

## District Cooling Plant No. 4

### AUSTIN, TEXAS

Demand for Austin Energy's chilled water services in downtown Austin were exceeding the utility's ability to meet. The utility needed a quick solution without complex real estate transactions, site development, and the city's conventional design-bid-build process.

The design and specification of adding a modular chiller plant to the top of an existing city owned building was an innovative solution to responding to rapid growth.

The demand for Austin Energy's district cooling system has grown significantly as Austin's development and construction activity in downtown has increased.

District Cooling Plant No. 4 (DCP4) will add 3,000 tons of additional cooling capacity to the chilled water distribution system.

The plant is scheduled to be ready by May of 2020, at least a year before conventional methods would allow.

DCP4 is comprised of a 3,000-ton modular chilled water plant and associated cooling towers situated on top of the Austin Convention Center on the lower roof adjacent to the loading areas on the east side of the convention center.

The plant will be connected to the direct-buried, chilled water distribution system located under Red River Street.

The plant provides operational flexibility, additional chilled water production capacity and optimization of the district cooling system for maximum efficiency.

DCP4 will be an additional chilled water production asset that will work in concert with existing DCP1 and DCP2 as well as DCP3 currently in construction.

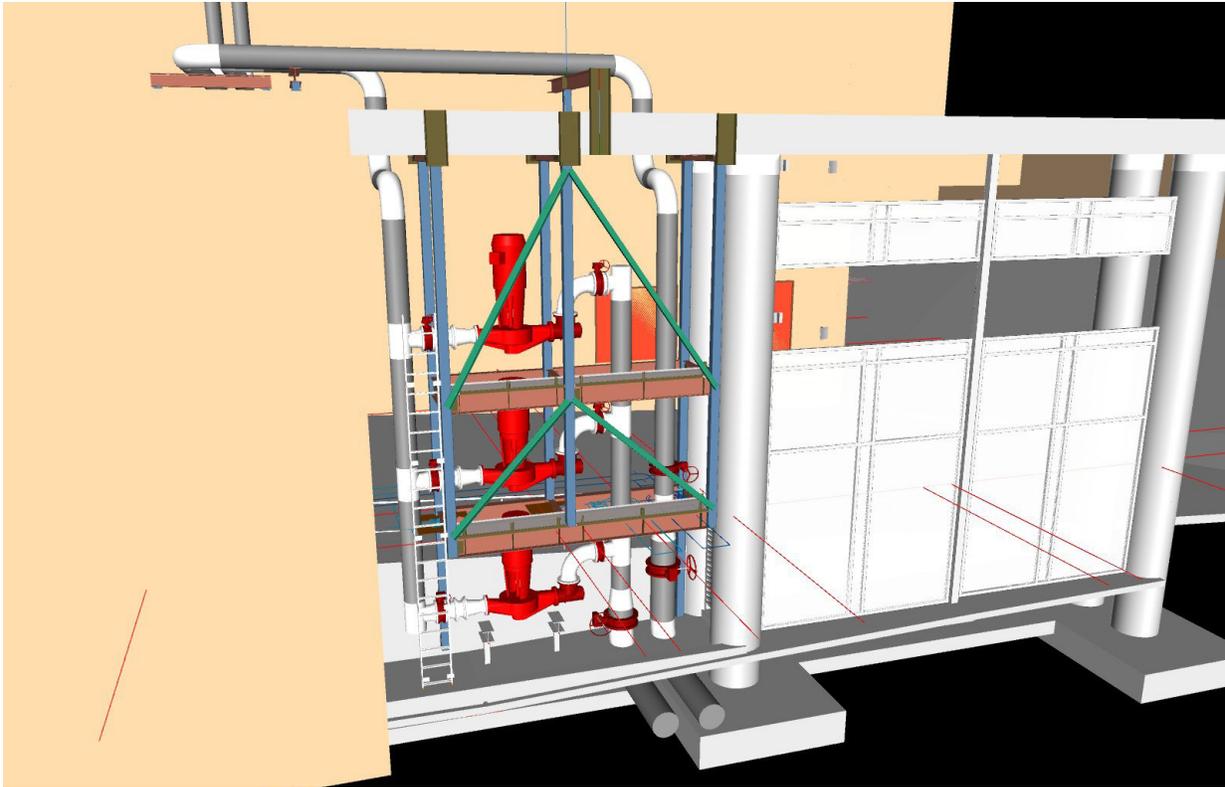
Project challenges included:

- » Optimizing the electrical distribution to mitigate a 5,100 amps constraint on the bussing.

CLIENT >  
Austin Energy

CONSTRUCTION  
VALUE >  
\$14,000,000

COMPLETION >  
2020



- » Implementing acoustical control equipment to minimize noise and vibration generated by the plant and cooling towers.
- » Developing a creative structural concept that has a lesser impact on convention center operations by way of a freestanding steel platform raised above the roof connected to the top of existing columns.

The plant is being constructed under a fast-track design-build project delivery method. This will support the chilled water production goal of May 2020 to meet Austin Energy's forecasted chilled water loads.

Once DCP4 is operational, the District Cooling Program will surpass Austin Energy's Resource, Generation and Climate Protection Plan of achieving 30 MW of local thermal energy storage by 2027 by shifting thermal loads from on-peak to off-peak conditions.

"I just wanted to let everyone know that Austin Energy in general and I specifically know and understand the hurdles that were in place and the constricted timeline that was put upon the team. Despite all circumstances and surprises the team performed far above all expectations in placing the plant on the roof within the allotted time frame. Thank you all very much for your efforts thus far. I understand that there is still much to be completed but we could not have asked for a more willing, more flexible, and more professional team to work on this project. Thank you again and I look forward to the successful completion of this project."

*- Austin Energy, Richard Duane, PE, PMP Senior Power Systems Engineer*