



Deliver Innovative Solution to Owner's Unique Request

BAC's Innovative Cooling Tower Design Solves Two-Stage Building Dilemma

Blue Cross Blue Shield in Chicago, IL, took an unusual approach to the dilemma of meeting both short-term and long-term expansion needs, and contractor **F.E. Moran** partnered with **Baltimore Aircoil Company** (BAC) to make sure the cooling system would rise to the challenge. Blue Cross Blue Shield erected their new building in two stages, completing and occupying the first 30 stories while construction continued on another 24 stories. F.E. Moran installed a BAC cooling tower ideal for tight spaces that would continue to function even as the "roof" of the first half of the building became enclosed by the upper floors.

To meet the unique criteria for this project, BAC provided the Series 1500 cooling tower, which is designed to fit in tight enclosures using a single side air inlet design. Because of design constraints, the cooling towers had to line up side by side, which precluded the use of counterflow or multiple air inlet towers. The modular design of the Series 1500 minimizes the size of the largest piece and the weight of the heaviest lift, which is critical when you have to get a cooling tower in (or out!) of a tight space.

Once the tower selection was completed, construction on the first stage of the building began, spanning from 1996 to 1997. A total of 25 Series 1500 cooling towers were installed on the temporary "roof," and they provided cooling for over a decade while construction of the upper floors continued. In May of 2006, the process reached a critical turning point. The existing cooling towers were no longer receiving adequate airflow because the building was closing in around them. That posed the risk of recirculating discharge air back into the inlets, resulting in reduced cooling capacity. BAC was called in

to ensure that the existing towers would continue to have adequate fresh intake air without having to work against high static pressures. After a site visit and consultation, a false deck was built into the "roof,"—now the 30th floor of the building. This deck provided access to the critical tower components while promoting the intake of fresh air to ensure adequate capacity of the cooling system.

In August of 2006, design work was completed and preconstruction work began on the new cooling tower layout, which would reside on the structure's permanent roof. The original Series 1500 cooling towers provided the building cooling through the summer of 2008, at which point the building

construction and additional 24 floors were completed. Eleven more cooling towers from BAC were then installed on the permanent roof. Without the air obstructions and construction to contend with, Blue Cross Blue Shield chose to install the higher capacity dual air inlet Series 3000 tower. Over the winter of 2008, the necessary changes were made to the building's hydronic and electrical systems to complete the switch from the old towers (now inside the 30th floor) to the new towers. The Series 3000s took over cooling duties in Summer 2009, and the old faithful Series 1500 towers were carried out, piece by piece, from the 30th floor.

For more information, visit www.baltimoreaircoil.com.



F.E. Moran partnered with Baltimore Aircoil Company on a cooling solution to accommodate a two-stage construction process. Cooling towers were designed to fit into tight spaces and to be easily removable upon completion of the building.