

Coal-to-Gas Conversion at Big Rivers Electric Corp.'s Green Generating Station Completed Ahead of Schedule

HENDERSON, Kentucky — A coal-to-gas conversion is now commercially available to generate 500 MW of electric power at the Robert D. Green Generating Station, part of the Sebree Generating Station owned and operated by Big Rivers Electric Corp.

Completion of the project means the plant produces just as much electricity as it has in years past, only now using [natural gas](#) rather than coal and fuel oil. The plant now ramps up twice as fast, with less-costly startup and greatly reduced carbon emissions.

Required to cease use of the site's two coal-fired units by June 2022, Big Rivers retained Burns & McDonnell to support the plant conversion to 100% natural gas. The updated plant meets all targets for emissions and steam temperatures, with the conversion keeping the plant online and able to dispatch reliable power with greater flexibility and at reduced costs for operations and maintenance.

"From the start of this project, we knew we had three important key objectives we had to meet: Keep the project moving as fast as possible to meet the aggressive deadline, keep the design as simple as possible by reducing the amount of equipment required and avoiding suppliers with long lead times, and get as much load as we can through value engineering," says Nathan Berry, Chief Operating Officer at Big Rivers. "Burns & McDonnell was pivotal in helping us achieve these goals and getting both units online ahead of schedule and under budget."

Burns & McDonnell served as the project development and detailed design engineer for the project. The scope included project management and controls, project development and cost estimating, equipment specs, contract management for equipment and construction contracts, design of the installation packages, construction management, and startup and commissioning. The ability of Big Rivers and Burns & McDonnell to quickly procure critical items that aligned with installation schedules played an important role in delivering the project ahead of schedule.

Additionally, existing systems were utilized to generate full load capacity with minor modifications to the ductwork and windboxes without a need for pressure part replacements or an expensive flue gas recirculation system, while still achieving steam temperature.

"Big Rivers came to us with a late request and trusted us to deliver the project even though the schedule was tight," says Tom Miller, vice president in the Energy Group at Burns & McDonnell. "We are pleased we were able to deliver another successful project ahead of schedule."

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About Big Rivers Electric Corporation

Big Rivers Electric Corporation is an electric generation and transmission cooperative headquartered in Henderson, Kentucky and owned by three distribution cooperative members — Jackson Purchase Energy Corporation, headquartered in Paducah; Kenergy Corp, headquartered in Henderson; and Meade

County Rural Electric Cooperative Corporation, headquartered in Brandenburg. These member cooperatives deliver retail electric power and energy to more than 120,000 residential, commercial and industrial customers in portions of 22 western Kentucky counties.

About Burns & McDonnell

Burns & McDonnell is a family of companies bringing together an unmatched team of 10,000 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 more than 60 offices globally, Burns & McDonnell is 100% employee-owned. Learn how we are [designed to build](#).