TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™

April 1, 2014

Office of the Governor
1100 San Jacinto
Austin, Texas 78701

Mrs. Ursula Parks, Director
Legislative Budget Board (LBB)
Robert E. Johnson Bldg. – 5th Floor
1501 North Congress
Austin, Texas 78701

RE: **Biennial Energy Report, FY2014**

The Texas Tech University Health Sciences Center (TTUHSC) in El Paso, Biennial Energy Report for FY-2014 is being submitted in accordance with Governor's Executive Order, RP 49 and State Energy Conservation Office directives. TTUHSC continues to promote energy conservation measures and strategies, and seek new ideas to reduce consumption and improve building system efficiencies.

A. Energy Consumption & Cost

During first half of the FY2014, the institution consumed 54,691,986 kBtu. The energy utilization index (EUI) is 97 kBtu/sq ft, a decrease of 28% as compared to first half of FY2013. The energy cost index (ECI) is $1.37/sq ft, which has decreased by 12% as compared to first half of FY2013. The consumption decrease is mainly due to prevention of waste through control upgrades, and operational improvements, added low energy consumption warehouse building, and mild weather conditions. Hence the cost decreased in spite of rate increases from El Paso campus utility providers.

The gross area (gsf) of the institution during this period has increased by 11% as compared to FY2013. Heating Degree Days (HDD) has decreased by 9% and Cooling Degree Days (CDD) has decreased by 15% for the first half of FY2014 as compared to FY2013. This is due to change in weather conditions.

TTUHSC continues to undergo steady programmatic growth and increase in overall occupancy density. So it's expected to increase the overall energy consumption. Energy consumption and cost breakdowns for the first half of FY2014 are shown in the table below. It includes FY2013 energy consumption, cost, and energy equivalents for the same period to facilitate comparison.

ENERGY CONSUMPTION AND COST (September to February)				
ENERGY	CONSUMPTION		COST	
TYPE	FY 2014	FY 2013	FY 2014	FY 2013
ELECTRICITY, kWh	8,408,040	8,855,711	$ 615,639	$ 591,916
NATURAL GAS, ccf	252,873	374,377	$ 155,624	$ 199,811
TOTAL ENERGY (kBtu), COST ($)	54,691,986	68,710,512	$ 771,263	$ 791,727

B. Energy Conservation Plan & Action

TTUHSC has a continuous program to educate the faculty and staff regarding energy conservation. TTUHSC Engineering Services Department maintains specific operating policy and procedure relating to the energy conservation program and utility review. Operating policy and procedures make the responsibility of energy conservation the obligation of every employee. A key element of the plan is to prevent waste and assure the conservation of resources.

TTUHSC Engineering Services has identified several projects for potential consideration in reducing the campus energy consumption. Projects were prioritized based on a variety of factors including return on investment, and cost. Projects that were implemented in the past were listed in the previous annual reports. Below is a partial list and status of projects that are completed in FY-2014 or currently being designed and/ or implemented.

1. Install chiller optimization module in the PFSOM and MSB1 facilities, El Paso. *Project is completed.*
2. Energy recovery system in Medical Science Building, El Paso. *Project is on hold due to lack of funding.*
3. 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. *Project is ongoing.*
4. Complete installation of occupancy sensors for automatic lighting control. *Project is being implemented through new construction and renovations.*

5. Replace inefficient motors with premium efficiency motors. *Motors are being replaced at the end of their service life.*
6. New energy efficient LED lights are being tested for performance and reliability. *Project is in testing and analysis phase.*

C. Future Energy Reduction Plans

1. Re-commissioning of HVAC systems in TT Medical Center building.
2. Install variable speed drive chillers to replace existing chillers at the end of their expected service life.
3. Explore use of solar photo-voltaic system to provide power to parking lot lighting.

D. Fuel Consumption Reduction Plans

TTUHSC continues to emphasize automobile fuel conservation awareness with strategies such as group travel via automobile vs airplane, regular preventative maintenance, and an emphasis on tire pressure and conditions to gain economies. The total fuel consumption has increased by 52% during first half of the FY-2014 as compared to FY2013.

Your consideration of this update and information is appreciated.

Sincerely,

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

XC:

1. Elmo Cavin,
   Executive Vice-President, TTUHSC Finance & Administration

2. Director, State Energy Conservation Office
   111 E. 17th Street, Suite 1114, Austin, Texas 78774