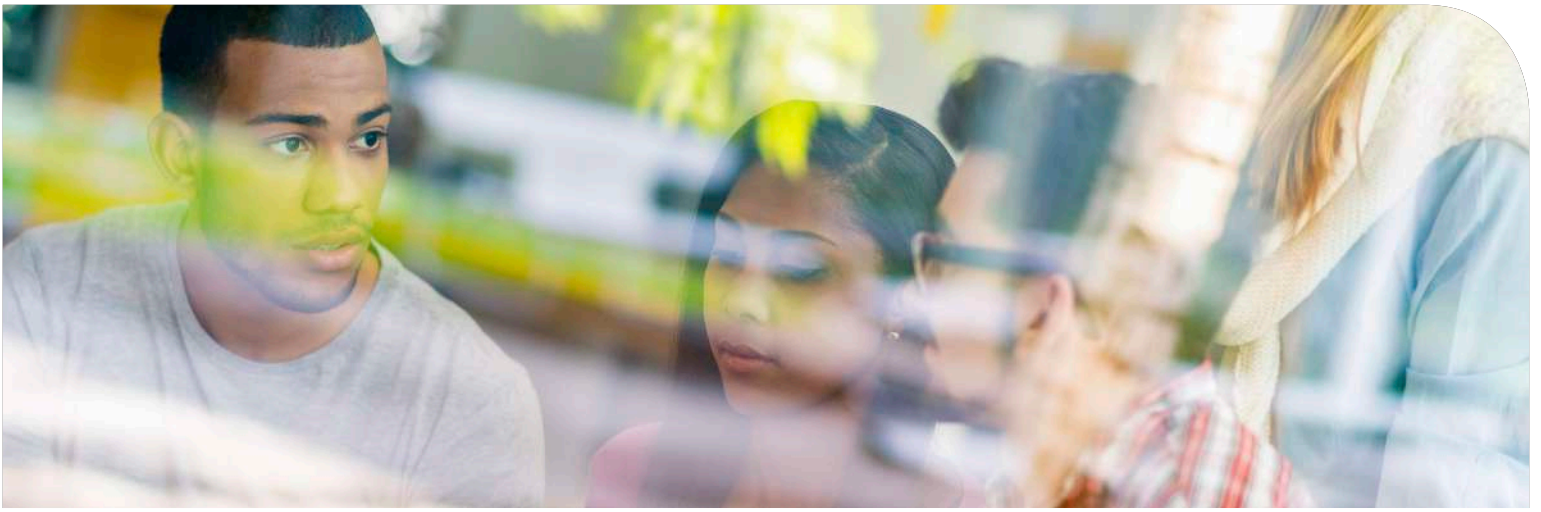


UNIVERSITY OF MINNESOTA

Veolia helps University of Minnesota meet their heating needs



Providing reliable heat to 70,000 students in the coldest metropolitan area in the United States.



UNIVERSITY OF MINNESOTA



Facility Facts

5-year
O&M contract

15 years
of renewal options

2
high-pressure steam heat
facilities

22 MW
cogeneration plant (Dec 2016)

250
campus buildings including U
of MN Medical Center

Scope

The University of Minnesota selected Veolia to meet the heating needs of its Minneapolis/St. Paul (Twin Cities) campus by providing Operation and Maintenance (O&M) services at two steam heating facilities. Veolia will also assume O&M of a new state-of-the-art 22 MW combined heat and power plant (CHP) upon commissioning in 2016. During design of the new CHP, Veolia is charged with providing operational insight and perspective.

Challenge

Located in the coldest major metropolitan area in the U.S. and spread across three distinct areas in two municipalities, the vast Twin Cities campus is home to more than 70,000 students, faculty and staff, and includes the University of Minnesota Medical Center. Emission standards must be met by the existing system which consists of equipment in operation since the 1940's, so coaxing maximum operational efficiency out of the facility was paramount - as was system reliability. Outdated piping and instrumentation diagrams created difficulties in ensuring proper system isolation during maintenance periods. Efficient O&M of the new CHP will be critical to help the University further decrease its carbon footprint.

Solution

Key Performance Indicators (KPI) were established for Equipment Availability, System Pressure Maintenance, and Plant Maintenance to drive Overall System Reliability. The Veolia O&M team targeted system disruptions and pressure drops, combined with maintaining a 90% on-time completion rate for critical asset maintenance items to guarantee System Reliability from existing facilities. Controls are slated for upgrade to provide better coordination between energy output and the University-operated distribution system, and maintenance metrics are being tracked – with an upgrade to MAXIMO in progress. U of MN Engineering interns get valuable training as they collaborate with Veolia professionals to update piping and instrumentation diagrams, while Veolia implements its Environmental Health & Safety (EH&S) program facility-wide. During design of the new CHP Plant, Veolia's input is helping ensure the combustion turbine and associated equipment will function at optimal efficiency.

Result

In addition to meeting all performance requirements while also achieving substantial cost savings over the first year, the Veolia O&M team is providing reliable energy for this complex system within 15% of the facilities' design rate. Maintenance tracking assures that aging equipment will be maintained or replaced in a timely fashion, thereby extending the life of the existing facilities. Veolia's EH&S program has shifted the safety culture from reactive to preventive.

