

**KOHLER**  
 RENTAL

# CASE STUDY

## Application

### NUCLEAR POWER PLANT BACKUP

Ameren UE's nuclear power plant near Fulton, Missouri, provides power to the entire state of Missouri, including the city of St. Louis. When Ameren replaces a portion of the buried Essential Service Water pipe, the Nuclear Regulatory Commission (NRC) requires an onsite standby power source for critical equipment in the unlikely loss of offsite power during the installation of the plant modification. Ameren turns to **Kohler Rental** for the backup generators to provide 6.2 megawatts of standby electric power.

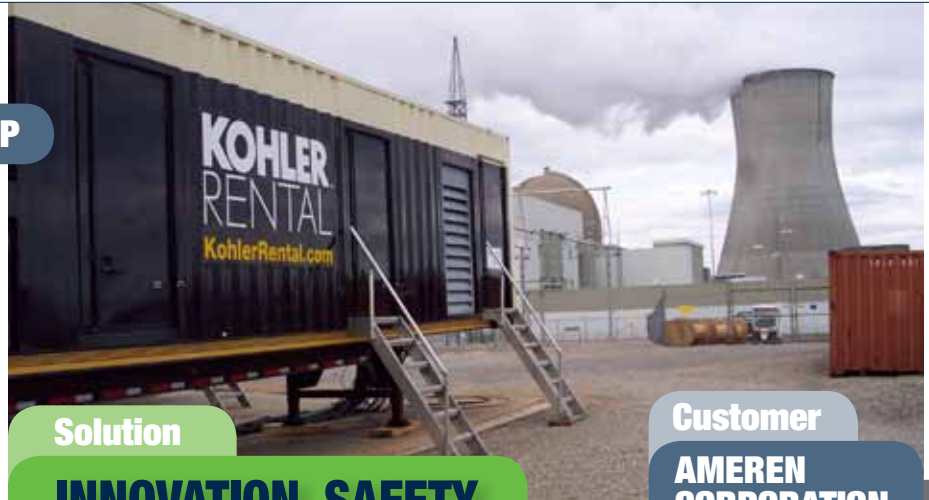
But the equipment plan is just a small part of a much larger effort. Compliance with regulations calls for a team well versed in NRC requirements and contingency planning — Kohler Rental engineers who already have hands-on experience with nuclear power plants.

"This is where our **Technical Services and Design** team really comes into play," explains Greg Guse, Manager, Technical Services and Design—Kohler Rental. Kohler served Ameren best by: interpreting some of the liability issues from the NRC, creating and completing the necessary documents for permits under tight deadlines, and designing a detailed logistics plan that explained when and what type of backup power equipment would be onsite and how it would be operated — manually.

"One of the very different issues in dealing with nuclear power plants is that the entire package needs to be designed to operate manually. Nothing automatic is programmed, because the NRC mandates that there's no chance of backfeeding power that could bring the plant down. That meant well-trained technicians onsite 24/7 to start or stop the generators at any time."

## THE JOB

- Four 2MW **generators**
- 480 volt, 13.8kV **transformers** and disconnect switches
- Over four miles of electrical **cable** (22,500 feet)



## Solution

### INNOVATION, SAFETY

Kohler Rental personnel transports and sets up four two-megawatt diesel generators to provide backup power. Then the team coordinates with Ameren on the installation of temporary runway-grade mats within the tight footprint to prevent the 90,000 pound generator and transfer switch trailers from sinking into the ground.

"The equipment was load-tested before each phase of the project," says Dave Hansen of Kohler Rental's Chicago office. "Kohler technicians were present as primary power was shut down to test the backup systems." The generators were onsite for seven months, with Kohler personnel present throughout the critical phases of the project, but standing down during idle periods to reduce costs.

"It was important that our supplier had experience backing up utilities," says Ameren's Josh Bollinger. "Price is always a factor, but we got much more than that with Kohler Rental being so familiar with this type of application, the NRC requirements and their jargon. They really knew what we needed to do this properly and safely."

## Customer

### AMEREN CORPORATION

The largest electric utility in Missouri and the second largest in Illinois, **Ameren** provides electric power to over two million customers and natural gas to one million customers in a 64,000 square-mile area in the two states.

## RESULT

Kohler Rental then turns over the entire plan and safety protocols — documented in extreme detail so there's no room for error during implementation — to Ameren, who carries the plan through. "The Kohler and Ameren engineers worked so closely together, sometimes in contact every half hour every day," recalls Guse. "This project required a significant amount of planning and brainstorming up front, but when the plan is implemented and the equipment is brought online problem-free, that's the best outcome we could ask for on behalf of our customer."

Ameren's piping replacement modification went smoothly, and electric power consumers never noticed any power interruption.