



January 1, 2014

Mr. Elmo Cavin,  
Executive Vice-President of Finance & Administration  
TTUHSC, El Paso

RE: FY 2014 – 1<sup>st</sup> Quarter Update

Texas Tech University Health Sciences Center (TTUHSC) Physical Plant continues to promote energy conservation measures and strategies and seek new ideas to reduce consumption and improve building system efficiencies. We continue to undergo capital improvements and steady growth, which are expected to increase the overall energy consumption.

#### **A. Energy Consumption & Goals**

Attached is Exhibit I where our 1<sup>st</sup> Quarter FY2014 consumption breakdowns can be found. Exhibit I also includes previous quarters, overall totals for each utility and energy equivalents 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 1<sup>st</sup> Quarter FY2014, the campus consumed 47.6 kBtu/sq ft, a decrease of 28.5% compared to the 1<sup>st</sup> Quarter FY2013. Cooling Degree Days (CDD) for the 1<sup>st</sup> Quarter FY2014 has decreased by 16% compared to 1<sup>st</sup> Quarter FY2013. Heating Degree Days (HDD) for the 1<sup>st</sup> Quarter FY2014 has increased by 48% compared to 1<sup>st</sup> Quarter FY2013. Energy usage reduction is mainly due to the control component upgrade, and operational improvements throughout the campus.





**Table I: Campus Energy Use (kBtu/Sq ft): September - November**

Utility	FY13 Actual	FY14 Actual	% Change
Electricity	33.53	27.57	-17.78%
Nat. Gas	32.99	20.00	-39.38%
Total	66.52	47.57	-28.49%

**B. Current Energy Reduction Plans**

We have 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. Below is a partial list and status of projects that are currently being planned, designed and/ or implemented.

1. Install new control components and upgrade control system software. *Project is in implementation phase.*
2. Boiler energy recovery system in the Medical Science Building, El Paso. *Schematic design completed. Project on hold.*
3. Complete installation of occupancy sensors for automatic lighting control. *Project is being implemented through new construction and renovations.*
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. *Project is ongoing.*
5. 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.*
6. Install new variable speed drive chillers to replace older chillers that do not meet current energy standards. *Project is in preliminary assessment phase.*





### C. Future Energy Reduction Plans

We have identified various energy conservation projects (ECPs) which are projected to cost up to one million dollars with significant energy savings. The details of which are included in the 'Resource Efficiency Plan' in accordance with 34 TAC, Chapter 19. Plan is to obtain funding for implementation of ECPs, improve existing building system performance, and continue implementation of LED lighting for exterior use.

Semiannually, Fleet fuel consumption is to be reported in the April and October reports.

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





### EXHIBIT I

<b>FY2013 QUARTERLY ENERGY CONSUMPTION</b>					
<b>ENERGY</b>	1st Quarter FY 2013	2nd Quarter FY 2013	3rd Quarter FY 2013	4th Quarter FY 2013	Total FY 2013
ELECTRICITY, kWh	4,996,482	3,859,229	4,221,160	6,060,112	19,136,983
NATURAL GAS, ccf	163,215	211,162	156,709	116,478	647,564
ENERGY EQUIVALENT, (kBtu)	33,831,462	34,879,050	30,516,515	32,657,086	131,884,113
N:B: Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water					

<b>FY2014 QUARTERLY ENERGY CONSUMPTION</b>					
<b>ENERGY</b>	1st Quarter FY 2014	2nd Quarter FY 2014	3rd Quarter FY 2014	4th Quarter FY 2014	Total FY 2014
ELECTRICITY, kWh	4,539,409				4,539,409
NATURAL GAS, ccf	109,362				109,362
ENERGY EQUIVALENT, (kBtu)	26,735,443				26,735,443
N:B: Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water					

