



Leesburg Regional Medical Center Operating Rooms Renovations

Hill York executed a challenging implementation schedule to help Leesburg Regional Medical Center attain new indoor environmental code compliance for comfort in their operation rooms without disrupting surgeries.

Project Name and Location:

Leesburg Regional Medical Center
600 E Dixie Ave, Leesburg, Florida 34748

Client/Owner Contact:

Central Florida Health Alliance

Completion Date:

August 2013



Project Scope:

In 2012 the Central Florida Health Alliance faced a double-edged challenge when new indoor environmental codes were adopted that dramatically changed the space comfort requirements for operating rooms. The existing HVAC systems serving Leesburg Regional Medical Center's, LRMC, surgical suites required a major overhaul, and the work would have to be done without interfering with the hospital's ability to perform surgeries.

Needing a project partner with a proven track record of managing implementation schedules that keep day to day operations running smoothly, LRMC called Hill York Air Conditioning and Energy Solutions.

"It was crucial to partner with a company that could not only attain code compliance, but also effectively coordinate and communicate with our project team," stated David Taylor, Central Florida Health Alliance's System Director, Plant Operations and Facilities. "Based on their past work for us, we were confident in Hill York's ability to deliver results under the demanding circumstances."

Project Challenges:

The newly adopted American Society of Heating, Refrigerating and Air-Conditioning Engineers, ASHRAE, Standard 170-2008 outlines required indoor temperature, relative humidity conditions, and minimum outdoor air changes for surgical areas. This standard is more stringent than previous healthcare guidelines, calling for an increased amount of air changes while continuing to maintain temperature and relative humidity ranges. As a result, LRMC needed to install an HVAC system that was capable of maintaining these new requirements. A glycol chiller system was selected as the most appropriate design, and Hill York began the planning stages of the construction project.

The Operating Rooms at LRMC are served by three separate air handling systems and consists of nine Operating / Surgical Cystoscopic Rooms, sterile storage rooms, and other critical areas. Virtually all major surgeries administered by the hospital occur in this area presenting immediate challenges as certain surgeries can only be performed in specific operating rooms. Additionally, executing this broad scope of work at the highest Infection Control Risk Assessment (ICRA) level added to the project's degree of difficulty. Through coordination with the surgical staff, the AHU change-outs, CAV box replacements and DDC controls installation could be performed for each respective area without impeding the hospital's ability to perform specific surgeries safely.

"The coordinating and implementing of construction-related ICRA life safety plans was critical," observed Hill York Project Manager Seth Sturgill. "Our project partners at the hospital did a seamless job of keeping hospital staff updated on routing changes around and within the surgical suites. The appropriate Life Safety Plans were also clearly posted, implemented and ready for quick reference."



Project Solution:

To maintain the new strict guidelines, Hill York recommended that LRMC install a glycol system consisting of one new air-cooled glycol chiller, a pumping package, three air handling units, and 28 pressure independent constant air volume boxes with reheat coils. The design intent of this system is to maintain low temperatures between 60° and 65°F, while keeping relative humidity conditions within industry acceptable ranges of 30-60%, all while maintaining the required ventilation rates.

In collaboration with OR staff, the facilities team and project subcontractors, Hill York developed a detailed and aggressive construction phasing plan broken up by each air handling system. In order to keep portions of the operating areas functional during construction, the project was completed in five separate phases, all with strict timelines to minimize operating area disturbance. The Hill York project team met with various personnel within the hospital including construction coordinators, maintenance supervisors, nursing staff, security staff members, and ICRA personnel in order to identify times when certain parts of the operating area could be temporarily closed for construction activity.

“Portions of the schedule for each phase were planned down to the hour and coordination between the different groups within the project team couldn’t have gone better,” explained Sturgill. “It flowed smoothly from the moment Director of Preoperative Services Laurie Harsh gave us the thumbs up that they were wrapping up in the operating rooms for the day and we were cleared to proceed with building our containment for construction, to the time we finished and environmental services came in for cleaning.”

At the completion of the renovation project, Leesburg Regional Medical Center had not only elongated the life expectancy of the operating rooms’ HVAC systems, but it had also improved the indoor environment within the surgical suites. Positive feedback from doctors and nursing staff cite both improved thermal comfort and work productivity. “This was a total team effort,” Sturgill stated. “Our project partners at the hospital were right by our side throughout – from onset all the way through AHCA inspections. This enabled day to day coordination to be spot on and allowed quick resolution of any issues that arose during construction. The team approach at LRMC led to a project that was completed on time and under budget, two very important criteria when gauging overall success.”