electric Rate: Secondary Service Greater than 10 kW

I.	TRANSMISSION AND DISTRIBUTION CHARGES:		
	Customer Charge	=	$5.27 per meter
	Metering Charge	=	$31.86 per meter
	Transmission System Charge (Non-IDR Meter)	=	$1.1026724 per NCP kW
	Distribution System Charge	=	$3.13267241 per Billing kW
II.	SYSTEM BENEFIT FUND	=	$0.00065711 per kWh
III.	TRANSITION CHARGES		
	Transition Charge 1	=	$0.39896552/kWh
	Transition Charge 2	=	$0.00245895/kWh
	Transition Charge 3	=	$0.00106395/kWh
IV.	NUCLEAR DECOMMISSIONING CHARGE	=	$0.00887931 per Billing kVA
V.	TRANSMISSION COST RECOVERY FACTOR	=	$0.28663793/Billing kVA
VI.	ADVANCED METERING CRF	=	$3.16 per month
VII.	UCS Credit	=	-$.01224137 per kWh
VIII.	Franchise Fee Adjustment	=	-$0.00220711 per kWh

Average Savings for consumption (from billings) = $0.12313 + $00065711 + $0.00245895 + $0.00106395 - $0.01224137 - $0.00220711 = $0.11286153 / kWh

Average Savings for demand = $1.1026724+$3.31267241+$0.00887931+$0.28663793 = $4.71 / kW**

** This number is a generalization of average cost per kW because the rate schedule from Centerpoint utilizes three (3) different types of demand for the calculation of the utility bill:

1. NCP kW: Peak demand during 15 minute interval of current billing cycle
2. 4CP kW: Average demands of June, July, August and September of previous calendar year; usually only applied to IDR metered accounts
3. DS (Distribution System) Billing kW: Ratchet demand representing higher of two calculations: 80% of peak demand in last 11 months or current NCP kW

5.0 CAMPUS DESCRIPTIONS

The City of Waller, located in Waller County Texas, owns three buildings and a wastewater treatment plant that were assessed for this Report. The buildings include: the City Hall, Police Department, and Library. The buildings are generally operated during normal business hours and the wastewater treatment plant (WWTP) is operated 24-hours a day. The population of the city is approximately 2,000 persons.

Figure 1: City Hall exterior

A. CITY HALL

City Hall is a brick-faced building on a concrete slab with a low-slope roof surrounded by an asphalt shingle mansard roof. The building contains approximately 2,000 square feet of conditioned floor area, according to Mr. Schmidt.

HVAC & Control System Description:

The City Hall is heated and cooled by two split systems utilizing natural gas heating and electric DX cooling. The condensing units are pad-mounted at the exterior of the building and the air handling units (AHUs) are located in the attic. Air distribution is accomplished by conventional flexible ductwork through the attic and the AHUs share a common return vent in the main hallway of the building. A portable floor air conditioner serves the computer room.

Figure 2: City Hall air conditioners

Both split systems are reaching the end of their useful life expectancy of 15-20 years and are probably not operating with any significant degree of efficiency at the present time. The *General Electric* unit is estimated to be 20+ years old and the *Carrier* unit is approximately 14 years old. Both units provide 3.0-tons of nominal cooling capacity for a total of 6.0-tons to the building. *We recommend that these units be replaced with new energy-efficient models.*

The refrigerant line insulation was notably damaged or missing from these two units. The lack of insulation integrity allows the refrigerant to absorb heat from the ambient air and reduces its ability to absorb heat from the interior space as intended. W*e recommend that the City replace the refrigerant line insulation to improve the operating efficiency of these units even if the units are scheduled to be replaced soon.*

The split systems are currently controlled by conventional, non-programmable thermostats. *We recommend that the City install new 7-day programmable thermostats.* The operating hours for the building can be programmed to eliminate after-hour HVAC operation.

Lighting System Description:

The building uses approximately 24 ceiling-mounted fluorescent strip fixtures, each with two or four T12 lamps. The T12 lamps and magnetic ballasts will no longer be manufactured after 2010 and in combination with the energy saving opportunities available, *we recommend retrofitting T12 system fixtures with T8 lamps and electronic ballasts.*

Figure 3: City Hall interior lighting

Plumbing and Water Heating System Description:

A 20-gallon electric water heater provides hot water to the building. It was noted during the survey that some of the insulation at the water heater is missing from the hot water piping. *The majority of the energy losses in a hot water system occur through the hot water piping and therefore we recommend replacing this insulation.*

A freestanding *Halsey Taylor* refrigerated drinking fountain is located in the main hallway and is plugged into a typical 120-volt outlet. The age of the appliance is unknown but it appears to be original. It is likely that the unit operates near 250 watts when running, costing upwards of $55 per year if running for just 5-hours out of the day. This small appliance can consume a large amount of electricity and consideration should be given to the benefit of its continued use. If the building management determines that the unit is not necessary, it should be removed. If a drinking fountain is still desired, it should be placed on a timer so that it does not cool water when the building is not occupied.

Building Envelope Description:

Although not a direct energy conservation measure, the soffit screens at the eaves of the building were observed to be damaged or missing. The screening should be replaced to prevent insects, rodents, and birds from entering the attic space and creating potential indoor air quality issues.

B. POLICE DEPARTMENT

Figure 4: Police Department exterior

The Police Department building is a wood framed structure with aluminum siding over a crawlspace and with steep-slope asphalt shingle roofing. The building contains approximately 1,500 square feet of conditioned floor area.

HVAC & Control System Description:

The building is heated and cooled by one *Armstrong* split system and two through-wall room air conditioners which serve an office and the City Court space. Including the wall units, the total amount of nominal cooling provided to the building is approximately 5.5-tons. The Armstrong unit is approximately 15- to 20-years old and is not operating efficiently due to its age. If the spaces that the wall units serve are generally on the same occupancy schedule as the rest of the interior spaces, *we recommend that the older Armstrong unit and the wall units be replaced with one energy-efficient split-system.* A small amount of ductwork will be required to run branch lines and grilles to the spaces formerly served by the wall units, but the larger single system can more efficiently condition the building than three smaller systems if the zoning separation is not critical.

The split system is currently controlled by a conventional, non-programmable thermostat. *We recommend that a new 7-day programmable thermostat be installed.*

<u>Lighting System Description:</u>
For lighting, the building uses a combination of 9 ceiling-mounted fluorescent strip fixtures with 2 or 4 T12 lamps, and 6 compact fluorescent lamps (CFLs). The CFLs are the energy-saving alternative to typical incandescent bulbs and their use should be continued. *The T12 lamps and magnetic ballasts should be replaced with T8 lamps and electronic ballasts.*

<u>Plumbing and Water Heating System Description:</u>
A small 5-gallon electric water heater provides hot water to the building. As was the case at City Hall, the City needs to replace some damaged or missing hot water pipe insulation at this unit.

<u>Building Envelope Description:</u>
It was noted during the survey that the weatherstripping at the exterior doors was in need of replacement.

C. LIBRARY

The Library building is a wood framed structure with wood plank siding over a crawlspace and with sloping asphalt shingle roofing. The building contains approximately 1,500 square feet of conditioned floor area, based on visual estimate.

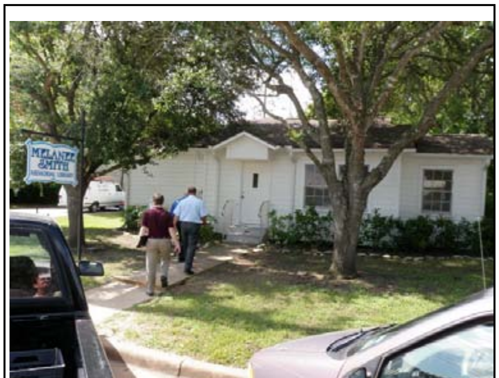

Figure 5: Library exterior

<u>HVAC & Control System Description:</u>
The building is cooled by two electric through-wall room air conditioners using DX cooling. It is heated by a gas floor heater. The two wall units combine to provide approximately 3.0-tons of nominal cooling capacity. The gas floor heater is used less than 3-months out of the year but gas service is provided year-round. As can be seen in Section 3.0, the customer charge for the gas service at the Library cost the City $143 over 11 of the 12 months with no recorded consumption. *We recommend replacing the wall units and gas heater with a much more efficient electric split-system with a heat pump and 7-day programmable thermostat.*

Lighting System Description:
The building uses approximately 11 ceiling-mounted fluorescent strip fixtures with 2 each T12 lamps. *We recommend retrofitting T12 system fixtures with T8 lamps and electronic ballasts.*

D. WASTEWATER TREATMENT PLANT (WWTP)

Figure 6: Wastewater Treatment Plant

The Sewer Treatment Plant has two service entrance points where lift station waste is filtered by bar grates. The bar grates are not powered and therefore are manually cleaned when debris is collected at the screen. The staff reports that some debris is getting around the screening process and has stopped up post-screen equipment in the past.

Downstream of the grates, there are three mechanical ditch rotors, two of which operate at any given time, and two fan-powered aerators. These devices ensure adequate Biochemical Oxygen (BO) to promote the initial breakdown of the waste and reduce the proliferation of the raw sewage odor.

As the initial waste breakdown is completed, the material flows through one of two clarifiers and passes through the chlorine treatment tanks prior to its safe release as ground water runoff.

The City invested $1,000,000 in plant upgrades within the past 5-6 years. The existing permit allows the City to treat up to 400,000 gallons of wastewater per day; a level currently unchallenged by the recorded daily maximum volume of 350,000 gallons. The plant appears to be operating efficiently except for the periods when debris not stopped by the bar grates has fouled post-grate equipment. *We recommend the City consider retrofitting the manual bar grates with new automatic bar grates to protect other equipment within the system and eliminate the requirement for manual cleaning of the grates.*

6.0 RECOMMENDATIONS

A. MAINTENANCE AND OPERATIONS PROCEDURES

Lighting	• Control exterior lights with timeclock or photocell, replace old photocells as required.
HVAC	• Comb and wash condensing unit fins; install hail guards as necessary to prevent future coil fin damage. • Replace damaged and missing refrigerant line insulation at the split systems . • Replace missing hot water piping insulation.
Building Envelope	• Check weatherstrip at all exterior doors, replace as needed

Maintenance and Operation procedures (M&O) are strategies that can offer significant energy savings potential, yet require little or no capital investment by the district to implement. Exact paybacks are at times difficult to calculate, but are typically less than one year. The difficulties with payback calculations are often related to the fact that the investigation required to make the payback calculation, (for example measuring the air gap between exterior doors and missing or damaged weather-stripping so that exact air losses may be determined), is prohibitive when the benefits of renovating door and weather-stripping are well documented and universally accepted.

Lighting System M&O #2
One exterior soffit light at the Library, one circline fluorescent porch light at City Hall and one mercury vapor fixture at the sewage treatment were observed to be lit during daylight hours. Equipping these fixtures with, or repairing existing photocells so they operate only 12-hours each day and 7 days a week could potentially save $172 annually if they are now on 24-hours a day.

HVAC M&O #1
Condensing units with damage to just 10% of the coil fins can lose as much as 30% of their operational efficiency as the units lose their ability to dissipate heat to the atmosphere. Combs to straighten damaged fins cost less than $10 and can usually restore most or all of the lost efficiency. Dirty filters also reduce efficiency and replacement with a new filter will increase airflow and provide quicker cooling.

HVAC M&O #2
It was noted at several of the condensing units that the refrigerant line insulation was damaged or missing. This condition allows the refrigerant to absorb heat from the ambient air and minimizes the ability for the refrigerant to absorb heat from the interior space as desired.

HVAC M&O #3
The water heaters had damaged or missing hot water piping insulation. The majority of the energy losses in a hot water system occur through the hot water piping.

Envelope M&O #1
It was noted there were several exterior doors around the district that suffered from missing or absent weather-stripping. We recommend that the weatherstripping be replaced as necessary.

B. CAPITAL EXPENSE PROJECTS

HVAC	• Replace two S/Ss at City Hall. • Replace one S/S and two WUs at Police Station. • Replace two WUs and gas heater at Library
Lighting	• Retrofit older T12 fixtures with T8 lamps and ballasts.

HVAC ECRM #1a

There are two split systems at the City Hall, that are 14 years or older and should be considered for replacement. These systems typically have a life expectancy of 15-20 years. We recommend including new programmable thermostats for each unit installed.

Estimated Installed Cost	=	$ 12,300
Estimated Energy Cost Savings	=	$ 1,530
Simple Payback Period	=	8 years

HVAC ECRM #1b

Replace the 5-1/2 ton cooling capacity split system and window units with one larger split system with programmable thermostat to serve all areas at the Police Station and City Court.

Estimated Installed Cost	=	$ 15,000
Estimated Energy Cost Savings	=	$ 1,375
Simple Payback Period	=	11 years

HVAC ECRM #1c

Replace the two WUs and one gas heater with new heat pump split system at the City Library. We also recommend installing a relative humidity sensor to ensure humidity protection for the books.

Estimated Installed Cost	=	$ 8,500
Estimated Energy Cost Savings	=	$ 1,025
Simple Payback Period	=	8-1/4 years

LIGHTING ECRM #1

There are T12 fixtures that we recommend be retrofitted with T8 lamps and electronic ballasts. The new components produce approximately 18% more light while consuming about 20% less energy.

Estimated Installed Cost	=	$ 3,480
Estimated Energy Cost Savings	=	$ 700
Simple Payback Period	=	5 years

C. SUMMARY TABLE

If the City of Waller was to implement all recommended M&O and ECRM projects (where M&O costs do not have an installation cost), the summary payback would be:

Estimated Installed Cost	=	$ 39,280
Estimated Energy Cost Savings	=	$ 4,630
Simple Payback Period	=	8-1/2 years

Should the district desire to implement the capital expense projects in stages and not all at once, we recommend the following implementation schedule:

1. Lighting ECRM #1	T12 light fixtures often represent the low-hanging fruit in energy conservation. Savings generated from this project can often be used to offset costs for less favorable payback projects
2. Lighting ECRM #1c	The Library project becomes more favorable as the money currently wasted on customer charges for the rarely used natural gas meter becomes obvious. This is a rare case where an all electric system would likely be less expensive to operate than a gas heat system.
3. HVAC ECRM #1b	This project is very similar to the one recommended for the police Station. The difference is that the ECI ($6.37 is so much higher here that any savings opportunity available should be implemented.
4. HVAC ECRM #1a	If the occupancy schedules align well, one single larger system will prove less expensive to three smaller units.

7.0 FINANCIAL EVALUATION

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.

If the project was financed with in-house funds, the internal rate of return for the investment would be as follows:

Proposal:	Perform recommended ECRMs			
Assumptions:				
1. Equipment will last at least 15 years prior to next renovation				
2. No maintenance expenses for first five years (warranty period)				
3. $500 maintenance expense next 5 years				
4. $1000 maintenance expense last 5 years				
5. Savings decreases 2% per year after year 5				
Cash Flow	**Project Cost**	**Project Savings**	**Maintenance Expense**	**Net Cash Flow**
Time 0	($39,280)		0	($39,280)
Year 1		$ 4,630	0	$4,630
Year 2		$ 4,630	0	$4,630
Year 3		$ 4,630	0	$4,630
Year 4		$ 4,630	0	$4,630
Year 5		$ 4,630	0	$4,630
Year 6		$ 4,537	($500)	$4,037
Year 7		$ 4,445	($500)	$3,945
Year 8		$ 4,352	($500)	$3,852
Year 9		$ 4,260	($500)	$3,760
Year 10		$ 4,167	($500)	$3,667
Year 11		$ 4,074	($1,000)	$3,074
Year 12		$ 3,982	($1,000)	$2,982
Year 13		$ 3,889	($1,000)	$2,889
Year 14		$ 3,797	($1,000)	$2,797
Year 15		$ 3,704	($1,000)	$2,704
			Internal Rate of Return	**5.65%**

More information regarding financial programs available to CITY OF WALLER can be found in:

APPENDIX I: SUMMARY OF FUNDING AND PROCUREMENT OPTIONS

APPENDICES

APPENDIX I - SUMMARY OF FUNDING AND PROCUREMENT OPTIONS

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 Eddy Trevino of SECO (512-463-1876) 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:

They 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 Felix Lopez of State Energy Conservation Office, (SECO), at 512-463-1080 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

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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.

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

APPENDIX II - ELECTRIC UTILITY RATE SCHEDULES

Transmission and Distribution – Centerpoint Energy

6.1.1.1.3 SECONDARY SERVICE GREATER THAN 10 KVA

AVAILABILITY

This schedule is applicable to Delivery Service for non-residential purposes at secondary voltage with demand greater than 10 kVA when such Delivery Service is to one Point of Delivery and measured through one Meter.

TYPE OF SERVICE

Delivery Service will be single or three-phase, 60 hertz, at a standard secondary voltage. Delivery Service will be metered using Company's standard Meter provided for this type of Delivery Service. Any Meter other than the standard Meter will be provided at an additional charge and/or will be provided by a Meter Owner other than the Company pursuant to Applicable Legal Authorities. Where Delivery Service of the type desired is not available at the Point of Delivery, additional charges and special contract arrangements may be required prior to Delivery Service being furnished, pursuant to Section 6.1.2.2, Construction Services, in this Tariff.

MONTHLY RATE

I. Transmission and Distribution Charges:

	Standard Class	Subclass Exception	
Customer Charge	$5.27	$0.00	per Retail Customer per Month
Metering Charge			
Non-IDR Metered	$31.86	$17.07	per Retail Customer per Month
IDR Metered	$116.89	$116.89	per Retail Customer per Month
Transmission System Charge			
Non-IDR Metered	$1.1027	$1.1027	per NCP kVA
IDR Metered	$1.4709	$1.4709	per 4CP kVA
Distribution System Charge	$3.118137	$3.118137	per Billing kVA

The following charges are applicable to both the Standard Class and the Subclass Exception

II.	**System Benefit Fund:**	See Rider SBF
III.	**Transition Charge:**	See Schedules TC, TC2, TC3 and SRC
IV.	**Nuclear Decommissioning Charge:**	See Rider NDC
V.	**Transmission Cost Recovery Factor:**	See Rider TCRF

CenterPoint Energy Houston Electric, LLC
Applicable: Entire Service Area

CNP 8017

VI.	**Excess Mitigation Credit:**		Not Applicable
VII.	**State Colleges and Universities Discount:**		See Rider SCUD
VIII.	**Competition Transition Charge:**		See Rider CTC
IX.	**Competitive Metering Credit:**		See Rider CMC
X.	**Other Charges or Credits:**		
	A. Municipal Account Franchise Credit (see application and explanation below)	$(.002207)	per kWh
	B. Rate Case Expenses Surcharge		See Rider RCE
	C. Rider UCOS Retail Credit		See Rider RURC
	D. Advanced Metering System Surcharge		See Rider AMS
	E. Accumulated Deferred Federal Income Tax Credit		See Rider ADFITC

COMPANY SPECIFIC APPLICATIONS

DETERMINATION OF BILLING DEMAND FOR TRANSMISSION SYSTEM CHARGES

Determination of NCP kVA The NCP kVA applicable under the Monthly Rate section shall be the kVA supplied during the 15 minute period of maximum use during the billing month.

Determination of 4 CP kVA The 4 CP kVA applicable under the Monthly Rate section shall be the average of the Retail Customer's integrated 15 minute demands at the time of the monthly ERCOT system 15 minute peak demand for the months of June, July, August and September of the previous calendar year. The Retail Customer's average 4CP demand will be updated effective on January 1 of each calendar year and remain fixed throughout the calendar year. Retail Customers without previous history on which to determine their 4 CP kVA will be billed at the applicable NCP rate under the "Transmission System Charge" using the Retail Customer's NCP kVA.

DETERMINATION OF BILLING DEMAND FOR DISTRIBUTION SYSTEM CHARGES

Determination of Billing kVA The Billing kVA applicable to the Distribution System Charge shall be the higher of the NCP kVA for the current billing month or 80% of the highest monthly NCP kVA established in the 11 months preceding the current billing month (80% ratchet). The 80% ratchet shall not apply to seasonal agricultural Retail Customers.

OTHER PROVISIONS

Secondary Service Greater Than 10 kVA. This Rate Schedule is applicable only to Retail Customers whose peak demand for the current month is greater than 10 kVA, as measured in the fifteen minute period of highest demand, or whose peak demand exceeded 10 kVA in any of the previous eleven months, and that otherwise qualify under this Rate. This Rate Schedule is applicable to Delivery Service provided for Electric Power and Energy supplied by Retail Customer's REP for Temporary service subject to provisions of Section 6.1.2.2, Construction Services. The Electric Power and Energy delivered may not be re-metered or sub-metered by the Retail Customer for resale except pursuant to lawful sub-metering regulations of Applicable Legal Authorities. Retail Customer's previous metered usage under this or any other Rate Schedule will be used, as needed, in determining the billing determinants under the Monthly Rate section.

Subclass Exception. The Subclass Exception is applicable only to Retail Customers who otherwise qualify for the Secondary Service Greater Than 10 kVA rate schedule and either: (1) whose highest NCP kVa for the most recent 12 months is equal to or less than 50 kVA; or (2) whose highest NCP kVa for the most recent 12 months is greater than 50 kVA but less than or equal to 400 kVA and whose load factor was less than or equal to 10% for each of the most recent 12 months. The most recent 12 months ends with and includes the current month. The monthly load factor is determined as follows:

load factor = billing kWh for the month/ (NCP kVA X number of days in billing period X 24)

Service Voltages. Company's standard service voltages are described in 6.2.2, Standard Voltages and in the Company's Service Standards.

Municipal Account Franchise Credit. A credit equal to the amount of franchise fees included in the Transmission and Distribution Charges will be applied to municipal accounts receiving service within the incorporated limits of such municipality which imposes a municipal franchise fee upon the Company based on the kWh delivered within that municipality and who have signed an appropriate Franchise Agreement.

APPENDIX III - PRELIMINARY ENERGY ASSESSMENT SERVICE AGREEMENT

OFFICE OF THE COMPTROLLER * TEXAS *

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) through its engineering consultants will analyze electric, gas and other utility data and work with City of Waller, 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 the Partner is ready and willing to consider implementing the energy savings recommendations.

Principals 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 identify no cost/low cost recommendations, Capital Retrofit Projects, potential sources of funding.
- 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: X [signature]
Name (Mr./Ms./Dr.) Gene Schmidt
Entity: City of Waller
Street Address: 1118 FARR St.
Mailing Address: PO Box 239
Waller, TX 77484

Date: 6-19-08
Title: Supt. of Public Works
Phone: 936-372-3880
Fax: 936-372-3477
E-mail: gschmidt@wallertexas.com

CONTACT INFORMATION: Thelma Newton
Name (Mr./Ms./Dr.): Gene Schmidt or
Phone: 936-372-3880
E-Mail: gschmidt@wallertexas.com
or tnewton@wallertexas.com
Title: Supt of Public Works
Fax: 936-372-3477

Please Sign and mail or fax to the following SECO Consultant: Texas Energy Engineering Services, Inc. (TEESI), ATTENTION: Saleem Khan, P.E., 1301 Capital Of Texas Highway #B-325, Austin, TX. 78746, Phone 512-328-2533, Fax 512-328-2544. If you need to contact the State Energy Conservation Office, please call Theresa Sifuentes at 512-463-1896 or you may write to her at: Comptroller Of Public Accounts, State Energy Conservation Office, 111 E. 17th Street, Austin, Texas 78774.

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APPENDIX IV - TEXAS ENERGY MANAGERS ASSOCIATION (TEMA)

TEMA

ANNOUNCING!

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