

RENOWN REGIONAL MEDICAL CENTER

HVAC EQUIPMENT UPGRADES AND WEBCTRL® BUILDING AUTOMATION SYSTEM HELP IMPROVE INDOOR AIR QUALITY FOR CANCER PATIENTS



THE PLAYERS

The importance of ensuring and maintaining healthy building environments is now more critical within today's hospital settings. Public areas, emergency rooms, patient rooms, surgical suites and treatment centers all require their own unique air quality standards and safety protocols. In Reno, Nevada, Renown Health is northern Nevada's healthcare leader with an extensive network of hospitals, urgent care centers, lab services, x-ray and imaging services, and more than 7,200 employees.

The Renown Health Board determined the need to further protect their award-winning Renown Health Institute for Cancer Radiation Therapy from airborne contamination in order to maintain a healthy building environment. As such, they reached out to the local Automated Logic dealer, Quality Control Systems (QCS) of Reno, Nevada to provide a recommended solution that would meet the new Indoor Air Quality (IAQ) requirements, while maintaining compatibility with their existing control system.

THE SOLUTION

With a long-standing relationship with Renown, QCS proposed and delivered an HVAC equipment and controls solution that helped improve IAQ. The final retrofit solution would require converting the existing plenum return air to a ducted system which would allow a controlled introduction of fresh outside air.

Eighty percent of the retrofit project took place in the fully-functioning Renown Health Institute for Cancer Radiation Therapy. All work had to be completed in the evenings, which included the installation of new equipment and to ensure that a spotless environment was ready for patients the next day. All this taking place every night for nine months during the COVID-19 pandemic.

The complexity and logistics of the project involved the installation of new return air ductwork in ceilings full of supply air ductwork and a myriad of ancillary system components. Existing fan-powered boxes were replaced with new VAV boxes. Also, existing equipment, ductwork and ancillary components located throughout three floors, the basement, and rooftop required removal. The initial phase began in the basement, with the replacement of the existing HVAC system, construction of a 15' x 20' room, and installation of a patented fan wall system, VFDs and controls. New duct work had to be installed from the rooftop to the basement to bring in fresh, conditioned outside air down to the fan wall. The isolation room located on the third floor was structurally modified to support new exhaust fans on the roof. Once installed, their ductwork was connected to the first floor isolation room's exhaust fans.

For precise system operation, optimal energy efficiency and full management capabilities, Automated Logic sensors, controllers and routers were installed throughout the entire project. Each Automated Logic component combined to form a single, unified network which allowed the WebCTRL building automation system (BAS) to provide centralized control over all of the new components.

THE CHALLENGE

- Improve IAQ to cancer treatment area.
- Provide remote monitoring capabilities for all new HVAC components.
- Upgrade the outdated and inefficient plenum return.
- Execute all retrofit work in the evening and leave the work area spotless on a daily basis.



An integral component of the upgrade to the Renown Health Institute for Cancer Radiation Therapy was the installation of a fan wall with Automated Logic controls to help remove airborne contaminants and improve IAQ.

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RENO, NEVADA

THE RESULTS

After adding new HVAC components and controls, Automated Logic’s WebCTRL building automation system delivered precise monitoring and management capabilities, while improving overall IAQ at the Renown Health Institute for Cancer Radiation Therapy. The overall success of this project was due to the collaborative efforts of QCS and Renown’s building operation’s staff.

The Renown project involved complex HVAC system modifications, construction of a new fan wall ‘room’ in the basement, duct rerouting to bring in fresh outside air and the integration of Automated Logic controls to accurately control, monitor and manage all the new mechanical components.

“There were many moving parts to this important IAQ project for Renown,” said Richard Massa, QCS’s Director of Controls and Services. “Because we were working in a hospital setting operating during the day, the demo, construction, installation, controls integration and commissioning had to be balanced between on-and-off hours.”

Renown Health has successfully utilized Automated Logic controls and the WebCTRL building automation system (BAS) throughout their entire campus for over three generations. In addition to its controls integration, part of the Renown Health Institute for Cancer Radiation Therapy’s IAQ retrofit included the installation of a software upgrade and graphics to Renown’s existing WebCTRL system.

“Our relationship with QCS and the confidence with Automated Logic controls extends back many decades,” commented Kevin Cash, Renown’s Senior Construction Projects Manager. “The sensitivity to making these important IAQ upgrades and modifications to a functioning cancer center cannot be understated. But once the entire project was up and running, we had the security and peace of mind that comes by having Automated Logic controls at our command.”

The Renown project was further enhanced by financial rebates available through NV Energy’s PowerShift program which offered cash incentives for energy efficient equipment.

Automated Logic’s WebCTRL building automation system continues to give Renown’s building staff the ability to reduce energy consumption, increase comfort and monitor their campus-wide operations in real time.



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Kevin Cash,
Senior Construction
Projects Manager,

PROJECT SUMMARY	
Savings	To be determined over time
Location	Renown Health Institute for Cancer Radiation Therapy / Reno, Nevada
Project Type	Retrofit
Building Size	66,000 ft ²
Building Usage	Medical / Cancer Treatment Center
Objectives	Improve air quality in the Renown Health Institute for Cancer Radiation Therapy. Convert the plenum return air system to a ducted system.
Design Considerations	Automated Logic has been on property since 1991. The simplicity, longevity and backwards capability all contributed to Automated Logic being specified.
Major Decision Drivers	Automated Logic has been the system of choice due to innovative products and rapid response time.
Dealer	Quality Controls Systems - Reno, Nevada
Installation Date	November 2020



Over three generations of Automated Logic controls exist within all Renown Health facilities in Nevada. A complete control system upgrade for Renown’s Tahoe Tower South facility is slated for completion by the end of summer 2021.



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