

## MEP Design – Health Care Rockland Children’s Psychiatric Center Chiller Replacement Orangeburg, New York

EME Group was retained to complete a chiller replacement project at Rockland Children’s PC. Our findings required changing 90% completed design consisting of two water-cooled units to a single air-cooled unit located remotely from the building. EME Group discovered that the proposed design did not adequately address the primary /secondary chilled water loop in the building.

EME Group conducted in-situ metering on the original chiller two years prior to the replacement project in an effort to assess the appropriate chiller size. The existing 300 ton chiller consistently operated with a small  $\Delta T$  between the supply and return temperatures. The metered data showed a peak load around 150 tons. The packaged controls on the new unit indicate the approximate tonnage as a function of compressor loading which shows a peak load in line with our earlier metering results.

An outstanding technical issue was the pumping configuration. EME Group analyzed the distribution system and concluded that, because of the primary/secondary system with individual pumps for each zone, we could not vary the flow through the system. Therefore a single pump (with back-up) with the design flow of all the secondary zones was selected. The project was fast tracked due to the poor condition of the existing chiller, which had failed at the end of the previous cooling season. Many of the children at this facility take medication that raises their sensitivity to warm space temperatures, so it is critical to provide air conditioning.

EME Group prepared the mechanical, electrical and plumbing drawings and specifications. Our submission went through a rigorous review process by the project team with minimal comments.



### **New Multi-Circuited Chiller Prior to System Start-up**

We completed the construction documents in approximately three weeks in order to get the project out to bid and fast track the construction. We monitored the project during the construction phase through weekly onsite meetings to ensure that the construction schedule was met to enable air conditioning prior to the cooling season.