Buildings "Linked" by ICE

PRJ 75

Comfort Link Helps Baltimore Building Owners Put Cooling Costs on Ice

Since 1996, Comfort Link has helped building owners in downtown Baltimore, MD put cooling costs on ice, ice thermal storage that is. Comfort Link, a partnership between Baltimore Gas & Electric Company and the Monumental Investment Company, supplies chilled water and related HVAC building services to Baltimore businesses. Buildings served include government and commercial office buildings, hospitals, a convention center, and entertainment/retail establishments. With three plants strategically located around Baltimore's Inner Harbor, Comfort Link supplies cooling to its customers with a greater degree of system reliability



Baltimore Convention Center

than others can achieve alone. Other benefits provided include enhanced building comfort, reduced environmental risk (by eliminating CFCs), deferred capital investment (for new or replacement chiller plant), and an overall increase in building asset value.

Convention Center Chilling Station (Plant 1)

Comfort Link's initial chiller plant, constructed in 1996, is located within the Baltimore Convention Center. Custom, fielderected glycol chillers are industrial screw compressor type with remote evaporative condensers, BAC model VC1 centrifugal fan units. 49,055 ton-hours of BAC ice coils, configured for air-agitated, internal melt operation, sit in concrete tanks located in the convention center basement and below a parking lot adjacent to Oriole Park at Camden Yards. Peak plant capacity is nearly 12,000 tons.

Market Center Chilling Station (Plant 2)

Plant 2 began supplying chilled water in 1999. Custom, dual-evaporator screw chillers can efficiently chill glycol for ice making or water directly during peak load periods. Packaged centrifugal chillers handle day and night base load water chilling duty. Heat rejection is handled by BAC model Series 3000 cooling towers equipped with low sound fans and discharge sound attenuation. A total of 27,000 ton-hours of BAC ice coils, configured for air-agitated, external melt operation, are installed in two 39' diameter, steel storage tanks. Overall plant capacity is 13,750 tons.



Rigging ice coil into underground vault



Baltimore Aircoil Company

Municipal Center Chilling Station (Plant 3)

Due to very tight site constraints, Plant 3 is being constructed and put into service in several phases. Initial operation began in 2001 and, when completed, Plant 3 will be Comfort Link's largest, with capacity exceeding 16,000 tons. Large capacity centrifugal chillers will handle water chilling and ice making duties. 30,500 tonhours of BAC ice coils, configured for air-agitated external melt operation, will be installed in a 55' diameter steel storage tank. Heat rejection is handled by BAC model Series 3000 cooling towers located on the roof.

Operations

During June of 2002, industrial and commercial businesses in Maryland were required to switch to independent suppliers of electricity and enter the world of deregulation. While many owners dreaded the thought of deregulation, this change was welcomed by Comfort Link as a great opportunity to manage energy costs.

The Comfort Link plants were originally designed and operated to minimize energy usage by melting ice during well defined peak cost hours, weekdays from 10:00 AM to 8:00 PM, established by the local utility. Comfort Link has the flexibility to change operating schedules to minimize spot market energy charges and transmission fees. This includes the ability to shut down all compression equipment and melt ice only during a two to four hour window. The transition between cooling sources goes unnoticed by Comfort Link customers as system supply temperatures are consistently maintained at 37°F.

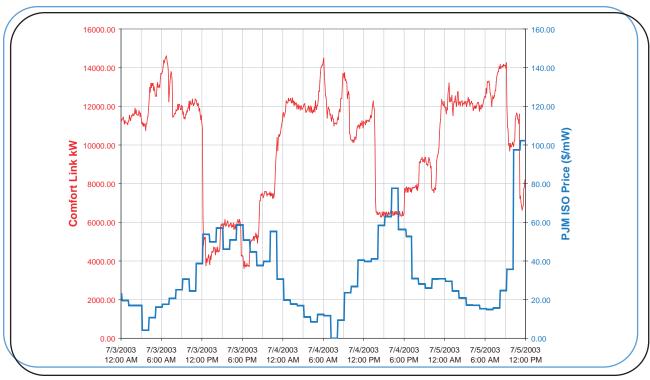


Chart Courtesy of Comfort Link



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