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A&M UNIVERSITY


Energy Conservation Project


Texas Higher Education Coordinating Board
Committee Meeting

June 28, 2017

Overview of Utility Cost Reduction Services

- Energy service partner Ameresco
- Energy conservation measures (ECMs) for 31 facilities on the main campus (1,581,918 total combined square feet) and 2 off-campus facilities in Houston to include the Northwest Houston Center and Nursing Building (604,799 total combined square feet)
- **Qualified Energy Conservation Bond (QECB)** program allows for projects with 20 year payback
- Provides loan subsidies to lower interest rate
- Third party review of project specifications
- Ameresco guarantees minimum savings sufficient to cover all costs
- Installation of the ECMs will:
 - Reduce electricity consumption by 8,774,446 kWh/yr
 - Reduce utility annual electricity demand assessments by 19,104 kW each year, averaging 1,592 kW per month
 - Reduce natural gas consumption 5,104 MCF/yr



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Project Benefits

- Items Include:
 - Interior Lighting Retrofits
 - Exterior Lighting Retrofits
 - Metering Instrumentation and Controls Improvement
 - Chilled Water Plant Improvements
 - Steam System Improvements
 - Demand Response
 - Variable Flow Chilled Water Distribution
 - Air Handling Unit variable frequency drives (VFDs)
- Longer payback period allowed inclusion of traditional capital items that would normally be done without any sort of payback
- Budget neutral approach with a longer term enables a more comprehensive solution
- Financing the needed improvements at low interest through energy savings that won't otherwise occur, and are guaranteed by Ameresco to occur each year for 18 years, is an attractive implementation option
- Optimization of the chilled water plant, which is the largest consumer of electricity on the campus
- Enhance reliability and quality of the facility operations



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Financial

- **\$15,302,030** (\$14,534,013 in QECBs; \$768,017 in institutional funds)
- **15.4** year simple payback on energy conservation measures
- **18** year financing term includes: project engineering, installation, financing costs, and ongoing measurement & verification and third party support services
- Paid from guaranteed energy savings
- Bond payments and ongoing support services averaged at **\$977,009**
- The average annual electricity and natural gas savings and demand response revenue from implementing the ECMs are at least **\$992,808** (Expected average of **\$1,094,766**)
- Project includes replacement of aging cooling tower components which will improve the reliability of the chilled water plant and be an avoided capital cost that will not have to be addressed in the future
- Not doing the project does not save money, as the University would be paying the above amount in the form of higher bills
- Project was approved by The Texas A&M University System Board of Regents in April 2017



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Summary

- Allows three major accomplishments
 - Reduce energy consumption
 - Replace capital budget items that are in poor condition without additional capital dollars
 - Addresses key comfort and learning environment improvements for students, faculty, and staff
- The cost will be paid by energy savings and guaranteed by Ameresco in a performance contract that has been reviewed by:
 - The Texas A&M System's Office of General Counsel
 - Prairie View A&M University's CFO
 - A registered Professional Engineer in the State of Texas unaffiliated with the contract has provided the legally required third party review
- Seeking approval to move forward with the energy savings project



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