

NEW HAMPSHIRE DEPARTMENT OF ADMINISTRATIVE SERVICES PHASE I AND PHASE II ESPC



The New Hampshire Department of Administrative Services (NH DAS) is located in Concord, New Hampshire. The NH DAS includes the Commissioner's Office, a Risk Management Unit, Plant and Property Management, Financial Data Management, a Project Management Office, Human Resources, Procurement and Support Services and Public Works Design and Construction. Con Edison Solutions competitively bid on and was awarded both phases of the Energy Savings Performance Contract (ESPC) project, including engineering, design, construction management, commissioning, training, environmental, health, safety and quality approvals, and ongoing measurement and verification services and continuous commissioning for five years.

Phase I:

Through a Request for Proposal, NH DAS solicited proposals from contractors capable of providing comprehensive energy management and energy-related capital improvements in four state facilities managed by the Plant and Property Management group. Con Edison Solutions was selected to partner with the NH DAS in achieving its goals of reducing fossil fuel use, upgrading building systems and reducing operating costs. This project focused on four state facilities totaling 610,000 square feet.

Con Edison Solutions conducted a Comprehensive Energy Audit (CEA) at each facility. After NH DAS review and Governor and Council approval, an energy performance contract valued at \$12.7 million was executed. As a result, Con Edison Solutions implemented extensive energy efficiency upgrades, including a 73 kW DC rooftop solar PV system and a new 8.3 MMBtu biomass boiler using carbon-neutral woodchips as fuel to supply steam to its largest buildings. In addition, a comprehensive program of HVAC upgrades addressed numerous operational deficiencies in the facilities.

PROJECT DATA

CONSTRUCTION DATES

Phase I: March 2015 - April 2017
Phase II: June 2018 - March 2020

SYSTEM SIZE

Phase I: 610,000 sq. ft. across 4 state-owned facilities
Phase II: 1,326,868 sq. ft. across 28 state-owned facilities

PROJECT VALUE

Phase I: \$12.7 million
Phase II: \$8.1 million

FINANCING

Third-party financing through a leasing agreement

ANNUAL SAVINGS

Phase I: \$950k
Phase II: \$600k

ENVIRONMENTAL BENEFITS

Phase I:

- 8.8 million lbs. of CO₂ avoided - the equivalent of taking 980 cars off the road
- 34% reduction of Sulfur Dioxide (lbs. of SO₂)
- 35% reduction of Nitrous Oxides (lbs. of NO)

Phase II:

- 2,495 metric tons of CO₂ avoided – the equivalent to taking 520 cars off the road
- 39% reduction in Electricity Use
- 31% reduction in natural gas use; 39% reduction in Sulfur Dioxide (lbs. of SO₂)
- 39% reduction in Nitrous Oxides (lbs. of NO_x)

Phase II:

The second phase of the project focused on twenty-eight state facilities totaling 1,326,868 square feet, which included a variety of General Services buildings, state offices and hospital facilities.

Con Edison Solutions conducted a CEA at each facility. After NH DAS review and Governor and Council approval, an energy performance contract valued at \$8.1 million was executed. As a result, Con Edison Solutions expanded the building management systems and installed new gas-fired condensing boilers and hydro-air heating systems, as well as installed three rooftop solar PV systems totaling 150 kW DC. In addition, there were extensive lighting upgrades in all of the facilities and more than 100 other energy efficiency projects. This project was integrated with several other NH DAS projects that converted most of the 28 facilities from central steam heat heating to natural gas and other types of heating systems.

Phase I:	Phase II:
<ul style="list-style-type: none"> • Lighting • HVAC and Boilers (including Biomass Boiler and Building) • Complex Laboratory Ventilation and Controls Upgrades • Building Controls and Monitoring • Motors and VFDs • Building Envelope • Renewable Energy Systems • Water Conservation Measures • Transformers and Power Factor • Smart Plugs • Solar PV System 	<ul style="list-style-type: none"> • Lighting Systems and Controls Upgrades • HVAC and Heating Upgrades • Building Automated Controls Systems and Monitoring • Motors and VFDs • Building Envelope Improvements • Renewable Energy Systems • Electric Distribution and Transformer Upgrades • Water Conservation



The Rooftop Solar PV system installed on the Records & Archives Building consists of 2 arrays with 240 solar modules totaling 73 kW DC.



New windows approved by NH State Historic Preservation Office being installed at Main Building.