



NATIONAL INSTITUTES OF HEALTH BETHESDA & POOLESVILLE, MD



The National Institutes of Health (NIH), the nation's steward of medical and behavioral research, entered into an energy services partnership with NORESCO to implement comprehensive energy efficiency and infrastructure improvements at their main campus in Bethesda, MD, and their facility in Poolesville, MD. The success of the first project led to a second Delivery Order that has since been completed, and a third Delivery Order with an additional \$12 million in equipment and systems improvements that have been developed and proposed for implementation. NORESCO's solutions to NIH's infrastructure and energy efficiency problems have incorporated several innovative technologies:

- A lighting retrofit program covering approximately 6,000 fixtures.
- Existing toilets and urinals were replaced with low-flow fixtures, resulting in reduced annual water/sewer charges and maintenance, as well as greater reliability.
- Over 220 steam traps, 20 condensate return units, and over 4,100 equivalent feet of insulation were installed, and 36 piping leaks were repaired to reduce energy loss and makeup water requirements.
- Over 118 meters were installed in building chilled water, steam, domestic water, and compressed air lines and connected to a central monitoring system. This measure was expanded to an additional two campus buildings in the second Delivery Order project.
- A new reverse osmosis system was installed to capture a portion of the cooling tower, boiler, and cogeneration steam generator blowdown. The recycled water is used for tower, boiler, and cogeneration makeup water, directly reducing the makeup requirements from the city water source.
- Vent condensers were installed in the steam condensate return systems to reduce year-round steam venting that results in wasted energy and water from lost condensate. This measure also reduces premature equipment failure and unsightly steam venting.
- A steam trap monitoring system was installed for high-pressure traps. This system provides real-time status of traps that have failed, eliminating the need to test traps manually.

Delivery Order No. 003 construction is expected to begin in the first quarter of 2008 and includes energy conservation measures (ECMs) at three different NIH sites. The scope of work for this project includes the use of innovative, state-of-the-art ECMs, such as advanced metering, steam distribution upgrades and metering, solar photovoltaic (PV), and lighting and water fixture upgrades.



Facility Type:	Medical Research
Facility Size:	7.5 million sf
Type of Contract:	ESPC
Term of Contract:	9 yrs, 12 yrs
Total Capital Cost:	\$13,700,000
Average Annual Savings:	\$2,360,000
Total Cost Savings:	\$23,640,000

" I have over 26 years of experience in Government Contracting and I wish all of my contractors had NORESCO's philosophy and work ethic. This has been a very rewarding partnership in that NORESCO delivers what is in the Delivery Order on time with no excuses and a quality product/service. NORESCO is a "Best Value" contractor."

Ora L. Bethea
Contracting Officer
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