



High Performance Buildings

Fall 2009

It's 93° F outside, but there's ICE everywhere!

It's true, more than ever this summer, knowledgeable, first cost conscious building owners who also have a focus on controlling energy costs are turning to ice storage as a key element of their long term cooling strategy.



Trane customers from Manatee County South to the Everglades have long had the benefit of the attractive cash rebates offered by local electric utility companies which have been used to improve the first cost and the life cycle costs of Full Storage ice systems. With Full Storage the chiller runs only at night to freeze the tanks solid using a brine solution. Then during the peak cooling hours the chiller does not run at all and the entire building cooling load is carried by running only the chilled water pumps which create the cooling effect by melting the ice.

Now, even building owners in areas where local utilities do not offer cash assistance are finding that ice storage makes solid financial sense. In these areas, new higher demand rates have made ice storage far more attractive. In particular, Partial Thermal Storage can make solid financial sense when demand rates climb because ice storage systems significantly reduce peak energy usage.

Just how can Partial Ice Storage Strategies compete with traditional HVAC systems? With Partial Ice Storage Strategies, during times of peak cooling load both the chiller and the ice operate together to cool the building. The results are that this arrangement allows the design engineer to:

- Reduce the size of the chillers and the chilled water piping
- Reduce the size of the buildings electrical system, switch-gear and wiring sizes
- By using lower temperature air delivery systems, reduce the size of the air handlers and the duct work.

With all of the savings noted above it's no wonder partial ice storage jobs can be installed at a complete price versus a conventional systems. The other good news is that these ice storage concepts can work for both new construction as well as existing buildings. Need more capacity with your current cooling system? Adding ice storage might allow you to substantially increase your system's capacity without buying any additional new chiller capacity. COOL!

Where can I see one of these systems and discuss the facts with experienced owners? Well in fact there are ice jobs all over the West Coast of Florida. Hillsborough County Schools, Sarasota County Schools, Shell Point Village in Ft. Myers, Hernando County Schools are just a few of the many owners employing ice. Yes, there are some very big jobs like the 82 tank job shown above right in downtown Tampa, or the 140 tank job in Lee County. But there are also numerous 2-6 tank projects out there that meet all the tests of success.

Looking for new ideas to reduce your first cost and insure you have a solid foundation for long term low operating costs? Give your Trane sales representative a call for more ice cold facts.



Above: Three Calmac Ice Tanks buried in-ground next to a Trane air cooled chiller. Top right: Large above-ground Calmac Ice Tank Farm served by a Trane water cooled Centravac

