

Northport Veterans Affairs Medical Center

Utility Energy Service Contract (UESC)



An air-crane was used to remove the older, failed cooling tower equipment off of the main hospital, building 200, and to install the new, energy efficient cooling tower equipment onto the roof.

The Northport Veterans Affairs Medical Center (Northport VAMC), located in Northport, New York provides a full complement of healthcare services to our nation's veterans. The facility has recently joined the VA Upstate New York Veterans Healthcare Network known also as VISN 2. This 277 acre campus consists of buildings located throughout the property including a main hospital building and numerous support buildings. The main chiller plant is in the basement of the main hospital building and also serves two support buildings. Chilled water is distributed through the facility by four primary chilled water pumps headered together in a parallel pumping configuration.

On March 10th, 2015, a critical system failure occurred at the Northport VAMC that resulted in the building's chiller plant being taken offline. An emergency chiller rental consisting of four air-cooled chillers was secured and installed onsite to produce chilled water to the facility during the plant outage. The existing chillers, condenser water pumps, and cooling towers had to be taken out of service. The facility's existing chilled water distribution pumps were still able to circulate chilled water from the temporary chillers through the campus' main hospital building and its two support buildings.

To remedy their emergency situation, administrators at Northport VAMC took innovative action by utilizing a Utility Energy Services Contract (UESC). The Northport VAMC Cooling Tower Replacement Project was awarded by the Northport VAMC to National Grid on July 14, 2016. Task Order No. VA701-16-F-0019, a 14-year Energy Conservation Project, was issued under a Negotiated Utility Area-wide Contract between National Grid and the General Services Administration.



PROJECT DATA

LOCATION

Northport, NY

SIZE

The primary focus of this UESC project was the 456,108 sq. ft. Main Hospital building, a critical part of the 277-acre Medical Center campus.

CONSTRUCTION DATES

July 2016 to July 2017

IMPLEMENTATION PRICE

\$12,601,653

ANNUAL SAVINGS

\$1.1 Million

TERM

14 Years

PERFORMANCE ASSURANCE

Yes. Annual M&V for the 14-year contract term

FINANCING

Con Edison Solutions facilitated the financing for the UESC project through Dominion Federal

CONTRACT MODS + PHASE II

Con Edison Solutions was selected to be the continued ESCO partner of the Northport VA through contract Mods, for the original contract, and a separate, Phase II UESC.

The Task Order was awarded by Northport VAMC to the local utility, National Grid, based on Consolidated Edison Solutions, Inc. (Con Edison Solutions) acting as the prime energy conservation contractor to National Grid. The Scope of Work performed under the Task Order included the design, construction, commissioning, and measurement and verification of energy savings associated with the replacement of cooling towers, at the Northport VAMC.

Under this UESC, Con Edison Solutions was responsible for the replacement of the following facilities equipment:

- 4 Cooling towers on the roof
- 2 existing vertical risers
- 4 existing condenser water pumps
- 4 existing chilled water pumps
- 1.5 miles of condenser and chilled water piping connecting the above equipment
- A chiller plant controls system

The cooling towers and riser pipes were at the end of their service life and required replacement apart from the equipment casualty. Con Edison Solutions has installed equipment with a longer service lifespan and paired these assets with an energy-efficient controls system to improve system performance and overall patient and staff comfort.

The removal of the emergency rental units saved the Northport VAMC over \$1 million dollars annually, while the energy efficient equipment installed reduces the electricity consumption cost by another \$90,000 annually.

Helicopter Airlift Crane

An equipment lift of this nature could be executed using a crane. However, given the nature of the facility and the needs of the hospital, it was the VA's preference to complete the lift much quicker than scheduling a crane could provide. More importantly, using a crane would have closed the entire hospital which was not feasible. An alternative approach was the helicopter airlift. An Erickson S-64F heavy lift air crane was used to remove 97 tons of failed equipment from the roof of the main hospital, including 8 cooling tower cells, which contained demolished pipe, steel grating, conduit, and wiring.

The new equipment that was air lifted onto the roof was approximately 80 tons and included 4 cooling towers, 2 filtration units, 2 structural steel assemblies, and approximately 300 feet of various diameter steel pipe. The air lift operation included 23 total round trips and 7 fuel stops which totaled 6.5 hours. During this time, it was imperative to balance effectiveness, efficiency, timeliness, and operational needs.

The proper planning and coordination was a key element to the successful operation. The team worked fast, yet safely. In fact, the team successfully completed the operation in about 40% of the time that it was anticipated to take.

A total of 48 personnel were on site during the operation in three locations (rooftop, dumbwaiter shaft, helipad staging area). The 48 personnel was a diverse group comprised of the following trades: Supervision (4), Aviation (11), Riggers (12), Pipefitters (7), Ironworkers (5), Laborers (4), CES Media/Development (5). An additional number of VA personnel were involved including the VA Fire Department, VA Police Department, VA emergency operations team, and VA engineering staff.

The safe execution of this helicopter air lift is a huge milestone and the project's outcomes will be in effect for the 30-35 years of useful life of the equipment.

Contract Modifications and Phase II

Based on the successful development and implementation of the original scope of work, the Department of Veterans Affairs issued additional modifications to this UESC project, and initiated a Phase II UESC. The additional scope of work will help the Northport VAMC achieve approximately \$40 million dollars of additional energy-related improvements at their Medical Center.