

Completed Capital Improvement Projects

1. Central Utility Plant Upgrade
 - a. This project is associated with the replacement of three chillers, cooling towers, and associated pumps to serve existing loads as well as the new Bio Nanotechnology building.
 - b. Capital Investment = \$1,804,897
 - c. Energy Savings = 962,685 kBtu/Year
 - d. Cost Savings = \$19,744/Year
 - e. Completion: March 2011

2. Fribourgh Hall HVAC Upgrade
 - a. This project is associated with the complete renovation of the HVAC system which includes the installation of two new high efficiency chillers, the conversion from constant volume to variable speed pumping, the installation of a new cooling tower, the installation of new air handling units equipped with energy recovery units and CO2 sensors for demand controlled ventilation.
 - b. Capital Investment = \$2,266,013
 - c. Energy Savings = 1,569,980 kBtu/Year
 - d. Cost Savings = \$32,200/Year
 - e. Completion: December 2010

3. Administration South HVAC Renovation
 - a. This project replaced the existing HVAC equipment with more energy efficient equipment.
 - b. Capital Investment = \$2,111,078
 - c. Energy Savings = 975,900 kBtu/Year
 - d. Cost Savings = \$9,759/Year
 - e. June 2013

4. Campus Lighting Retrofits – Phase 1
 - a. This project is associated with the replacement of existing lighting with more efficient lighting in 16 campus facilities.
 - b. Capital Investment = \$348,388
 - c. Energy Savings = 2,637,728 kBtu/Year
 - d. Cost Savings = \$49,318/Year
 - e. Completed: 2014

5. District Cooling Expansion - Phase 1
 - a. This project is associated with the extension of the district cooling loop from the Donaghey Plant to the Theater Plant, the Library Plant, the Student Union "A" Plant, and the Student Union "B" Plant. This project also involves implementing variable speed pumping by converting 3-way valves to 2-way valves and installing building pump bypasses, where applicable. The project also includes an upgrade of plant pumps and controls.
 - b. Capital Investment = \$1,520,000
 - c. Energy Savings = 5,350,492 kBtu/Year
 - d. Cost Savings = \$109,738/Year
 - e. Completion: 2012

6. Distributed Generation Plant
 - a. This project is associated with master metering campus electrical service, installing standby generation and taking interruptible service from the utility.
 - b. Capital Investment = 12,769,851
 - c. Energy Savings = 0 kBtu/Year
 - d. Cost Savings = \$753,714

7. District Heating and Cooling System Upgrade and Expansion – Phase 2
 - a. This project is associated with expansion the District Cooling Loop by connecting DSC Loop and SCEP Loops together buildings on campus, installing 3 heat pump chiller heaters and expanding the heating loop to 14 buildings.
 - b. Capital Investment = \$7,579,510
 - c. Energy Savings = 131,248,061 kBtu/Year
 - d. Cost Savings = \$924,921

8. Building Automation System Upgrade and Retro commissioning Building HVAC System
 - a. This project is associated with intergrading the campus building automation system, installing DDCx Energy Software, and evaluating, testing, adjusting, and correcting building systems to improve energy efficiency, comfort, and environmental quality at 13 buildings.
 - b. Capital Investment = 2,228,004
 - c. Energy Savings = 55,614,540 kBtu/Year
 - d. Cost Savings = \$791,371