January 3, 2011

Ms. Donna Geiger          Mr. John O’Brien
Office of the Governor    Deputy Director
1100 San Jacinto          Legislative Budget Board (LBB)
Austin, Texas 78701      Robert E. Johnson Bldg. – 5th Floor
                         1501 North Congress
                         Austin, Texas 78701

RE:    RP-49, FY 2011 – 1st 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 1st Quarter FY2011 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 1st Quarter FY2011, the campus consumed 57.12 kBtu/sq ft, an increase of 3.35%
compared to the 1st Quarter FY2010. Texas Tech University Health Sciences Center
continues to undergo significant capital improvements and steady growth, which are
expected to increase the overall energy consumption. Decrease in natural gas
consumption is mainly due to the decrease in Heating Degree Days (HDD) by 20%,
compared to 1st Quarter FY2010. Additionally, Cooling Degree Days (CDD) increased
by 41% for the 1st Quarter FY2011, compared to 1st Quarter FY2010.
Table I: Campus Energy Use (kBtu/Sq ft): September-November

<table>
<thead>
<tr>
<th>Utility</th>
<th>FY10 Actual</th>
<th>FY11 Actual</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>18.68</td>
<td>19.43</td>
<td>04.01 %</td>
</tr>
<tr>
<td>Nat. Gas</td>
<td>12.26</td>
<td>09.95</td>
<td>-18.84 %</td>
</tr>
<tr>
<td>Steam</td>
<td>11.23</td>
<td>11.89</td>
<td>05.88 %</td>
</tr>
<tr>
<td>Chilled Water</td>
<td>13.10</td>
<td>15.85</td>
<td>20.99 %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55.27</strong></td>
<td><strong>57.12</strong></td>
<td><strong>03.35%</strong></td>
</tr>
</tbody>
</table>

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 implementation phase.*

3. Implementation of centralized Computer Maintenance Management System to effectively manage maintenance work orders and renovation projects. *Project is currently 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. All F32T8 lamps, HID lamps are currently being replaced.


7. Complete installation of occupancy sensors for automatic lighting control, and vending machine operation. *Project is currently in planning phase.*
8. Replacement of existing chillers by a new energy efficient chiller at Regional Academic
Health Center, Odessa. *Project is currently in design phase.*

C. **Future Energy Reduction Plans**

TTUHSC Engineering Services has conducted energy audits and identified various
energy conservation projects which are projected to cost about $4,234,083 with an
estimated payback of less than 6 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**

### FY2010 QUARTERLY ENERGY CONSUMPTION

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>1st Quarter FY 2010</th>
<th>2nd Quarter FY 2010</th>
<th>3rd Quarter FY 2010</th>
<th>4th Quarter FY 2010</th>
<th>Total FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRICITY, kWh</td>
<td>13,396,554</td>
<td>12,238,116</td>
<td>13,577,396</td>
<td>16,269,146</td>
<td>55,481,212</td>
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<tr>
<td>NATURAL GAS, ccf</td>
<td>291,888</td>
<td>437,774</td>
<td>317,900</td>
<td>191,583</td>
<td>1,239,145</td>
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<tr>
<td>STEAM, mlb</td>
<td>24,483</td>
<td>49,162</td>
<td>31,480</td>
<td>19,732</td>
<td>124,857</td>
</tr>
<tr>
<td>CHILLED WATER, tn-hr</td>
<td>2,672,699</td>
<td>2,510,310</td>
<td>2,818,841</td>
<td>4,733,632</td>
<td>12,735,482</td>
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<tr>
<td>ENERGY EQUIVALENT, kBtu</td>
<td>135,295,322</td>
<td>172,104,503</td>
<td>148,197,905</td>
<td>154,184,285</td>
<td>609,782,014</td>
</tr>
</tbody>
</table>

N:B: Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water

### FY2011 QUARTERLY ENERGY CONSUMPTION

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>1st Quarter FY 2011</th>
<th>2nd Quarter FY 2011</th>
<th>3rd Quarter FY 2011</th>
<th>4th Quarter FY 2011</th>
<th>YTD Total FY 2011</th>
</tr>
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<tbody>
<tr>
<td>ELECTRICITY, kWh</td>
<td>14,198,646</td>
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<tr>
<td>NATURAL GAS, ccf</td>
<td>241,391</td>
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<tr>
<td>STEAM, mlb</td>
<td>26,405</td>
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<tr>
<td>CHILLED WATER, tn-hr</td>
<td>3,292,850</td>
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<tr>
<td>ENERGY EQUIVALENT, kBtu</td>
<td>142,441,989</td>
<td></td>
<td></td>
<td>142,441,989</td>
<td>142,441,989</td>
</tr>
</tbody>
</table>

N:B: Natural Gas is used to produce the Thermal Energies of Steam and Chilled Water