



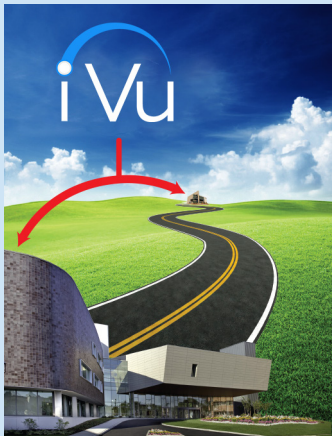
CASE STUDY



Shore Medical Center

MAXIMUM EQUIPMENT EFFICIENCY, ENHANCED PATIENT CARE, LEED® CERTIFICATION AND ENERGY REBATE AT SURGICAL PAVILION

PRECISE REMOTE COMPONENT MONITORING WITH I-VU® CONTROLS IMPROVES COMMUNICATION AND SAVES COSTLY DRIVE TIME.



The i-Vu® Pro web-based user interface allows facilities staff at the Shore Medical Center main campus to troubleshoot heat pumps at the Dialysis Center, several miles away.

Project Objectives

Shore Medical Center provides a broad range of healthcare to the people of southern New Jersey, with a hospital facility in Somers Point and a regional Dialysis Center several miles away. In order to meet the needs of a diverse population in the 21st century, the hospital leadership decided to add a new Surgical Pavilion on the main campus. This new facility would need to maximize energy efficiency in its cooling system as Shore Medical aimed to obtain a LEED® (Leadership in Energy Efficiency and Design) certification. Additionally, HVAC equipment at the Dialysis Center would need to be integrated in real time, saving facilities staff travel time when troubleshooting equipment at the remote location.

“While the technical capabilities of the I-Vu® interface are excellent, it’s the savings – in both time and money – of combining system monitoring, diagnostics and notification by eMail that make it an invaluable tool for us.”

– Anthony Carino,
Chief Engineer for
Shore Medical Center

The Solution

To meet the customer’s goals of quality patient care and high efficiency, Ballinger, a Philadelphia-based architectural/engineering firm, was commissioned to design the new surgical pavilion and central plant. Ballinger, aided by Carrier as the basis of design, recommended an “N+1” cooling system in which each component has a back-up device for safety and reliability — specifying two 23XRV chillers and one 30HXC chiller. Carrier also provided an i-Vu®



Pro web-based user interface to integrate the chillers with some existing equipment and the existing BACnet® Building Automation System. The i-Vu Pro interface allows facilities staff at the main campus to monitor the activity of heat pumps at the Dialysis Center several miles away. The Evergreen chillers qualified for a \$117,000 rebate from the New Jersey Clean Energy Program™, and Shore Medical Center achieved a LEED certification for the new Surgical Pavilion.



Synopsis

Shore Medical Center, formerly known as Shore Memorial Hospital, provides a broad range of healthcare to the people of southern New Jersey. The main campus is located in Somers Point, with a regional Dialysis Center in Northfield, about 4.5 miles away. In order to meet the needs of a diverse population in the 21st century, the hospital leadership decided to add a new Surgical Pavilion where physicians and staff in the facility's numerous Centers of Excellence could employ the latest technology to provide optimal patient care in safe, comfortable surroundings. The resulting pavilion houses 11 state-of-the-art surgical suites; beautifully appointed patient and family areas offer soothing views of the bay.

Hospital leadership wanted to maximize energy efficiency in the cooling system of the new facility, and aimed to obtain a LEED® (Leadership in Energy Efficiency and Design) certification. Sustainable features included a white roof and rooftop gardens, and the exclusive use of building materials manufactured within 500 miles of Somers Point.

To meet the customer's goals of quality patient care and high efficiency, Ballinger was hired to design the new facility. Aided by Carrier as the basis of design, Ballinger recommended an "N+1" cooling system in which each component has a back-up device for safety and reliability — specifying two 23XRV Evergreen® chillers and one 30HXC Evergreen chiller as an emergency back-up. With a peak facility load of 700 tons, the 200-ton 30HXC chiller provides emergency redundancy for either 500-ton 23XRV chiller. The 23XRV chillers have an Integrated Part-Load Value (IPLV) of .326 kW/ton, a marker of very high efficiency in operation.

Darryl Hitchcock, Sales Manager at Carrier, said, "The 23XRV Evergreen chillers are so reliable that even when, at start-up, the cooling towers were returning water that was above optimum temperature, the chillers just kept running efficiently while we resolved the situation."

Carrier also installed an i-Vu® Pro web-based user interface to integrate the new chillers with some existing equipment and the existing BACnet® Building Automation System. Anthony Carino, Chief Engineer for Shore Medical Center, said, "The trending capabilities of the i-Vu interface are superb: we know at any moment what any given component is doing. In the event of an alarm, the system will alert me by text or email so I can act immediately, and the diagnostics make it simple to determine the problem. In addition, the i-Vu interface is a real time- and energy-saver because we can monitor the heat pumps at the Dialysis Center from our offices here on the main campus, which saves us a twenty-minute drive each way. We can tell immediately whether there is a problem in Northfield, without losing all that valuable time."

Shore Medical Center's efforts to build a sustainable healthcare facility have been rewarded. The 23XRV Evergreen chillers qualified for a \$117,000 rebate from the New Jersey Clean Energy Program™, an energy-efficiency initiative of the New Jersey Board of Public Utilities. And Shore Medical Center achieved a LEED certification for the new Surgical Pavilion, a notable achievement for an institution with a commitment to sustainability and excellence.

Project Summary

LOCATION: Somers Point and Northfield, NJ

PROJECT TYPE: Cooling system for new surgical facility; web-based controls interface for multi-building complex.

BUILDING SIZE: 149,000 square foot new Surgical Pavilion; 349,000 square foot medical center complex at Somers Point.

BUILDING USAGE: Healthcare

OBJECTIVES: Provide safe, reliable comfort to patients and staff; maximize energy efficiency in new pavilion; obtain LEED® (Leadership in Energy Efficiency & Design) certification for new facility.

EQUIPMENT: Two 23XRV Evergreen® Chillers, one 30HXC Evergreen® chiller

TOTAL COOLING TONS: 1,200

CONTROLS: i-Vu® Pro web-based user interface integrating new chillers, existing equipment at two locations, and an existing BACnet® Building Automation System.

BUILDINGS INTEGRATED: 2

MAJOR DECISION DRIVERS: Evergreen® chillers' reliability, redundancy and efficiency; ability of the i-Vu® Pro user interface to integrate new and existing equipment and the existing BACnet Building Automation System.

UNIQUE FEATURES: 23XRV Evergreen® chillers qualified for \$117,000 rebate from New Jersey Clean Energy Program™. i-Vu® Pro user interface integrates equipment at two locations several miles apart, saving facilities staff travel time when troubleshooting equipment at the remote location. Shore Medical Center Surgical Pavilion obtained LEED® certification.

INSTALLATION DATE: 2010

For more information, contact your Carrier representative, call 1.800.CARRIER or visit carrier.com/commercial

