



U.S. Federal Courthouse Minneapolis, MN

This new Federal courthouse encompasses 550,000 sq ft and features a 15-story court tower, a 6-story office wing on 3rd Avenue and a 2-story public cafeteria on 4th Avenue. The most significant challenge this project presented was the client's requirement for MEP systems that were flexible, easy to operate, energy efficient and able to provide optimal occupant comfort and indoor air quality. To meet this challenge, a high efficiency, floor-by-floor variable air volume (VAV) air distribution system was specified. Low temperature supply air is distributed to VAV fan powered terminal units that maintain constant air motion in the occupied space. The fan powered terminal units, through the induction of warmer above-ceiling plenum air, incorporate a heat recovery feature for use in perimeter space heating prior to the energizing of heating coils. The refrigeration system is provided with a "water side" economizer for energy conservation. Minneapolis has an extremely cold winter climate and stack effect mitigation is always a concern. After start up, the building experienced cold drafts in the building's service areas that were addressed by proper balancing of the outside air that was introduced into the cellar levels to pressurize the space and counteract the drafts. Once these systems were fully operational and balanced, the draft problem was mitigated. A state-of-the-art Building Automation System (composed of a direct digitally controlled energy management system, a building-wide security system and a fire alarm/life safety system) was also included. The entire facility was designed to meet Federal guidelines set forth in the U.S. Marshal's Standards, PBS-PQ.100, Court Design Guide.

Architect: Kohn Pedersen Fox

