

CITY OF TUCSON CITY COURTS CHILLER REPLACEMENT

Tucson, Arizona

The Tucson City Courts chiller replacement project involved upgrading of the chilled water system from a primary-secondary chilled water system to a primary-variable flow chilled water system. The conversion included the replacement of both 200-ton water-cooled chillers with two 200-ton McQuay WMC centrifugal chillers with frictionless bearings. Each replacement chiller was provided with a variable frequency drive (VFD) to maximize the efficiency of the chilled water plant. The system water pumps were upgraded to chilled water pumps in a primary/backup configuration with inverter-duty motors and VFD's. The existing condenser water pumps were reused to circulate condenser water from the water-cooled chillers to the replacement cooling towers. The replacement cooling towers fans were provided with inverter-duty motors and VFD's to reset the condenser water supply temperature to the water-cooled chiller.



Provided mechanical prime and construction services for the HVAC equipment replacement and system conversion at the City Courts facility.

PROJECT ATTRIBUTES

- Size: 400 ton chilled water plant
- Services: Mechanical Design
- Project Completion: March 2011
- Client: City of Tucson
- System: Magnetic bearing water cooler chiller, primary-variable flow chilled water system, cooling towers replacement
- Construction Cost: \$600,000
- Project Delivery Method: Design/Bid/Build
- Served as prime mechanical engineer using an on call mechanical engineering service contract



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