

TURNING STONE RESORT & CASINO | CASE STUDY

Turning Stone Resort in upstate New York wins on a sure bet with BACnet®-based Alerton building controls

Turning Stone Resort and Casino is a world-class getaway developed and operated by the Oneida Nation in Verona, New York. Within its 1.2 million square feet are the four-diamond-rated Lodge; 19-story Tower and Hotel; 17 restaurants; casino; five golf courses; a spa; salon; showroom and 5,000-seat event center. Turning Stone also features New York's largest bingo hall.

When it first opened, Turning Stone's heating, cooling and air conditioning (HVAC) projects were small and few. As the resort's reputation and popularity grew, so did the scope of its environmental concerns. When it came time to tie in all its building systems under the control of a single system and more efficiently manage its energy consumption, Turning Stone

chose PASCO, Alerton's dealer for upstate New York.

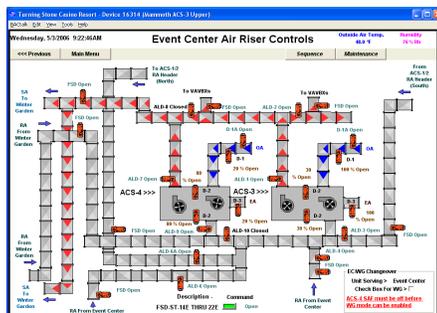
One of the biggest challenges was to integrate equipment of several different manufacturers and get it all to

interoperate as a single controls system. Turning Stone Resort and Casino was home to equipment from Alerton, Trane, York and McQuay.

Not only were there numerous devices from different manufacturers, there were several systems within the resort that needed to be brought under central control. Besides environmental control, these systems included lighting, power co-generation (co-gen), front desk guest check-in and energy management.

Turning Stone also operates an off-site inn that the facilities staff needed to incorporate into the united controls system.

An Alerton building automation system (BAS) was originally installed in the casino, so it was expanded and upgraded to efficiently incorporate the disparate building systems and equipment. The Turning Stone integration project included global controllers, field controllers, rooftop units, lighting, fan-coil units, air handling units, air cooled chillers, overhead and under-floor air distribution systems, heat recovery systems, geothermal heat pumps, the co-generation plant, variable frequency drives (VFDs) and fan-powered variable air volume (VAV) boxes. Operator workstations were updated with Alerton's native BACnet system, BACtalk® to manage all the resort's functions.



Envision for BACtalk's detailed views—in this case, the Event Center's air riser controls—offer real-time, pinpoint accurate data readings.

Being able to see the entire complex is huge. There are so many different projects going on and they keep getting bigger and bigger, but with the centralized BAS, I can go to any zone to see exactly what's happening.

Bill Hollenbeck, Senior Facilities Supervisor for Turning Stone Resort & Casino



A solar turbine is just one of the many pieces of equipment the Alerton BAS incorporated and centrally controls.

The Turning Stone Resort and Casino initially began as a single facility. As the resort grew, more buildings were constructed for guest accommodations and activities as well as to house facility

maintenance equipment. PASCO placed the new BAS on the resort's existing Ethernet infrastructure using BACnet/IP technology. The standard network technology enables the resort building staff to plug operator workstations and control devices directly into the network in the same way as any other office computer. They can just as easily move the PC to another location—whether in the same building or at a remote station—by plugging the workstation into an Ethernet jack. Using the existing infrastructure also enables real-time coordination of the resort's data so the facilities staff is alerted to—and can address—any issue within moments of the occurrence.

PASCO created interfaces with numerous devices in the Turning Stone project, including:

- Liebert Precision air conditioning units and uninterruptible power supplies
- Advanced Power Control air conditioning units
- A Simplex fire alarm system
- A hotel check-in system
- A Solar gas turbine
- Trane chillers
- A York chiller
- A Cummins diesel generator

PASCO used BACnet to successfully integrate the disparate equipment into a centrally controlled system. Gateways to the Modbus protocol were installed where legacy equipment existed.

The Turning Stone BAS monitors all the operations of the co-gen plant and controls the number of specific devices that are online or offline. If the resort runs out of chilled water for cooling, it can automatically shed non-critical areas to minimize the load on the refrigeration system while still maintaining the primary areas—guest suites and gaming floors. The system can augment setpoints or shut down non-critical air handling units to maintain temperature controls.

Using the existing Ethernet infrastructure, PASCO was able to tie in Turning Stone's off-site properties so that they can be centrally monitored and controlled. With the WEBtalk IPort, facilities staff can go to any PC on the resort grounds and look at information from the co-gen plant's gas meters, heating and cooling, or any other system controlled by the BAS.

By installing the BAS on the existing enterprise network and leveraging the existing equipment, Turning Stone lowered its installation costs and saves on overall life-cycle costs. The Ethernet network also enhances the resort's system performance, security and data flow.

Using the BACnet standard protocol means the resort can expand or reorganize its system without being tied to a single manufacturer; the controls grow with them.

The co-gen plant generates about 60% of the total power Turning Stone requires for operation. By consolidating multiple systems—heating, cooling, lighting, occupancy—the resort is better able to monitor and control its energy consumption. And with the ability to view every system from a single workstation, Turning Stone saves significant time and money during daily operations.

