

# STREAMLINED ELECTRICAL AND PREFABRICATION WORK REPOWERS MIDWEST PLANT

An unreliable cooling tower electrical system created operational challenges for a power plant in the Midwest. A quick solution was needed to fix the problem and improve operations for the plant.



# EPC TEAM DELIVERS EXPEDITED COOLING TOWER REPAIR

Self-perform prefabrication and electrical construction combined for quick project delivery

## CHALLENGE

A Midwest power plant was struggling with the reliability of a cooling tower at the site. Upon further investigation, it was determined that some of the cables and equipment used to operate the tower were damaged, resulting in electrical short circuits. To continue providing reliable services for its customers, the power plant needed a fast turnkey solution to repair the damaged equipment.

## SOLUTION

Burns & McDonnell was awarded the engineer-procure-construct (EPC) contract to replace four cooling tower motor power cables and repower the electrical system. We began by examining the site and developing a report for the client identifying the work that was needed for the plant. With our construction subsidiary, AZCO, we created a cost estimate and timeline for repair. AZCO's scope included all electrical construction and fabrication.

The scope included demolition of an existing cooling tower stair foundation, removal of existing power cables, construction of a new cable tray

support structure and associated foundation, installation of a new cable trench system with a 24-inch cable tray for the cooling tower motor feeds, and installation of four sets of three single conductor power cables with associated ground conductors and four process cooling tower fan motors. The project utilized over 5,000 feet of cable and 3.5 tons of steel.

The steel components of the cable support structure were fabricated at AZCO's metal prefabrication shop. Once the steel was cut to meet specifications, the pieces were preassembled, shipped to a galvanizer and delivered to the plant.

## RESULTS

The project was performed by the EPC team from concept to completion. The team was able to complete the quick-turn work on budget and with an expedited timeline, wrapping up 10 days earlier than the projected completion date. The EPC approach helped streamline all the components that were involved into one simple package for the client. With the project's completion, the client can operate more efficiently and provide more reliable services for its customers.

## PROJECT STATS

**CLIENT**  
Confidential

**LOCATION**  
Midwest

**COMPLETION DATE**  
August 2020

4

**COOLING TOWER MOTOR  
POWER CABLES REPLACED**

5K

**FEET OF CABLE**

3.5

**TONS OF STEEL**