

CASE STUDY

Boosting Capacity Through Efficient Project Delivery

When Beaches Energy Services needed to replace an old autotransformer at a suburban substation facing growing demand, it chose to hire a partner with broad engineer-procure-construct (EPC) contract experience to expedite the results.



Challenge

Beaches Energy Services determined it needed to upgrade its Sampson Substation to manage significant and growing demand in Ponte Vedra Beach, Jacksonville Beach and Neptune Beach, Florida. Autotransformer No. 2 at the substation was experiencing internal problems with the tap changer, and so the utility decided to replace the 40-year-old equipment. The substation upgrades also would give the utility more operational flexibility while providing reliable, resilient power to its more than 35,000 customers.

Recognizing that similar projects utilizing traditional design-bid-build delivery in the past had experienced extensive delays, the utility elected to award an engineer-procure-construct (EPC) contract for the Sampson Substation work, one of the first progressive EPC projects for a municipal electric utility in Florida. This method was selected because management at the utility believed it would expedite the project and deliver better follow-through from design to construction.

Project Stats

Client

Beaches Energy Services

Location

St. Johns, Florida

35K

UTILITY CUSTOMERS

4

MONTHS OF
CONSTRUCTION

1

SINGLE SOURCE OF
RESPONSIBILITY UNDER
THE EPC CONTRACT

Solution

Beaches Energy Services selected Burns & McDonnell on the basis of its extensive experience in the state, in electrical transmission and distribution projects, and in successful EPC project delivery.

We supported the installation and energization of Autotransformer No. 2, including removal and replacement of the existing equipment. The station is now able to provide more capacity to the system, as the rating of the transformer increased.

Our scope also included the addition of a 138-kV station service voltage transformer (SSVT) connected to the 138-kV ring bus, providing a measure of redundancy. We replaced five motor-operated disconnect switches, replaced electromechanical relays with digital relays, and provided all necessary relay panel modifications and upgrades. These improvements provide more reliability to the protection of the system.

Results

The new autotransformer was energized in less than a year, with construction completed in four months, delivering the speed and cost certainty the utility sought.

Since EPC is relatively new to the utility, the open-book process allowed us to share our methods to demonstrate advantages of that integrated delivery approach, including a single source of responsibility and compressed time frames for predictable results.

About Burns & McDonnell



Burns & McDonnell is a family of companies bringing together an unmatched team of engineers, construction and craft professionals, architects, and more to design and build our critical infrastructure. With an integrated construction and design mindset, we offer full-service capabilities. Founded in 1898 and working from dozens of offices globally, Burns & McDonnell is 100% employee-owned. For more information, visit burnsmcd.com.