

NVRH Working With Efficiency Vermont

ST. JOHNSBURY — At Northeastern Vermont Regional Hospital, energy efficiency supports NVRH's mission to provide quality health care services that are focused on community needs at the lowest cost consistent with excellent care. To increase savings and comfort for both patients and staff, NVRH and its team of design engineers collaborated with Efficiency Vermont on its latest project, a large-scale expansion and renovation that enhances 33,000 square feet of the facility.

Located in Vermont's Northeast Kingdom, NVRH is a community, nonprofit, acute care, and critical access hospital. NVRH has long recognized the role energy efficiency can play in helping achieve the patient care mission.

"It was really a no-brainer to upgrade our older, energy-inefficient equipment and lighting to newer, more efficient options," said Richard Degreenia, director of plant operations at NVRH. "We're cutting energy costs so we're better able to serve our community — the patients who come here every day for the best medical care."

NVRH undertook its expansion to improve accessibility and workflow and also to create additional space for treatment rooms, including the hospital's X-ray area and day-surgery unit. Expanded office space, nurses' stations and waiting rooms are also now part of the hospital's enhanced space.

Expansion typically means consuming more energy, but NVRH was able to make significant expansions without increasing energy costs. Working together, NVRH and Efficiency Vermont identified cost-effective energy solutions that would not only benefit the hospital financially, but also improve comfort for employees and patients. Adding a more efficient lighting design and upgrading the hospital heating, ventilation and air conditioning (HVAC) system were at the crux of the work.

The lighting and HVAC measures help NVRH save 431,000 kWh annually, which translates to an estimated cost savings of more than \$47,000.

HVAC upgrades significantly contributed to those savings numbers. NVRH switched from using a constant-volume air system to a variable-air volume system, also called a VAV system. A VAV system offers two primary advantages: the fan capacity control allows the hospital to control fan speed, reducing en-

ergy consumed by fans, which can be a substantial part of the total cooling energy requirements of a building. Another advantage is more efficient temperature control.

NVRH engages in "daylight harvesting," using sensors and controls to keep lights off when the natural illumination from skylights will provide sufficient light levels.

NVRH also installed lighting monitors in public spaces, like lobbies. The monitors lower light levels in the absence of activity — for example, when someone leaves a room, or area. This energy-smart approach to lighting was achieved by thinking about energy efficiency and incorporating ideas early on in the design process.

"When a design team brings in Efficiency Vermont from the start, we're able to work together to find the greatest energy savings at the lowest possible cost to the building owner," said Sheryl Graves, energy consultant at Efficiency Vermont. "That's because the planning stage is the most cost-effective time to incorporate efficiency. It's a great feeling to support the design team's vision for a building that will mean significantly lower overhead for the owners for years to come."

NVRH has worked with Efficiency Vermont since the organization's inception in 2000, joining several Vermont hospitals that have taken the initiative to install energy-saving measures in partnership with the energy efficiency utility.

After nearly a decade of energy efficiency work, NVRH's Degreenia still has more projects on his mind, including a potential LED installation for the hospital building

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and parking lot lighting.

Efficiency Vermont was created by the Vermont Legislature and the Vermont Public Service Board. Efficiency Vermont is currently operated by Vermont Energy Investment Corporation (VEIC) under contract to the Vermont Public Service Board. VEIC is a Vermont-based nonprofit organization founded in 1986.