



SCHEDULING POWER

Scheduling is the kind of everyday functionality you rely on when you need transportation: making airport reservations, finding train and bus routes, or using Uber and Lyft apps. There are many logistics to consider and numerous tools necessary to keep planes, trains, buses, and cars running on schedule.

That's a comparable way to consider the power-markets scheduling done by Andy Ristau, Ben Nelson, and Chad Hanson, who work at our headquarters in Blue Earth. As long as the lights go on in Kenyon, Kasson, Janesville, Sleepy Eye, and beyond, "ABC," as the trio is known around the office, have done their job.

"First thing we do when we come in each morning is check the weather forecast and ensure that all our SCADA connections are working properly," said Andy, an Energy Analyst. "Then we work on scheduling our contracted resources, like our 5 x 16 energy contracts, wind contracts, the Western Area Power Administration (WAPA) contract, the Nebraska City Unit 2 generator in Nebraska, and others."

Contracted resources account for about 75 percent of the power that gets delivered to CMPAS members. Using these contracted resources and the Midcontinent Independent System Operator (MISO) market, we schedule a forecasted energy amount to each member every day. The value of that power or energy portfolio in 2019 was about \$13.4 million.

Andy, Ben, and Chad also check the transmission service requests before they begin scheduling to ensure there is adequate capacity to transmit the requested power.



Most of the remaining 25 percent of power delivered to members, valued at about \$2.3 million annually, comes from the MISO power market.

CMMPA transacts in two wholesale market/regional transmission organizations (RTOs) – MISO and the Southwest Power Pool. These organized power markets

allow Andy, Ben, and Chad to do their work in a marketplace facilitated by organizations that operate the bulk power system and corresponding energy markets designed to deliver reliable and economically efficient outcomes.

On a recent afternoon, our power schedulers watched MISO's real-time power delivery screen as prices ballooned from about \$40 per megawatt-hour (MWh) to over \$200 per MWh. After a few minutes, prices fell back to the \$40 level.

"Looks like a unit tripped off, driving the price of power up for a little while, but the market pretty quickly restored itself," remarked Chad, Supervisor of Operations and Analytics.

Looking back at 2019, Chad said the MISO market was **"pretty calm,"** despite periods of extreme weather and the retirement of dozens of coal-fired generating units. **"Every once in a while, there will be a short-term blip, but MISO has its market covered pretty well. The power supply is greater than the demand, which helps keep prices low. And MISO has adequate reserves in case a unit or two goes down unexpectedly."**

What Andy, Ben, and Chad do is one of the clearest examples of the economies of scale that CMMPA provides to its members. The team of three schedule power for 12 member cities. If the cities had to do that themselves, they'd each have to hire one full-time employee or engage an outside contractor. In either case, with 12 people scheduling power for 12 cities, operating efficiencies would be lost, and costs would go up.

In 2019, our power schedulers worked closely with Mountain Lake to develop a generation interconnection agreement (GIA) with MISO that would allow that member to sell excess capacity into the MISO market. Although it's not clear when Mountain Lake's GIA will be finalized, other members, including Glencoe and Delano, have GIAs.

Each year, our power schedulers work closely with Kyle Haemig, our Economist and Resource Planner, to develop a resource plan for each member. The power schedulers provide Kyle with power pricing and load information from the market, and Kyle uses that to suggest a cost-effective option for meeting each member's long-term power supply needs.

You could say the power schedulers provide the ingredients that Kyle uses to bake each member a cake.