

2008

Case History

Indoor Comfort in New Smoky Mountains Events Center Provided by York Shipley, Trane and Taco Equipment

Since its opening in the fall of 2007, business has surely increased in the Sevierville, TN, area — southeast of Knoxville among the foothills of the Great Smoky Mountains — with the opening of the new Sevierville Events Center at Bridgemont [bottom photo]. Designed by Bullock Smith & Partners, the single-level Events Center boasts a 100,000+ sq.-ft. exhibition hall, a 19,000-sq.-ft. ballroom, a food court and additional space, and is climate controlled by a combination of York Shipley boilers, Trane chillers and controls, and circulating pumps by Taco, Inc.

The Events Center's mechanical system was designed by I.C. Thomasson Associates, Inc. of Knoxville, a multidisciplinary engineering firm with additional offices in Nashville and Tampa. The heating plant is powered by two 250-hp York Shipley natural gas-fire tube boilers, with hot water distribution flowing through a primary and secondary piping arrangement utilizing Taco pumps. There are also Taco air separators, suction diffusers, expansion tanks and multi-purpose valves in the mechanical room.

Air distribution for the Events Center is served by both constant and variable volume Trane air-handling units. These are central station type units with chilled water coils, hot water coils, air blenders,



airside economizers and 30% efficient filtration.

Constant-volume primary pumps are Taco TA 50-hp pumps; variable-flow Taco FI Series end-suction pumps distribute hot water to two-way control valves serving the air handling and VAV terminal hot water coils.

A pair of 700-ton high-efficiency Trane centrifugal chillers with variable-speed drives and two induced-draft, vertical-discharge cross flow cooling towers make up the center's chiller plant. Like the heating plant, the chiller plant is set up in a primary/secondary loop arrangement with a bypass line to hydraulically decouple its constant volume primary loop

Taco FI Series chilled-water distribution pumps.

For the cooling tower, 50-hp Taco TA Double Suction Horizontal Split Case constant flow pumps circulate water through the chiller condenser. Taco 100-hp TA variable-flow pumps distribute chilled water to two-way control valves serving the Trane air handling unit coils located throughout the facility.

All air-handling units, VAV terminals, chillers, boilers, pumps and fans are controlled by a Web-based DDC system also supplied by Trane.

The York Shipley boilers and Taco pumps and related equipment components were supplied by Peacock Sales of Knoxville. Taco pumps and equipment were selected by the mechanical contractor on the project, Shoffner Mechanical, also of Knoxville.

Since start-up last August, the HVAC system has worked fine, minus any problems, according to Debbie Humes of I.C. Thomasson, the lead mechanical engineer on the project. Debbie credits Peacock Sales for their part in the project: "It's all in your rep agency," she says. She also cites Taco equipment for its field reliability and durability: "Across many projects, we've never had a problem with Taco."

For more information, visit www.taco-hvac.com.

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