

Rathbun Regional Water Association
Centerville, Iowa

Case Study

WATER TREATMENT

KOHLER® POWER EQUIPMENT at Rathbun:

1500-kW KOHLER Generator

1250-kW KOHLER Generator

1000-kW KOHLER Generator

200-kW KOHLER Mobile
Generator



When the power goes out, the clock starts ticking

When the grid goes down, how does a water company keep 36 water towers full? For Rathbun Regional Water Association (RRWA), a provider of water to southeast Iowa, KOHLER standby power kicks in. “Our two KOHLER backup generators—one at the caisson pump building that brings in our raw water and the other at our treatment plant—take over so we can keep processing water,” says Rod Witt, RRWA in Centerville, Iowa. “And the KOHLER units get the job done; no worries there. But without power throughout our distribution area, we’re facing a bigger challenge: we have 36 water towers that need pumping power to replenish levels.”

As Witt describes it, water towers aren’t very complicated; they’re just elevated places to store water that is ready for delivery. In fact, once water is in a tower, it’s as good as delivered because almost all water flows to customers—residences, farms, factories and schools—by gravity.

“When power is lost, the water from a tower keeps flowing,” says Witt, “but a clock starts ticking on how soon each tower will run out. Some towers last a day or longer; others need to be replenished in just a few hours.”

So when the grid flickers off, an emergency plan is initiated in the high-tech Rathbun control room. As Witt puts it: “We essentially have 36 different countdown clocks, one for each water tower, based on water levels and projected usage. It’s kind of like an action picture that plays out in slow motion.”

Rathbun’s 36 towers are spread over 140 miles of rural countryside and connected by nearly 6500 miles of pipeline. How do they keep those towers full? With mobile generators from Kohler Power Systems. Each of the four mobile generators is moved strategically among 39 pump stations throughout the Rathbun distribution area. They run for a few hours to top off a water tower, then they are hustled on to the next pump station.



Kohler Power Systems manufactures complete power systems, including generators up to 3250 kW, automatic transfer switches, switchgear, monitoring controls and accessories, for emergency, prime power and energy-management applications. Kohler Power Systems has delivered energy solutions for markets worldwide since 1920. For more information, visit KohlerPower.com.

The Ice Storm of 2007

This scenario played out during the big ice storm of 2007 that coated Iowa with up to two inches of ice, then blasted the state with gusts more than 50 miles per hour. Several thousand power poles snapped, and even 345 kV transmission lines were downed.

“Power wasn’t restored in some rural areas for up to a week,” says Bryan Buckingham, Electrical Engineering & Equipment (3E), the Des Moines, Iowa, KOHLER distributor that provides sales and service to Rathbun. “3E teamed up with Kohler Power Systems back in 1999 to put together custom mobile generators to meet Rathbun specs. And we’ve had a long relationship with RRWA because it knows that when it needs assistance, we’re going to have the right answer and the right price.”

Back in 1999, Rathbun already had a 1250-kW KOHLER® standby generator, but it was struck by lightning. “One of our techs rewired the entire unit, and the generator still runs great today,” says Buckingham. Since then, Rathbun has added 1000- and 1500-kW KOHLER generators at the new water treatment plant.

“With the drought in the summer of 2012, we peaked at pumping 10.5 million gallons of water in a single day,” adds Witt. “That’s 2.5 million more than the capacity in our plant design. When the engineers wrote the spec for backup power for the new treatment plant, they included ‘KOHLER or equivalent’ backup power. We just said there really is no equivalent – we’re very comfortable with Kohler and want to stick with them.”

As Buckingham points out, 3E shares that level of comfort in part because Kohler Power Systems designs and manufactures its own totally integrated systems—complete with generators, controllers, switchgear and transfer switches.

“They all communicate seamlessly,” says Buckingham. “Other generator manufacturers may get a controller from one source and breakers from another, and you usually don’t get as many control options, as much programmability, as much history as you get with a KOHLER unit. Plus, the level of technical understanding and support from Kohler Power Systems is simply superior. When you design and manufacture the entire product system, you understand it fully. It’s the right way.” ■