

Energy Infrastructure

University of Rhode Island Kingston, Rhode Island

Project Cost: \$22,000,000

Annual Cost Savings: \$1,100,000

Facility Description: 115 Municipal Buildings

*Contract Term: Phase 1: 12 Year Energy Services Contract
Phase 2: 20-year Energy Services Agreement*

*Installation Period: Phase I - Fall 1985- Summer 1988
Phase II - Fall 1998 – Fall 1999*



Distributed throughout campus, NORESKO's energy conservation measures have saved over \$5 million. These measures include the installation of numerous central chiller plants, over 300 kW of distributed generation, over 12000 lighting fixtures, over 150 motors, over 6 miles of underground steam and condensate piping as well as a campus-wide energy management system that provides the feedback to the maintenance shops on the location of any potential heating or cooling problem.

In addition to installing four water tube boilers at the main steam plant, NORESKO added new pumps, motors, compressors and piping, and renovated some associated equipment. The Company also undertook a major redesign and installation of underground steam and condensate piping to the university buildings. All work was performed with minimal disruption to campus activities. The construction effort was closely coordinated

with the university's Buildings and Grounds, Capital Projects, Police and Fire, and other departments. The improvements included:

Environmental Hazard Abatement

Removing all asbestos and conducting a lead abatement program within the more than 80-year-old steam plant. NORESKO also removed underground fuel oil storage tanks and replaced them with an above-ground fully contained system.

Central District Heating Plant

Installing four new water tube boilers along with all associated pumps, motors and compressors and all new piping as well as connections for gas, water and electric utilities. In addition, NORESKO installed an emergency generator. The project included first demolishing and removing all old boilers, piping and associated equipment, and renovating the plant's 175-foot-high stack.

NORESCO did not disturb the original stonework of the building exterior and operated the plant throughout the construction period.

Steam Distribution System

Redesigning and installing over 6 miles of new underground steam and condensate piping to the university buildings using state of the art pre-insulated welded steel piping systems for high energy efficiency and minimal maintenance. This includes adding new pumps within the buildings and new manholes throughout the campus. NORESKO also tested the entire network.

Control System

Installing a new control system to sense changing heating requirements and automatically adjust plant output and the number of boilers on-line. The 2000-point campus-wide energy management system manages the energy through out campus

Benefits

With NORESKO's facilities management unit providing full service on-site and the operation of new higher efficiency boiler and steam distribution systems, the University of Rhode Island is benefiting from NORESKO's wide range of expertise in minimizing energy costs.

NORESCO is the nation's most experienced energy service company providing comprehensive and proven energy-efficiency solutions and infrastructure development and operations strategies to a wide range of customers. A recognized industry leader installing and operating over \$1.4 billion of proven energy solutions in diverse markets across the nation, NORESKO has built on-site energy infrastructure generating more than 300 megawatts of power, and has helped customers improve energy efficiency saving over 31 billion-kilowatt hours of electricity and 71 trillion Btus of fuel.



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