

SUMMER POWER

Local co-ops are prepared to meet peak demand for electricity this summer

You may have seen articles recently about the potential for rolling power outages across the West and Midwest that could be triggered by a combination of insufficient generation, increased demand for power and warmer than normal temperatures expected this summer across the region. While no one can predict what extreme weather could be coming our way, or unexpected issues with power plants and renewable resources, electric co-ops in South Dakota and western Minnesota are confident that we will have enough generation to meet our electric needs.

The following questions and answers aim to provide background on Regional Transmission Organizations (RTOs), the role RTOs play in serving consumers, potential power supply impacts to this region throughout the summer,

and some lessons learned from the February 2021 energy emergency.

WHERE DOES MY ELECTRICITY COME FROM?

Decades ago, when electric cooperatives were created to bring power to rural America, there were few electric generation options available. In our region, electric cooperatives worked together to access hydropower from the dams on the Missouri River and later created East River Electric Power Cooperative, Rushmore Electric Power Cooperative and Basin Electric Power Cooperative to fulfill their power needs.

These generation and transmission cooperatives provide transmission services and construct regional power plants and transmission infrastructure. In the past, when co-ops needed

more electric generation because of economic growth, we built it.

Co-ops still own and build generation units today, but the operation of the grid that serves our region changed significantly about seven years ago. In 2015, East River Electric, Rushmore Electric, Basin Electric and the Western Area Power Administration (WAPA), which sells hydropower from the dams, all entered the Southwest Power Pool (SPP). SPP is an RTO that operates throughout the central portion of the United States and allows utilities to work together to provide the most efficient and cost-effective generation and transmission services to control costs.

DOES THE SOUTHWEST POWER POOL (SPP) EXPECT TO HAVE ENOUGH GENERATION TO MEET DEMAND THIS SUMMER?

SPP operates like the “air-traffic controller” of the bulk electric grid from Canada to Texas. It oversees the grid and the wholesale power markets serving most of the electric cooperative consumers in South Dakota. According to a May 12 press release from SPP, the organization said it “expects to have enough generating capacity

to meet the regional demand for electricity through the summer season.” SPP anticipates that demand for electricity will peak at 51.1 gigawatts during the summer season, which runs June to September 2022. According to SPP, a diverse fleet of generation units, including cooperative-owned power plants and renewable resources, will be prepared to serve at least 55.5 gigawatts of demand.

WHAT IS THE MIDCONTINENT INDEPENDENT SYSTEM OPERATOR (MISO) AND WHY DOES IT EXPECT TO HAVE AN ENERGY SHORTFALL THIS SUMMER?

The Midcontinent Independent System Operator (MISO) is similar to SPP – it is an RTO responsible for matching generation resources with power demand from consumers throughout the Midwest in states like Minnesota, Wisconsin, Iowa, Michigan and Illinois. Each RTO serves different areas of the country and has a different mix of generation resources. Some consumers in South Dakota are served from the MISO system, but most cooperative consumers are served through SPP. MISO raised alarms in April when the organization said it projects “insufficient firm resources” to supply the summer demand for electricity.

In 2005, MISO’s total generation mix was 76 percent coal, 13 percent nuclear, 7 percent natural gas and the rest came from a mix of other resources. By 2020, the amount of coal-based generation fell to 33 percent while natural gas grew to 34 percent, nuclear reached 17 percent and wind and solar accounted for 13 percent. It has been a drastic change in a short amount of time. With a higher amount of variable generation resources, less

SPP “EXPECTS TO HAVE ENOUGH GENERATING CAPACITY TO MEET THE REGIONAL DEMAND FOR ELECTRICITY THROUGH THE SUMMER SEASON.”

firm generation available and the anticipation of increased electric usage because of higher than average temperatures, it sets up the potential for rolling power outages across the MISO footprint this summer.

HOW DO THE ENERGY MARKETS WORK?

Basin Electric owns generation and sells it into the SPP and MISO markets. Basin Electric buys all the power they need from those same markets to serve their membership, including your local electric co-op. It helps control costs throughout our co-ops by allowing us to sell generation into the markets when it is economically advantageous, or to access cheaper generation from the market when we need it. It was a critical strategic step taken by electric cooperatives to save their members money. But it also means that we can be subject to SPP directed rolling outages if demand exceeds generation across the entire SPP footprint like we saw in February 2021. Although electric cooperatives in the Dakotas are required to have enough generation to serve our own consumers, because co-ops are integrated in the grid we must share in any potential outages due to an energy emergency.

DID UTILITIES LEARN ANYTHING FROM THE FEBRUARY 2021 ENERGY EMERGENCY?

In February 2021, record-low temperatures and record-high electricity use across a region stretching from the Canadian border to Texas created what SPP called “the greatest operational challenge in its 80-year history.” Yet, even in

the extreme conditions, SPP had about four hours total of rolling outages across its 14-state region. That included South Dakota and cooperatives served by East River Electric and Rushmore Electric. East River was required to drop about 83 megawatts of demand over a short time on Feb. 16, 2021. Rushmore Electric was required to drop 22 megawatts on Feb. 16, 2021. After the emergency, SPP commissioned a comprehensive report and conducted an in-depth analysis of what happened. The report produced 22 actions, policy changes and assessments related to fuel assurance, resource planning and availability, emergency response and other areas.

Joining SPP was a strategic step that our cooperative network took several years ago to capture the benefits of being in an RTO. We have experienced immense financial and operational benefits over the past several years from our membership in SPP which have helped to keep electric rates stable. Looking ahead to this summer, most electric cooperatives in South Dakota are not within the MISO footprint and are not expecting an impact from any potential MISO rolling power outages. However, a few local co-ops in Minnesota and northern South Dakota may be called upon to take a rolling outage. Those co-ops will communicate with members if this becomes a possibility and will work to minimize the impact of these potential outages.