



3410 Taft Boulevard, Wichita Falls, Texas 76308-2099
Office: (940) 397-4648 Fax (940) 397-4859

Memorandum

Date: October 8, 2015

To: Legislative Budget Board (LBB)

From: Kyle Owen

Subject: Energy Management Master Plan Update

Re: Midwestern State University's Strategic Management Master Plan, 2012-2017,
Originally Submitted November 9, 2012

Midwestern State University (MSU) provided an energy management master plan to the LBB in November 2012 in compliance with Executive Order RP 49. A yearly status report is to be provided so the following updates to items in the master plan are presented regarding changes since the 2012 submission and the 2014 update:

1. Replacement of T12 light fixtures to T8 in McCullough-Trigg dormitory: Funding limitations have slowed the conversion in the residence hall with ~15% of the fixtures converted in 2014 and none in 2015.
2. Well water irrigation of athletic fields: In June of 2013, a pumping and a distribution system for well water was installed to irrigate two sand-based football practice fields. In June of 2014, the installation of a reverse osmosis unit was installed as part of this well water system so the water could be used on clay-based competition fields (soccer and softball) as well as for hand watering select vegetation around campus. In May of 2015, a third well pump was installed, connected to the system, and a second storage tank was added. The well water system was also tied into one of the football field's underground sprinkler system to improve watering efficiency. A response to the water rights application submitted in August of 2013 to the TCEQ for the permanent use of a pond located on university property to irrigate clay-based competition softball and soccer fields has not been received.
3. Approximately 80% of the campus faucets had a flow limiting (0.5 GPM) aerator installed on them in 2015 to conserve water.
4. Procurement of favorable energy commodity contracts: MSU signed a four year electricity contract in June 2013 securing a low rate for four years. In June 2015 the provider offered a

“blend and extend” contract option to further reduce the rate and extend it for five more years.

5. Continuous self-commissioning of the newly updated energy management control system: Continue this ongoing effort to maximize efficiency and comfort level.
6. The SECO LoanSTAR Energy Conservation Project discussed in the master plan stated MSU anticipated an additional 2% reduction in energy consumption over each of the next five years. For FY15 compared to FY14, MSU observed a 0.36% reduction in electricity usage, a 1.81% increase in gas usage, and a 0.33% increase in water usage. For FY15 compared to FY13, MSU observed a 2.09% increase in electricity usage, a 0.44% increase in gas usage, and a 22.72% reduction in water usage. (The large reduction in water usage is primarily a result of limited irrigation due to the region’s severe drought.)
7. Excessive chill water use in a dorm recently determined the HVAC system was running chill water and hot water through its coils at all times. Relays (\$18k) were installed to turn off the unused cooling or heating system and reduce energy consumption.
8. A vendor conducted a performance contracting business case analysis to evaluate and propose potential utility savings. Recommendations included installation of energy management thermostat controls in all dorm rooms, installation of energy control window film, replacement of existing high flow vitreous fixtures, installation of occupancy sensors in campus buildings, LED light fixtures on the exterior of buildings, vending controls on vending machine locations, variable speed drives on the chiller compressors, energy saving transformers, and power factor correction. A decision to move forward with such a contract is still pending.