



September 30, 2010

Ms. Donna Geiger
Office of the Governor
1100 San Jacinto
Austin, Texas 78701

Mr. John O'Brien
Deputy Director
Legislative Budget Board (LBB)
Robert E. Johnson Bldg. – 5th Floor
1501 North Congress
Austin, Texas 78701

RE: RP-49, FY 2010 – 4th Quarter Update

The Texas Tech University Health Sciences Center (TTUHSC) Energy Savings Update is being submitted in accordance with Governor's Executive Order, RP 49, Electric Conservation by State Agencies. TTUHSC continues to promote energy conservation measures and strategies and seek new ideas to reduce consumption and improve building system efficiencies.

A. Energy Consumption & Goals

Attached is Exhibit I where our 4th Quarter FY2010 consumption breakdowns can be found. Exhibit I also includes previous quarters, overall totals for each utility and energy equivalent to facilitate comparisons between quarters and annual totals.

Additionally, Table I (Page 2) shows a breakdown for each type of utility in kBtu per square foot. The energy units were converted to kBtu to allow for comparisons of the various energy forms and then divided by the appropriate campus square footage to obtain an energy utilization index in kBtu/square foot. A negative % change indicates a decrease in consumption, while a positive number indicates an increase compared to the previous year.

In the 4th Quarter FY2010, the campus consumed 61.87 kBtu/sq ft, an increase of 4.8% compared to the 4th Quarter FY2009. Increase in energy consumption is mainly due to addition of research space and increase in overall occupancy. Texas Tech University Health Sciences Center continues to undergo significant capital improvements and steady growth, which are expected to increase the overall energy consumption and energy consumption per square foot. It has been observed that there is no change in electricity consumption in kWh per square-foot in the FY2010 as compared to the FY2009. This is due to the installation of energy efficient equipment and lighting retrofits.





Table I: Campus Energy Use (kBtu/Sq ft): June - August

Utility	FY09 Actual	FY10 Actual	% Change
Electricity	22.49	22.28	-00.93 %
Nat. Gas	08.17	07.90	-03.30 %
Steam	05.78	08.89	53.80 %
Chilled Water	22.61	22.80	00.84 %
Total	59.05	61.87	04.78 %

Refer attached ‘EXHIBIT I’ for further details of campus energy use.

B. Current Energy Reduction Plans

Texas Tech University Health Sciences Center has identified the following tactics and measures for potential consideration in reducing the campus energy consumption. Projects will be prioritized based on a variety of factors including return on investment, cost and availability of funding. The successful implementation and funding of these and other projects will form the basis of the energy reduction goal of 2.5% per year reduction in energy utilization index for the period of FY2009 through FY2013. Below is a partial list and status of ongoing projects that are currently being designed and/ or implemented.

1. Mechanical system modifications to reduce energy consumption at the Medical Science Building, El Paso. *Project completed.*
2. Installation of a dual duct air distribution system for TTU Health Sciences Center at El Paso to operate the HVAC system according to the design intent. *Project is currently in design.*
3. Implementation of centralized Computer Maintenance Management System to effectively manage maintenance work orders and renovation projects. *Project in implementation phase.*
4. It’s our operating policy to use F28T8 lamps for office/laboratory/classroom and other such areas, and F25T8 lamps for hallway/toilet and other areas which need less illumination. This is being done to comply with the lighting power density requirement of the state energy code.
5. Lighting retrofit for LB Institute for Women’s Health, Amarillo. *Project completed.*
6. Lighting retrofit for Regional Academic Health Center, Odessa. *Project in implementation phase.*
7. Complete installation of occupancy sensors for lighting control, and vending machine operation. *Pending funding approval.*





C. Future Energy Reduction Plans

TTUHSC Engineering Services has conducted energy audits and identified various energy conservation projects which are projected to cost about \$2,520,083 with an estimated payback of less than 5 years. The details of which are included in the 'Resource Efficiency Plan' in accordance with 34 TAC, Chapter 19.

D. Fuel Consumption Reduction Plans

TTUHSC continues to emphasize energy conservation awareness with strategies such as regular preventative maintenance, and an emphasis on tire pressure and conditions to gain economies.

Your consideration of this update and information is appreciated.

Sincerely,

George G. Morales, P.E.
Assistant Vice-President for Physical Plant & Support Services

Enclosure: EXHIBIT 1

XC:

1. Elmo Cavin
Executive Vice-President of Finance & Administration
2. Director, State Energy Conservation Office
Comptroller of Public Accounts
111 E. 17th Street, Suite 1114, Austin, Texas 78774





EXHIBIT I

FY2009 ACTUAL ENERGY CONSUMPTION					
ENERGY	1st Quarter FY 2009	2nd Quarter FY 2009	3rd Quarter FY 2009	4th Quarter FY 2009	Total FY 2009
ELECTRICITY, kwh	12,332,590	11,993,848	12,922,585	15,786,198	53,035,221
NATURAL GAS, ccf	195,297	350,110	276,546	190,348	1,012,301
STEAM, mlb	22,840	39,612	19,895	12,335	94,681
CHILLED WATER, tn-hr	<u>2,359,557</u>	<u>1,980,452</u>	<u>2,535,335</u>	<u>4,513,676</u>	<u>11,389,020</u>
THERMAL ENERGY*, mbtu	53,963,521	68,249,329	52,765,892	68,016,362	242,995,104
ENERGY EQUIVALENT, (mbtu)	<u>116,131,174</u>	<u>145,175,663</u>	<u>125,299,597</u>	<u>141,462,406</u>	<u>528,068,840</u>
*Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water					-

FY2010 ACTUAL ENERGY CONSUMPTION					
ENERGY	1st Quarter FY 2010	2nd Quarter FY 2010	3rd Quarter FY 2010	4th Quarter FY 2010	YTD Total FY 2010
ELECTRICITY, kwh	13,396,554	12,238,116	13,577,396	16,269,146	55,481,212
NATURAL GAS, ccf	291,888	437,774	317,900	191,583	1,239,145
STEAM, mlb	24,483	49,162	31,480	19,732	124,857
CHILLED WATER, tn-hr	<u>2,672,699</u>	<u>2,510,310</u>	<u>2,818,841</u>	<u>4,733,632</u>	<u>12,735,482</u>
THERMAL ENERGY*, mbtu	59,566,797	85,332,646	69,178,132	78,962,957	293,040,532
ENERGY EQUIVALENT, (mbtu)	<u>135,295,322</u>	<u>172,104,503</u>	<u>148,197,905</u>	<u>153,647,852</u>	<u>609,245,582</u>
*Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water					-

