



October 6, 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: TTUHSC-El Paso, Annual Energy Report, FY2014

The Texas Tech University Health Sciences Center El Paso (TTUHSCPEP) Annual Energy Report for FY-2014 is being submitted in accordance with Governor’s Executive Order, RP 49, Senate Bill 700, and State Energy Conservation Office directives. TTUHSCPEP continues to promote energy conservation measures and strategies and seek new ideas to reduce consumption and improve building system efficiencies.

A. Energy Consumption & Cost

In FY2014, the institution consumed 101,396,966 kBtu. FY2014 energy utilization index (EUI) is 176 kBtu/sq ft, a decrease of 32% as compared to FY2013. FY2014 energy cost index (ECI) is \$2.85/sq ft, a decrease of 15% compared to FY2013. The gross area (gsf) of the institution in FY2014 has increased by 14% as compared to FY2013. Heating Degree Days (HDD) for the FY2014 decreased by 8% compared to FY2013, and Cooling Degree Days (CDD) for the FY2014 decreased by 5% compared to FY2013 due to milder summer weather conditions.

TTUHSCPEP continues to undergo capital and system improvements, increase in overall occupancy and steady growth, which are generally expected to increase the overall energy consumption. Attached Exhibit ‘A’ shows FY2014 energy consumption and cost breakdowns. It includes FY2013 energy consumption, cost, and energy equivalents to facilitate comparison between annual totals. Exhibit ‘B’ shows a benchmarking report for comparison of energy index (EUI & ECI) values of TTUHSCPEP from FY-2010 to FY-2014 with the median index value range of health related institutions in Texas.

B. Energy Conservation Plan & Action

TTUHSCPEP 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. Flyers, brochures, and periodic reminders are in process. 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 were completed in FY-2014 or are currently being designed and/ or implemented.

1. A new building is being built for use by School of Nursing, El Paso. The project complies with energy code requirement, and implemented variable drive scroll chiller, condensing boiler, energy efficient lighting with occupancy sensors, variable flow fans and pumps. *Project is in commissioning phase.*
2. Install new control components and upgrade control system software for existing buildings. *Project is completed.*
3. Boiler energy recovery system in the Medical Science Building, El Paso. *Schematic design completed. Project is on hold.*
4. Complete installation of occupancy sensors for automatic lighting control. *Project is being implemented through new construction and renovations.*
5. Operationally the campus should 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.*
6. New energy efficient LED lights, for both interior and exterior building use, are being tested for performance and reliability. *Project is in testing and analysis phase.*
7. Install new variable speed drive chillers to replace older chillers that do not meet current energy standards. *Project is in preliminary assessment phase.*
8. Continuing to investigate options for energy recovery of LAB Exhaust in MSB1.
9. Moving all building automation control monitoring to new control room. *Project is completed.*
10. Replace inefficient motors with premium efficiency motors. *Motors are being replaced at the end of their service life.*





C. Future Energy Reduction Plans

Verification of building systems control sequences and logic are a high priority. Plans include implementation of energy recovery systems, chiller upgrades, LED lights, and exploring the use of renewable energy for the campus.

D. Fuel Consumption Reduction Plans

TTUHSCEP continues to emphasize fuel conservation awareness with strategies such as group travel, regular preventative maintenance, and an emphasis on tire pressure and conditions to gain economies. FY-2014 total fuel consumption has increased by 24% as compared to FY-2013. TTUHSCEP has several lease buildings in the area, which require employees to drive to those locations frequently.

Fuel (gasoline/propane/diesel) Data:

FY14 Consumption	FY14 Cost	FY13 Consumption	FY13 Cost
13,904 Gallons	\$ 46,656	11,206 Gallons	\$ 38,630

The total miles driven in FY2014 have increased by 28% 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

Enclosures: EXHIBITs 'A' & 'B'

XC:

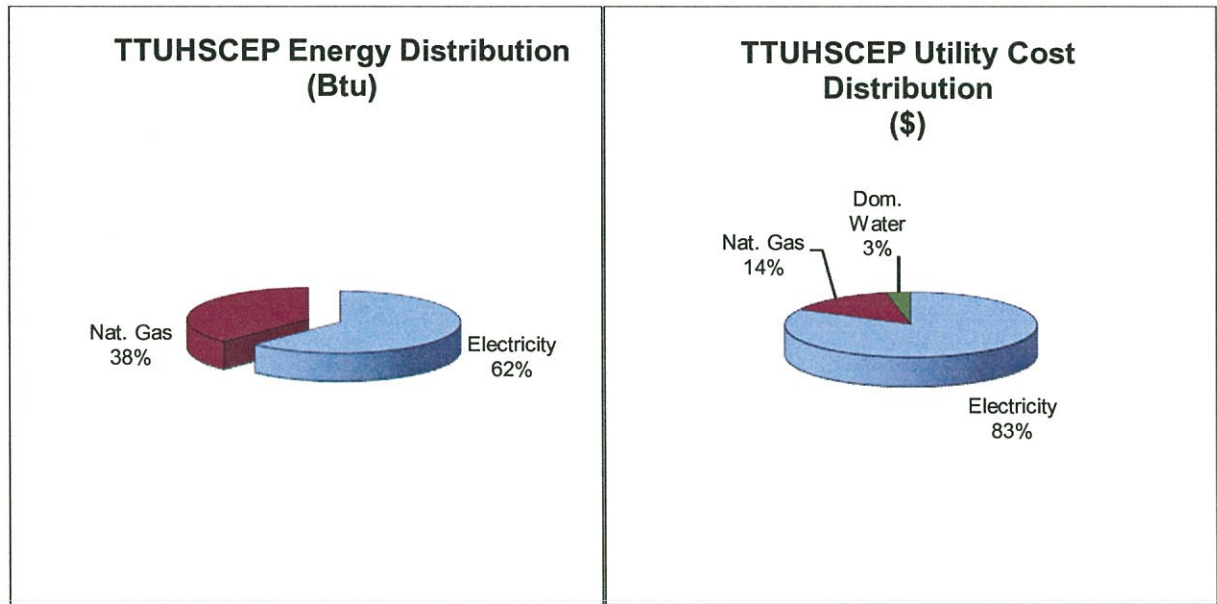
1. Elmo Cavin,
Executive Vice-President, TTUHSC Finance & Administration
2. Director, State Energy Conservation Office
111 E. 17th Street, Suite 1114, Austin, Texas 78774





EXHIBIT 'A'

ANNUAL ENERGY CONSUMPTION AND COST				
ENERGY	CONSUMPTION		COST	
TYPE	FY 2014	FY 2013	FY 2014	FY 2013
ELECTRICITY, kWh	18,518,723	19,136,983	\$1,406,940	\$ 1,351,555
NATURAL GAS, ccf	371,523	647,564	\$239,292	\$ 348,119
TOTAL ENERGY (kBtu), COST (\$)	101,396,956	131,884,113	\$1,646,232	\$ 1,699,674





**EXHIBIT ‘B’
(ENERGY BENCHMARKING REPORT)**

Institution	Energy Utilization Index (EUI) in kBtu/gsf	Energy Cost Index (ECI) in \$/gsf
Texas Tech Univ Health Sciences Center El Paso (FY-14)	176	\$2.85
Texas Tech Univ Health Sciences Center El Paso (FY-13)	259	\$3.34
Texas Tech Univ Health Sciences Center El Paso (FY-12)	276	\$3.83
Texas Tech Univ Health Sciences Center El Paso (FY-11)	265	\$3.48
Texas Tech Univ Health Sciences Center El Paso (FY-10)	287	\$3.71
Health Related Institutions in Texas (Median)	289	\$3.90
TTUHSC Energy Management Plan Target	226 - 250	< \$3.37

N.B.:

1. EUI can increase significantly with more research and hospital space; occupancy density; year of construction; building plug loads etc.
2. ECI can vary significantly with the local utility cost.
3. CLEAResult, 4301 Westbank Drive, Austin, TX 78746, provided the median EUI and ECI of HRIs in Texas for years 2011 & 2012.

