



RTOs/ISOs File FERC Order 841 Compliance Plans

By Michael Brooks

WASHINGTON — Storage resources seeking to provide capacity would face much tougher requirements in some regions than others under proposed tariff revisions filed by RTOs and ISOs last week in compliance with FERC Order 841.

Storage offering capacity would have to continuously supply energy for two hours in ISO-NE, but four hours in NYISO and 10 hours in PJM.

Together, the filings by CAISO ([ER19-468](#)), ISO-NE ([ER19-470](#)), MISO ([ER19-465](#)), NYISO ([ER19-467](#)), PJM ([ER19-469](#)) and SPP ([ER19-460](#)) total more than 2,500 pages. FERC, grid operators and stakeholders now have a year to review, revise and implement the plans under a Dec. 3, 2019, deadline set by the commission when it issued Order 841 in February. (See [FERC Rules to Boost Storage Role in Markets.](#))

The complexity of the revisions led some grid operators to ask FERC to rule on their proposals quickly to give them enough time to implement all the changes by the deadline.

“The implementation of the revisions proposed herein is estimated to cost SPP alone in excess of \$800,000, and the magnitude of the effort requires major software and process changes to core SPP systems,” said the RTO, which requested FERC rule by March 1.

NYISO requested that FERC rule by Feb. 1, and it further asked that its implementation deadline be extended to May 1, 2020, because it is in the middle of “a significant upgrade” to its market software.

While MISO did not request an extension, it too is undergoing an overhaul of its market platform, noted Tanya Paslawski, executive

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Experts Urge Utilities to Train, Collaborate on Cybersecurity

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Senate Confirms McNamee to FERC

By Michael Brooks

The U.S. Senate voted 50-49 on Thursday to confirm Bernard McNamee as a FERC commissioner, restoring the commission to full strength and Republicans' 3-2 majority.

Every Democratic senator voted against McNamee, including Sen. Joe Manchin (D-W. Va.), who had joined Republicans on the Energy and Natural Resources Committee in its 13-10 vote Nov. 27 to advance the nominee to the floor. (See [McNamee Advances to Senate Floor.](#))

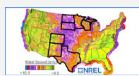
Manchin, a coal-state Democrat who often votes with Republicans on energy and environmental issues, is in line to become ranking member of the ENR Committee if Sen. Maria Cantwell (D-Wash.) moves to the Commerce Committee. That has rankled environmental groups and members of the more progressive wing of the party, who protested to Minority Leader Chuck Schumer at his office in New York last Monday.



Bernard McNamee | © RTO Insider

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Facing Condemnation, Xcel Pledges to Go 100% Carbon Free

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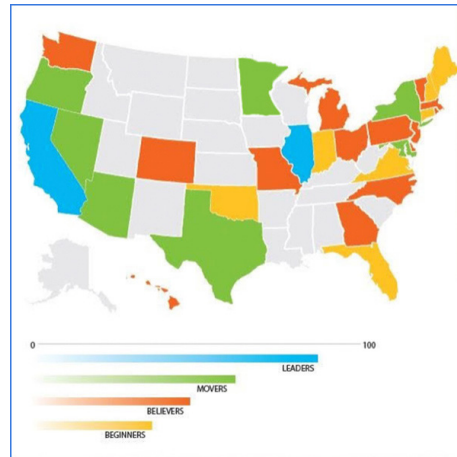
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California and Illinois won the top spots on the GridWise Alliance's fifth annual Grid Modernization Index, the group announced at the gridCONNEX 2018 conference. (p.3) | [GridWise Alliance](#)

Overheard at GridCONNEX 2018

(p.5)

RC Transition Fraught with Pitfalls, WECC Hears

By Hudson Sangree

SALT LAKE CITY — The reliability coordinator transition in the West in 2019 topped the discussion at the year's final quarterly meeting of the Western Electricity Coordinating Council's board of directors last Tuesday and Wednesday.

“This will absolutely be at the top of the priority list for 2019,” WECC CEO Melanie Frye told those gathered at the board's previous quarterly meeting. (See [Western RC Transition 'Hot Top' at WECC Meeting.](#))

Peak Reliability's decision to quit its RC role across WECC's footprint and hand off duties to CAISO, SPP and BC Hydro by the end of

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SPP Stakeholders: Stick with Dec. 2019 Date for Western RC

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GridCONNEXT 2018

Calif., Ill. Top Grid Modernization Index

By Rich Heidorn Jr.

WASHINGTON — California and Illinois won the top spots on the GridWise Alliance’s fifth annual Grid Modernization Index, standing out for their initiatives on energy storage, distributed generation, non-wires alternatives and ratemaking innovations.

Minnesota jumped to 10th place from 21st, and Colorado also jumped several spots to No. 11 in the index, which ranks states and D.C. on policies, customer engagement (rate structures, customer outreach and data collection practices) and grid operations (deployment of technologies such as sensors and smart meters).

GridWise announced the results at the *grid-ConnexT 2018* conference, where attendees heard about some of the projects exciting grid technology advocates.

‘Trailblazer’



GridWise Alliance CEO Steve Hauser | © RTO Insider

GridWise CEO Steve Hauser said California “continues to be the grid modernization trailblazer,” citing its distribution system planning requirements and “multi-pronged approach to support distributed energy resources, including competitive solicitations,

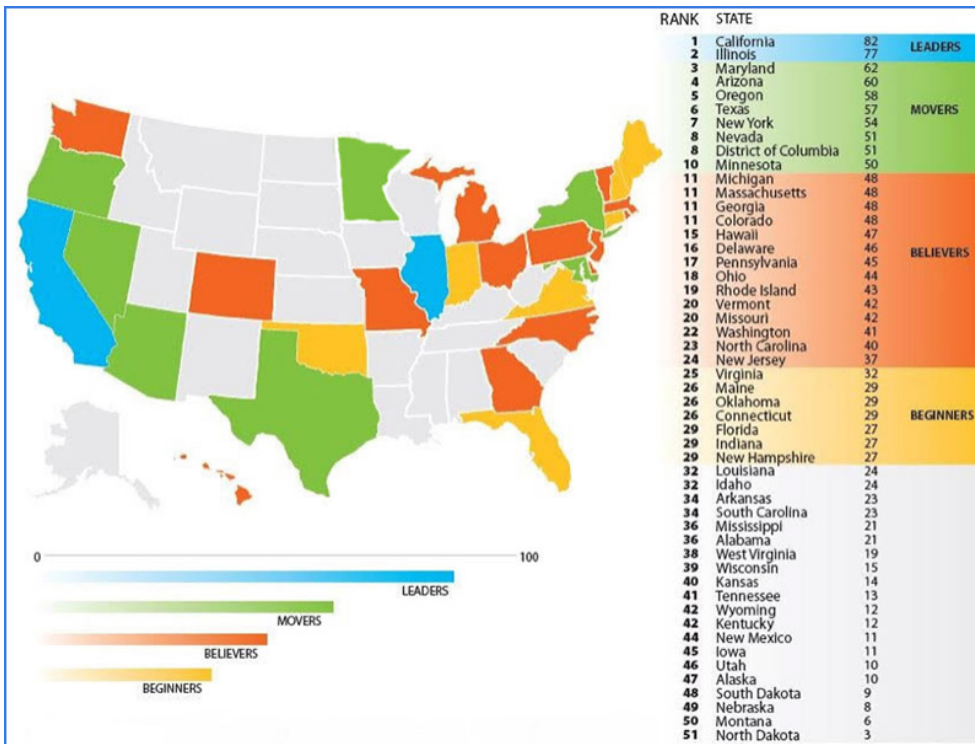
multiple DER demo projects, a self-generation incentive program, a net metering tariff, and an energy storage target and default time-of-use rates.”

Speaking at the conference, Courtney Prideaux Smith, chief deputy director of the California Energy Commission, noted that the CEC had just received approval to implement a requirement that new homes include solar panels beginning in 2020.



Courtney Prideaux Smith, California Energy Commission | © RTO Insider

The new standards require that the solar systems be sized to meet each home’s energy usage and encourage battery storage and heat pump water heaters. The CEC says the new rules and other energy-efficiency initiatives will reduce energy use in new homes by more



California and Illinois won the top spots on the GridWise Alliance’s fifth annual Grid Modernization Index, the group announced at the *gridCONNEXT 2018* conference. | GridWise Alliance



Solar panels at Borrego Springs microgrid | San Diego Gas & Electric

than 50%.

“It is going to save Californians money starting on day one,” Smith said.

Smith also touted the microgrid developments in the state, citing Borrego Springs, a desert community 90 miles east of San Diego that sits at the end of a transmission line, where frequent outages can leave elderly residents without air conditioning.

After a wildfire knocked out the line in 2007, San Diego Gas & Electric applied for a grant to create what Smith said is one of the world’s largest utility-owned microgrids, which inte-

grates generation and storage and has reduced the community’s greenhouse gas emissions by 20%.

When lightning and flooding knocked out the transmission line again in 2013, Smith said, “the microgrid did exactly what we wanted it to. It islanded, and it directed power to critical infrastructure” — a gas station, a library that served as a cooling center for those who couldn’t relocate, and an elderly community.

Smith also cited a tenant-owned mobile home park in Bakersfield where the state helped add solar power with storage, reducing the low-income community’s net energy consumption by 30%.

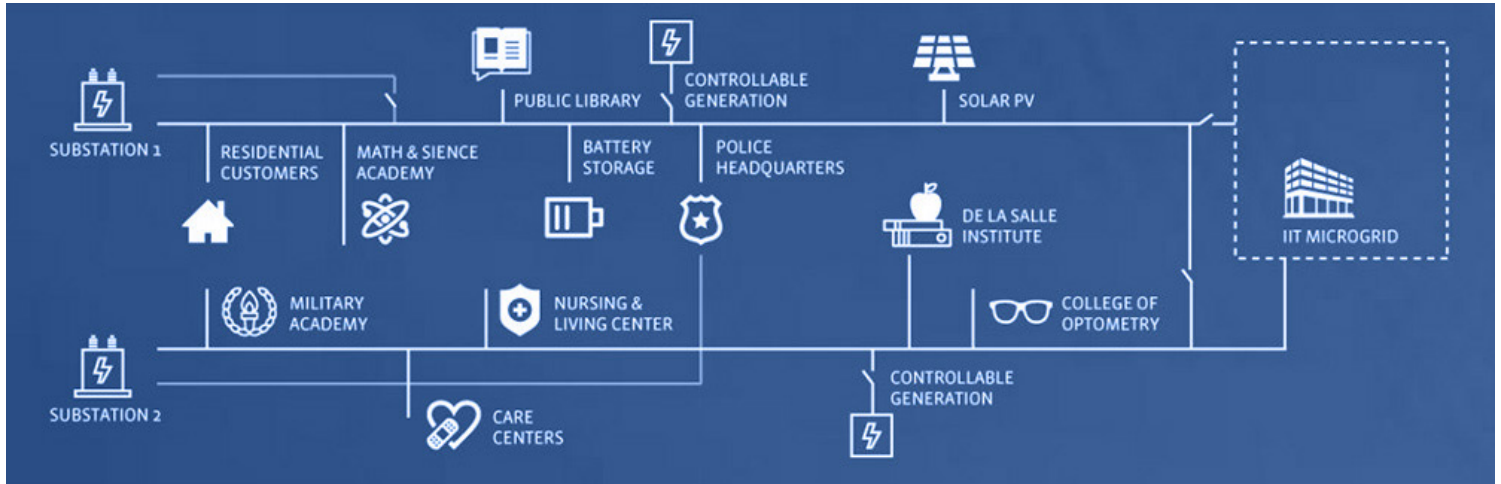
Cluster of Microgrids

Anne Pramaggiore, who oversees Exelon’s six utilities, told the conference about a pilot to build “the world’s first microgrid cluster,” which will connect a solar-powered microgrid in the Bronzeville neighborhood of Chicago to an existing microgrid at the



Anne Pramaggiore, CEO of Exelon Utilities | © RTO Insider

GridCONNEXT 2018



Bronzeville microgrid schematic | Commonwealth Edison

Illinois Institute of Technology. The project was [approved](#) by the Illinois Commerce Committee in February.

Solar panels located on a Chicago Housing Authority building will provide power to both the building residents and the microgrid. The plan also includes a “first-mile, last-mile” electric vehicle rideshare program for senior citizens and solar- and battery-powered lighting in areas without streetlights, a STEM education program at local schools, and an energy-efficiency program.

Pramaggiore said Exelon’s utilities also are “beginning to make investments to accelerate

the conversion of distribution circuits from 4 kV to 12 kV to accommodate more distributed generation; build[ing] out smart inverters to better integrate diverse resources into the grid; ... [and] standing up hosting capacity maps to help customers and developers see where the grid has capacity for solar.”

GridWise also cited the ICC’s approval of an order allowing utilities to recover the costs of cloud-based computing services “seen by many observers as a key pathway to move toward a service orientation (versus the traditional infrastructure focus core to most regulatory regimes).”

Ohio and Rhode Island Cited

GridWise gave Outstanding Progress Awards to Ohio and Rhode Island for recent initiatives.

The Public Utilities Commission of Ohio is pursuing regulatory changes “to support innovation while envisioning the distribution grid as an open-access platform enabling various levels of customer engagement,” GridWise said.

The group said Rhode Island regulators addressed their changing distribution system with new rate design principles and a benefit-cost framework. ■

If You’re not at the Table, You May be on the Menu



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GridCONNEX 2018

Overheard at gridCONNEX 2018

Consumers not Benefiting from Smart Grid, Advocate Says

WASHINGTON — When it comes to the smart grid, count consumer advocate David Springe as a nonbeliever.

He began his talk at gridCONNEX 2018 last week with a vendor's definition: "Smart grid is the convergence of information and operational technologies applied to the electric grid, allowing sustainable options to customers and improved security, reliability and efficiency to utilities."



David Springe, National Association of State Utility Consumer Advocates (NASUCA) | © RTO Insider

Then Springe gave the consumer advocate's definition: "Smart grid employs new technologies that are more expensive and less secure than the current technologies to give pricing flexibility that customers don't want, to communicate with small and smart appliances customers don't own."

Although he wrote that definition eight years ago, Springe, executive director of the National Association of State Utility Consumer Advocates (NASUCA), said it still applies. "The vast majority of customers don't interact with their meters; [they] aren't on time-of-use rates," he said.

Customers, he said, have seen little benefit from replacing \$100 analog meters that were depreciated over 30 years with digital meters that cost twice as much and are depreciated over only five years. "Frankly, all that meter infrastructure was pretty much used to read meters once a month. We spent a lot of money. If we did it under the premises of providing something that consumers wanted, we failed.

"There's a million great ideas out there that only need somebody's money to make it happen," he continued. Consumer advocates "see this at the ground level where all these grand ideas that are being shared in this room show up on the utility balance sheet, show up on the utility bill."

Instead of lusting after new technology, Springe said, utilities and regulators should focus on increasing efficiency and reducing costs through outsourcing and cloud computing. "Why does every utility have its own communication system? Meter system? Back office systems?" he asked.



John Gartner of Navigant Research (at podium) moderated a discussion on electrifying city bus fleets at gridCONNEX 2018 last week. Appearing on the panel were, left to right, Lisa Jerram, American Public Transportation Association; Stephanie Medeiros, ABB; Ryan Popple, Proterra; and Michael Smith, Constellation. | © RTO Insider

Springe said consumers are seeing reduced generation costs swamped by increases in distribution and transmission charges.

That's due in part to antiquated cost-of-service ratemaking that is preventing innovations that could save consumers money, said former FERC Chair Jon Wellinghoff, who shared a panel with Springe.



Former FERC Chair Jon Wellinghoff | © RTO Insider

Wellinghoff is much more bullish on new technology, such as transmission devices that can add capacity without reconductoring or adding new substations.

He cited a project that Pacific Gas and Electric is building in West Oakland, which will combine distribution-level storage, behind-the-meter controls for demand response and distributed generation, and the aggregation of rooftop solar to address reliability concerns over the retirement of a Dynege generator. The \$100 million project won out over a \$300 million proposal to add a new 230-kV transmission line.

That was good news for consumers, but not for PG&E, which won't get to earn a return on the more expensive transmission investment, said Wellinghoff, who served for seven years as Nevada's consumer advocate before joining FERC.

"We have to reconcile this somehow ... so that utilities will have ... incentives aligned with what we all would like to have for consumers,

which is [an] efficient, cost-effective system that is clean," he said.

Narrow Window for Energy Legislation in 2019

The conference also featured discussions on prospects for energy legislation in the new Congress.

The new Democratic House majority will have only a few months to work with Senate Republicans and President Trump on energy policy before the 2020 presidential election intrudes, said Jason Hartke, president of the Alliance to Save Energy.



Jason Hartke, Alliance to Save Energy | © RTO Insider

Hartke said likely Speaker Nancy Pelosi (D-Calif.) will face a challenge managing the tension between "a whole lot of excited new members who want to do things like build the Green New Deal versus [veteran Rep. Paul] Tonko [D-N.Y.] talking about singles and doubles." (See [Optimism Rising on EVs as Sales Hit 1 Million Mark.](#))

Hartke said a bipartisan infrastructure bill that includes spending for grid modernization and electric vehicle charging is "the one opportunity for a home run." But he said the fate of such legislation hinges on whether Trump engages and can win the support of the Republican-controlled Senate.

"We're working hard now for a tax extenders package that makes sense. Right now, the

GridCONNEXT 2018

House package is looking backwards, so it's retroactive [extending already expired tax breaks]. We want it to look forward, so you could actually change behavior."

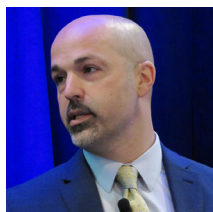


Andrew Shaw, Dentons
| © RTO Insider

Attorney Andrew Shaw, senior managing associate with Dentons, said new members who campaigned on bold action on climate change will be motivated to support smaller changes so they can take credit for legislative accomplishments.

"Something like an infrastructure bill – which faces a lot of hurdles undoubtedly – is a vehicle that you could maybe get some of those wins, because everybody wants to be able to go back home and be able to talk about what they're doing," Shaw said.

"It's not a given that energy's going to be in the mix" in an infrastructure bill," said Amit Ronen, deputy chief of staff to Sen. Maria Cantwell (D-Wash.) in a separate discussion. "It's something we've got to educate members ... on."



Amit Ronen, deputy chief of staff to Sen. Maria Cantwell (D-Wash.) | © RTO Insider

Ronen noted that Cantwell, the ranking member of the Energy and Natural Resources Committee, cosponsored the \$7,500 passenger EV tax credit with Orrin Hatch (R-Utah).

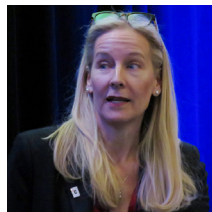
"So now we're looking at, is there a role for the government in incentivizing electrification of other transportation? We're talking about boats, trucks, buses, even planes, which two years ago I wouldn't have even thought ... was possible."

Shaw said there has been some progress in the last six years in building consensus on climate change, noting the introduction last month of a bipartisan *bill* that would set a carbon tax beginning at \$15 per metric ton in 2019. The bill is based on the carbon dividend proposal offered last year by Republican party elders James A. Baker III and George P. Schultz. (See [Lott, Breaux Join Push for Baker-Schultz CO2 Dividend Plan](#).)

"Unfortunately, in the House we did lose some more moderate [Republicans] who do believe in climate change science and were willing to engage," Shaw acknowledged.

Corporate Decarbonization

Companies are "being forced to act [on decarbonization] because government has failed us," said Amy Davidsen, North America executive director for the Climate Group, which manages RE100, a collaborative of more than 150 businesses that have committed to using 100% renewable electricity.



Amy Davidsen, Climate Group | © RTO Insider



Bill Weihl | © RTO Insider

Bill Weihl, former Google "green energy czar," predicted RE 100 companies will grow to more than 300 in the next several years.

Weihl said the big innovation the last few years has been less about technology and

more about development of new products, such as the two dozen "green" tariffs in 15 states.

But Hans Royal, director of strategic renewables for Schneider Electric, said many of the tariffs are too expensive or put too much risk on corporate buyers to be effective.



Hans Royal, Schneider Electric | © RTO Insider

Electrifying Bus Transit

The two-day conference also provided an update on accelerating efforts to electrify city bus fleets.



Lisa Jerram, American Public Transportation Association | © RTO Insider

"The orders for battery electric [buses] are ramping up really rapidly," said Lisa Jerram, director of bus, paratransit and surface transit for the American Public Transportation Association.

Jerram said only about half of city transit buses are now pure diesel,

down from 90% 10 years ago.

Compressed natural gas powers about 25% of fleets now, with hybrid diesel-electrics comprising about 20%, according to Jerram and Ryan Popple, CEO of electric bus maker Proterra.



Ryan Popple, Proterra | © RTO Insider

But Jerram said many transit agencies need utilities' assistance to make the transition. "They don't understand utility systems that well; they don't understand rate structures," she said. Utilities also can help bus operators manage the logistics

of charging in their depots and on routes, she said.

Popple said his company has received orders from 39 states. "If you add up the cities that have already mandated that they're going electric – that includes ... cities like Seattle and New York City – 10,000 of the 70,000 buses on the road are already politically mandated to go electric. So it's coming. And the things that we figure out on the bus side you'll need to them again at larger scale in school bus and truck [conversions]."

Europe's Challenges



Laurent Schmitt, European Network of Transmission System Operators (ENTSO-E) | © RTO Insider

The conference heard a keynote address from Laurent Schmitt, secretary-general of the European Network of Transmission System Operators (ENTSO-E), which he described as "kind of the FERC of Europe." The organization has 43 transmission system operators in 36 countries.

Schmitt said although the Nordic countries are blessed with offshore wind, it is a challenge to move the power to load centers. "Our system does not get planned as efficiently as what we would like, and it's getting very hard to get transmission lines [sited] in Europe, especially getting people from certain states understanding that they have to build the line for the sake of other Europeans," he said.

Schmitt said Europe does not use LMPs, "but I think we will have to go into a similar model in the future" to address scarce grid capacity.

Europe also faces challenges as renewables replace traditional generation, he said. Fossil fuels (coal, gas, oil, mixed fuels and peat) were responsible for 43% of Europe's energy production in 2017, with renewables adding 33% and nuclear 22%.

"Are we going to be able to maintain frequency ... when we have no rotating mass?" he asked. ■

– Rich Heidorn Jr.

INFOCAST'S FEDERAL ENERGY POLICY SUMMIT

Experts Urge Utilities to Train, Collaborate on Cybersecurity

By Michael Brooks

WASHINGTON — Experts in cybersecurity last week painted a somewhat dire picture when detailing the threats to the electricity industry posed by countries such as Russia, Iran, North Korea and China.

Perhaps the only thing they described that was more worrying than hackers' persistence and the inevitability of a major attack on the U.S. grid was the No. 1 cyber risk: lack of common sense.



Jerome Farquharson | © RTO Insider

Eight out of 10 cyber-attacks are caused by people making very poor decisions, said Jerome Farquharson, a cybersecurity consultant at Burns & McDonnell. "One of the biggest things, and I always say this when I sit down and start talking about

cybersecurity and trying to close the gaps, is that cybersecurity [requires] a common-sense approach," he said. "If we just did some very simple things, we can start making ourselves secure.

"Human nature by itself is very trusting. But when we start training people, for an example, not to use USBs [thumb drives] or not to click on email links [when] you know you're not winning the lottery any time soon, [they] still click on them! ... We go to vendor shows, and guess what vendors give out? USBs."

Farquharson told several stories to illustrate his point. In one, an employee allowed his children to play on his laptop — the same one he used to perform system maintenance at a substation. The laptop became infected with malware at home, then went on to infect the substation's system and his colleagues' computers, leading to a control center outage.

In another example, Farquharson's team sent phishing emails to a company's 200 employees to test them after it had trained them in cybersecurity awareness for a week. More than 90 employees clicked on the links in the emails. After retraining those employees, it conducted another test a week later. More than 50 of those employees still clicked on the links.

In a different training exercise for another company, Farquharson's team scattered USB thumb drives infected with malware throughout the company's building and parking lot.



Jim Cunningham, Protect Our Power (left), and Amelia Estwick, Excelsior College | © RTO Insider

Twenty employees picked them up; 10 plugged them in.

"The biggest threat sometimes is the human factor," he said. "And so that's where you have to really [spend] a lot of time on training and awareness." The most secure companies are those with consistent, regular training, he said.

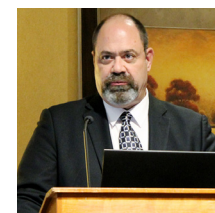
On another panel at the summit, Jim Cunningham, executive director of nonprofit Protect Our Power, said he sees similarities between the pre-9/11 airline industry and the electricity industry's defenses against cybersecurity today. He recounted his experience witnessing the explosion caused by United Airlines Flight 175 crashing into the South Tower of the World Trade Center on Sept. 11, 2001. He recalled that television media at the time were calling the attack "sophisticated."

"I thought, 'Oh my God, that's wrong.' It was 19 guys with boxcutters; it was an unprepared airline industry; and it was an unprepared security industry," he said. "We were paying people at the airports \$10/hour to keep bad people off the planes. And we didn't spend a few extra bucks to take those thin doors that were in front of the cockpit and make them stronger."

Cunningham's organization recently published a [report](#) focusing on the solar inverter supply chain. It found that about 47% of the world's inverters come from Huawei, "a company that is banned by the U.S. government from the

telecommunications business," he said. The report says evidence is mounting that Huawei regularly flouts U.S. and international laws. "A threat actor with access to the inverter supply chain allows the manipulation of massive quantities of inverters, the ability to embed malware into the operating system away from the end-consumer and to operate under the veil of a reputable manufacturer," it says, and makes several recommendations to mitigate the risk.

Still, preventing a catastrophic cyberattack on the grid "is the equivalent of a modern-day moonshot," he said. "We've got to get everybody together, we need to get all the money we need and we have to get the smartest people on this issue to come up with a solution now."



Robert Keen | © RTO Insider

cohesive defense: defense where we're working together. We need to be able to start working together to design multilayered defenses that work with each other." ■

Ronald Keen, senior energy adviser at the Department of Homeland Security's National Risk Management Center, said the days of companies independently defending themselves "are pretty much gone. We need to begin looking at

CAISO/WECC NEWS



RC Transition Fraught with Pitfalls, WECC Hears

Continued from page 1

2019 comes with potential pitfalls, including staff attrition at Peak and the lack of any real backup plan should major problems arise, speakers said.

Peak stunned the Western electricity sector in July when it unexpectedly announced it would wind down operations just months after kicking off a push to create a regional organized market in partnership with PJM. (See [Peak Reliability to Wind Down Operations](#).)



Jim Shetler, with the Balancing Area of Northern California, briefed the WECC board on the RC transition in the West. | WECC/Chad Coleman

“What happens if things really go bad?” WECC Chair Kristine Hafner asked. “Is there an emergency response team?”

It fell to Jim Shetler, general manager of the Balancing Authority of Northern California and chair of Peak’s Member Advisory Committee, to brief

WECC board members on the RC transition’s shortcomings and the procedures that have been put in place to help head off problems. Though Shetler has no official position with WECC, he’s become a de facto point person for the RC transition.

Peak has been losing key staff members who,



The entrance to WECC headquarters in downtown Salt Lake City. | © RTO Insider



Representatives of electricity entities from across the West and Canada met in Salt Lake City for WECC’s quarterly board meeting last Tuesday and Wednesday. | WECC/Chad Coleman

with their employer’s end in sight, decided to find new jobs, Shetler told the board. Many in Washington and Colorado took positions with electricity entities in those regions, he said.

To stem attrition, Peak detailed the severance packages that each employee will receive if they stay with the company until they’re no longer needed, he said.

With that, Shetler said, “the unplanned departures, I expect, will come down quite a bit.”

Peak and other companies are also exploring the idea of a mutual assistance program, under which employees who leave the organization early and take jobs elsewhere could be loaned back if they’re needed, he said.

Another potential problem is that there are four major transition dates planned through 2019, and something could go wrong each time, Shetler said.

“That is four opportunities for ‘aw shit,’” he said.

CAISO will assume the RC role for its existing territory on July 1, 2019. BC Hydro will become the RC for a large swath of southwestern Canada on Sept. 2. CAISO will then take over RC services for some areas outside of California on Nov. 1, while SPP will take responsibility for other parts of the West on Dec. 3.

Shetler said the latter dates are worrisome because they provide no room for error. Peak essentially will be out of the RC business on

Dec. 4, 2019, and won’t step back in if things go south, he said.

He and others are hoping that some of the transition dates will be moved up. “We just think from a risk standpoint that makes sense,” he said.

Shetler said that in addition to the multiple transition dates, “what keeps me up nights [is over worry over] whether Peak is a going concern in the next 12 months.” With the company in the unusual position of planning its own demise, there’s no certainty it will remain a viable business throughout 2019, he said.

In comments after the meeting, Linda Jacobson-Quinn, regulatory compliance manager for the Farmington Electric Utility System in New Mexico, said the municipal utility and others were concerned about the transition because of how it could affect their systems.

Farmington owns fewer than 200 miles of 115-kV transmission lines in the Four Corners area and operates two small gas-fired power plants, she said. The utility is too small to seriously disrupt the grid, “but a lot of times the larger grid can have a significant impact on us,” she said.

Frye agreed that 2019 will be year of challenges for reliability in the West.

“This is a risky year, and I think everyone’s posture is really focused on this,” she told the board and audience. “At the end of the day, it’s the customers that must have an RC.” ■

CAISO/WECC NEWS



Facing Condemnation, Xcel Pledges to Go 100% Carbon Free

By Hudson Sangree



Xcel Energy committed last week to providing its customers with carbon-free energy by 2050, becoming the first large investor-owned utility to make such a pledge.

The company also said it would cut its carbon emissions 80% by 2030.

"This is an extraordinary time to work in the energy industry, as we're providing customers more low-cost clean energy than we could have imagined a decade ago," Xcel CEO Ben Fowke said in a [news release](#). "We're accelerating our carbon-reduction goals because we're encouraged by advances in technology, motivated by customers who are asking for it and committed to working with partners to make it happen."

Another likely motivation is that Xcel has faced dissent from some of its service areas. Boulder, Colo., is attempting to condemn the utility's assets and create a municipal utility, with the goal of providing residents with all-renewable energy by 2030.

On Dec. 6, the same day that Xcel made its clean-energy announcement, the Boulder City Council [authorized](#) city staff to proceed with the acquisition of Xcel's assets.

"This process will allow the city to determine a price for the assets prior to the community decision on Local Power, currently scheduled for November 2020,"

the city [said](#). It scheduled a meeting Dec. 13 to discuss its plans.

A [joint application](#) to separate Xcel's assets in Boulder is pending before the Colorado Public Utilities Commission.

Xcel's commitment to carbon-free energy allows its two nuclear plants in Minnesota to be part of the mix. Boulder's pursuit of 100% renewable energy would not.

The company, which has 17,000 MW of [generation](#), says it has reduced its emissions by 35% since 2005. About 40% of its electricity currently comes from carbon-free sources, led by wind (21%), nuclear (13%) and solar (2%). Coal is responsible for 37% and natural gas provides 23%.

Headquartered in Minneapolis, Xcel serves 3.6 million customers in eight Western and Mid-

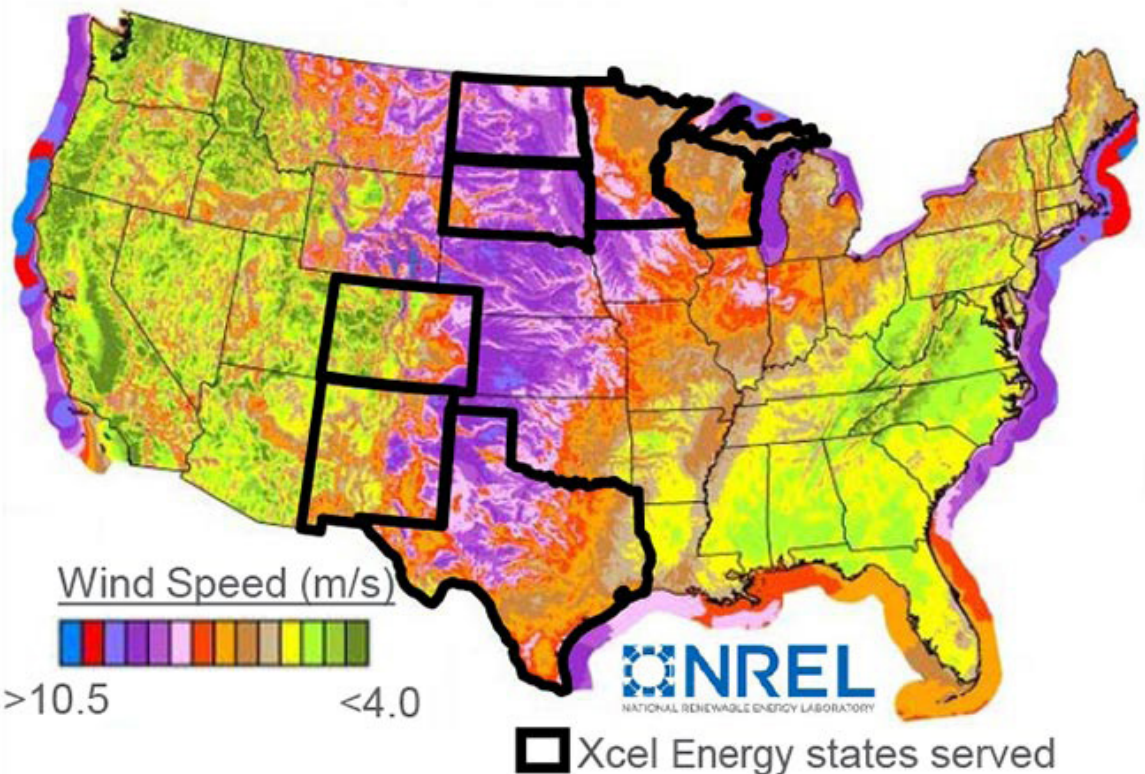
western states: Colorado, Michigan, Minnesota, New Mexico, North Dakota, South Dakota, Texas and Wisconsin.

In a [presentation](#) to investors in New York last week, the company touted its "advantaged geography" for making a "cost-effective clean energy transition," noting that wind resources in its territory have a lower levelized cost of electricity than fossil fuels. It has targeted 4,400 MW of coal capacity for retirement and plans to add 3,550 MW of additional wind capacity by 2021.

In total, the company says it will need to invest \$20 billion to \$30 billion to add 12 to 18 GW of wind, solar, storage and natural gas capacity.

Investors appeared unperturbed by the company's plans. Xcel shares closed Friday at \$53.19, up 33 cents (0.6%) from its price before the announcement. ■

Wind Resource – Annual Average Wind Speed (at 100 meters)



Xcel says its transition to 100% carbon-free power will be aided by its "advantaged geography," noting that wind resources in its territory have a lower levelized cost of electricity than fossil fuels. | Xcel Energy, National Renewable Energy Laboratory



ERCOT Predicts Tight Reserve Margin for 2019

By Tom Kleckner

ERCOT said last week it confronts a historically low 8.1% planning reserve margin for next summer in the face of continued high electricity demand from oil and gas producers in West Texas and the cancellation of several generation projects.

The grid operator's December *Capacity, Demand and Reserves* (CDR) report shows more than 78 GW of operational generation capacity available next summer to meet expected demand of 74.9 GW. That marks a 600-MW increase in capacity over the May CDR forecast and a 1-GW jump above this summer's record peak demand of 73.5 GW.

ERCOT had an 11% reserve margin this past summer, when it met multiple demand peaks without resorting to emergency actions.

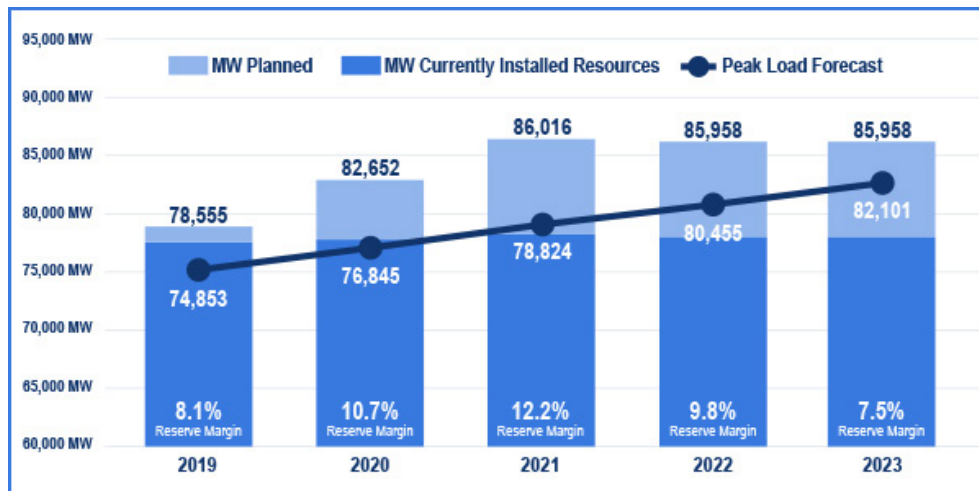
It has approved 1.7 GW of various resources for commercial operations since the May CDR. However, three proposed gas-fired projects totaling 1.8 GW of capacity and five wind projects totaling 1.1 GW have been canceled since May. Another 2.5 GW of gas, wind and solar projects have been delayed.

"The ERCOT market has experience in these cycles of [generation] retirements and resource investment," Pete Warnken, the grid operator's manager of resource adequacy, said during a media conference call. "What we're encountering now is nothing new."



Pete Warnken | © RTO Insider

Warnken said ERCOT's energy-only market is working as it was intended, with pricing signals incenting new generation. However, prices



ERCOT faces historically low reserve margins next year in the face of expected increases in demand. | ERCOT

increased only slightly during the scarce times of the past summer.

"We are in a transition period where we're facing lower reserve margins. Operationally speaking, we think the market is functioning the way it was designed," Warnken said.

The report does indicate operating reserves will increase to 10.7% in 2020 and 12.2% in 2021, before falling again to 9.8% and 7.5% the following two years. More than 7.4 GW of installed capacity — all wind or solar, save for 100 MW of gas generation — is eligible for future inclusion in the CDR.

Warnken and Senior Director of System Operations Dan Woodfin worked hard to allay concerns during the call, reminding listeners that the CDR is a snapshot of resource availability "based on the latest information from resource owners and developers."

Woodfin said ERCOT doesn't view the shrinking reserve margin as a concern. He said the grid operator can take several actions as operating reserves approach or drop below the minimum level of 2.3 GW, including using switchable resources in neighboring grids, procuring emergency responsive service, releasing ancillary services held in reserve and reducing load.

"Our role is to manage the grid and ensure it's reliable on a systemwide basis. We certainly have the tools in place," Woodfin said.

Asked whether ERCOT faces a greater risk of entering into an emergency situation, Warnken said, "We don't know at the present time." He

said future CDR reports could show increases in capacity.

Warnken pointed to West Texas oil and gas development as driving the increased demand. ERCOT projects an 8% annual growth rate in West Texas peak demand through 2023, quadruple its 2% systemwide load growth during the same time period.

Warnken admitted the oil and gas sector is volatile, but he said ERCOT has been in close contact with transmission and distribution providers about their service requests.

"Like the CDR in general, [ERCOT's West Texas forecasts] are based on the current information we've been given," he said.

"Industrial load growth has been central to ERCOT from the beginning," CEO Bill Magness said last month in Houston. "That type of load comes in big chunks."

ERCOT has a target planning reserve margin of 13.75%, which Warnken said is "purely informational" and not used to set requirements for generation standards.

Woodfin said ERCOT will be able to provide a clearer picture of summer expectations when it issues its next seasonal assessment of resource adequacy (SARA) in March. The SARA will include various scenario assessments, while the CDR relies on a 50/50 forecast with a 50% probability the peak will be higher or lower than predicted.

The grid operator will release its next CDR report in May. ■



Texas PUC Briefs

Walker: More Visibility Needed into DERs, Self-Gen

Calling ERCOT's recently projected reserve margin of 8.1% for 2019 a "very concerning number," DeAnn Walker, chair of the Texas Public Utility Commission, last week urged the grid operator to gain a "better sense" of the distributed resources and self-generation that could be affecting the system.

"I think we're getting to a point where we need more transparency into those issues," Walker said during the PUC's Dec. 7 open meeting. "I think the electric system is changing, and we're moving to a more customer-initiated ownership" of energy resources.



A Buc-ee's station near Houston | Buc-ee's

Using her favorite example of the mammoth [Buc-ee's convenience stores](#) found along Texas highways, Walker noted how the chain "is dropping gas units behind [the stores] to get away from high prices or to sell into the market."

"More and more people are going to be doing this," Walker warned. "I really want ERCOT and the market to move forward to give them more visibility into what we have out there."

Warren Lasher, ERCOT's senior director of system planning, agreed with Walker that the initiative does not require a rulemaking from the PUC.

"We have been working with stakeholders on a different number of fronts," Lasher said. "It's likely our current efforts are not urgent enough to meet the need associated with the changing grid and the resource reports we have been issuing lately. I would take that need back, and maybe set a slightly different tone working with stakeholders."

ERCOT has seen a 62% growth rate in distributed energy resources over the last three years, CEO Bill Magness said during a November Gulf Coast Power Association luncheon. Although DERs currently account for about 1.3 GW of capacity, Magness said staff have worked with transmission and distribution pro-

viders to map some of the 93 existing registered DERs and to map all registered DERs to the system load. (See [ERCOT CEO: Solar Growth 'an Interesting Challenge.'](#))

Commissioner Arthur D'Andrea pointed out that the lack of visibility into DERs and self-generation hampers the preciseness of meeting projected load.

"It's striking how much well-spent time ERCOT [uses] estimating load out in West Texas, and how much time we spend getting it right," he said. "Then you have that precision undermined by someone and having this giant question mark out there."

SPS, DOE Dispute Dismissed

The PUC agreed with an administrative law judge's dismissal of a dispute between Southwestern Public Service and the U.S. Department of Energy's Pantex nuclear weapons facility near Amarillo, Texas (Docket [48440](#)).

The department sought an order from the commission compensating it for excess generation from the facility's 11.5-MW wind farm. The request was part of a broader SPS rate case but was severed from the application in 2017.

The ALJ found SPS met its burden of proof in showing its billing arrangement with DOE was appropriate and ordered that no changes be made.

PUC Issues \$1.49M in Fines

The commissioners approved \$1.49 million in administrative penalties following settlement

agreements in nine dockets. The largest fine, \$1.1 million, was assessed to generator Luminant for providing ERCOT with false telemetry data, which prevented the grid operator from economically dispatching units (Docket [48607](#)).

Two retailers, Source Power and Gas and Reliant Energy Retail Services, were fined \$50,000 and \$100,000, respectively. Source improperly placed switch-holds on 91 customers who had entered into payment arrangements and failed to remove 71 switch-holds in a timely fashion (Docket [48608](#)), while Reliant was docked for failing to timely send bills to customers and for improperly billing more than 47,930 customers (Docket [48773](#)).

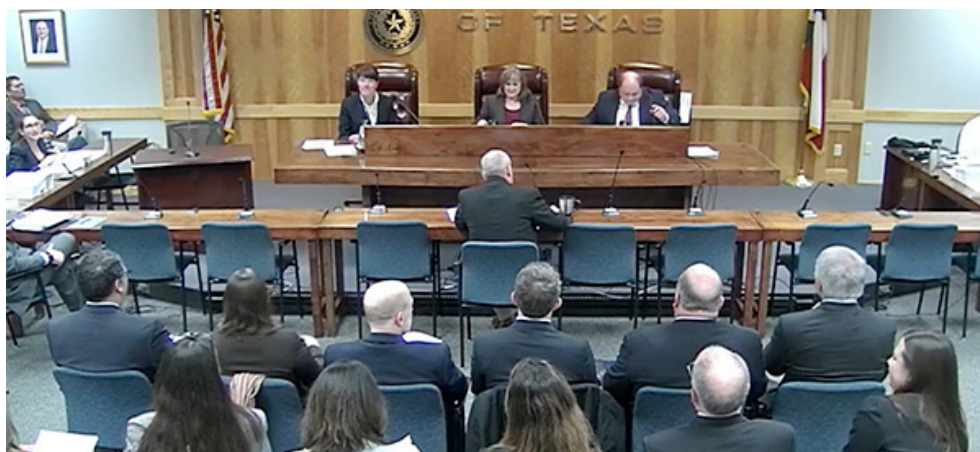
The commission also approved \$240,200 in electric utility service quality settlements involving six different utilities in the following dockets: [48573](#), [48628](#), [48642](#), [48674](#), [48772](#) and [48774](#).

Commission to Intervene in SPS FERC Docket

Following its executive session, the PUC agreed to intervene in Xcel Energy's request before FERC to change SPS' transmission formula rate template ([ER19-404](#)).

SPS is seeking a \$9.4 million increase in its 2019 wholesale transmission service revenues, with almost \$5 million being recovered from wholesale customers in the company's SPP transmission rate zone and \$4.5 million being recovered from other SPP tariff customers through regional transmission rates. ■

— Tom Kleckner



The Texas PUC's Dec. 7 open meeting



ISO-NE Fuel Security Measures Approved

By Michael Kuser

FERC last week approved ISO-NE's interim proposal to use an out-of-market mechanism to address concerns about fuel security (ER18-2364).

ISO-NE filed the Tariff revisions after FERC on July 2 denied a Tariff waiver to allow the RTO to enter a cost-of-service agreement to keep Exelon's 2,274-MW Mystic plant running after its capacity obligations expire in May 2022. The commission instead directed the RTO to revise its rules to allow such agreements in order to address fuel security.

FERC tentatively accepted the Mystic cost-of-service agreement on July 13 while ordering an expedited hearing on unresolved issues. (See *FERC Advances Mystic Cost-of-Service Agreement*.)

Commissioners Cheryl LaFleur and Richard Glick approved the Dec. 3 order, with Chairman Neil Chatterjee dissenting in part. Commissioner Kevin McIntyre did not participate in the decision.

"We find here that the proposed study process, including the model assumptions and proposed trigger criteria as modified by ISO-NE from the OFSA [Operational Fuel-Security Analysis] and Mystic retirements studies, is just and reasonable," the commission said. "Nevertheless, we encourage ISO-NE to work with all interested parties, including [the New England Power Pool], to continue to address their areas of disagreement while developing the long-term market solution."

The commission also directed the RTO to submit "an annual informational filing regarding the applicability of its study triggers, study assumptions and study scenarios compared to actual experiences, starting with the winter of 2022/23, for the duration of this interim mechanism."

Cost Allocation

In accepting ISO-NE's proposal to allocate to load the out-of-market costs for retaining fuel-secure resources, the commission agreed "that the goal of the proposed revisions is similar to that of [ISO-NE's] Winter Reliability Program and therefore should have a similar cost allocation method."

The commission agreed with the RTO that it is inappropriate to allocate fuel security costs to



Distrigas LNG Plant in Everett, Mass., at sunset | Distrigas

transmission customers because fuel security concerns are distinct from traditional transmission-related reliability needs.

"Specifically, the reliability need that triggers the proposed revisions is a depletion of 10-minute reserves to a particular level or load shedding, as opposed to the violation of local transmission reliability criteria," the commission said. "Additionally, unlike reliability-must-run resources, the need for a fuel-secure resource is unlikely to be met by local or pool transmission upgrades."

Under the revisions, ISO-NE will now enter fuel security resources into the Forward Capacity Market as price-takers, ensuring that their resource adequacy contributions are counted.

With respect to capacity market offers, "there is no meaningful distinction between resources retained for reliability and resources re-

tained for fuel security," the commission wrote.

In his partial dissent, Chatterjee argued that the RTO's price-taker provision undermines the fundamental premise for implementing a process to support fuel security, and that lower capacity auction prices will encourage marginal units to retire.

"If these same units also are fuel-secure resources, then this price suppression could lead to a further decline in fuel security," Chatterjee said. "The result could be a vicious cycle of additional out-of-market interventions for these retiring resources, further price suppression and even more retirements, which, in turn, will only further diminish the region's fuel security."

Input Assumptions

The Tariff revisions include a formal fuel security reliability review process for resources submitting retirement delist bids for Forward

ISO-NE NEWS



Capacity Auctions 13, 14 and 15, which correspond to capacity commitment periods 2022/23, 2023/24 and 2024/25, respectively.

The RTO will now apply a uniform set of 18 modeling scenarios to establish whether a resource submitting a retirement de-list bid is needed to maintain regional fuel security.

To measure the operational impact of a specific generator retirement, the RTO will model its system under each scenario, absent the generator that has submitted a delist bid, and model generators in descending order of their bids.

Under the RTO's proposal, a generator will be retained for fuel security purposes if one of two triggers occur after full utilization of Operating Procedure No. 4 (OP-4), actions taken during a capacity deficiency when available resources are insufficient to meet anticipated electricity demand plus required operating reserves:

- Reduction of 10-minute reserves below 700 MW in any hour in the absence of a con-

tingency in more than one LNG-gas supply scenario case; or

- The use of load shedding in any hour under OP-7, when the RTO requests that generators and demand response resources not subject to a capacity supply obligation voluntarily provide energy for reliability purposes.

The RTO will use the same model developed for OFSA to assess the need to retain a resource for fuel security. To evaluate the operational impacts of generator retirement delist bids, predefined scenarios will test system performance under a range of scenarios and sensitivities, absent a retiring generator.

Static input assumptions will model a number of system parameters, including winter peak load, winter load profile and local distribution company natural gas demand.

In addition, the RTO will use three variable inputs in the model: LNG injections, electricity imports and the dual-fuel oil tank fill rate, which represents the number of oil refills at

dual-fuel generating units per 90-day winter season.

The commission noted that many commenters argued for modifications to the two proposed triggering criteria.

"Some commenters argue that the triggering criteria are too conservative, meaning the criteria are easily violated and will result in unnecessary out-of-market interventions," the commission said. "Still others argue that the triggering criteria are not conservative enough, meaning that the criteria are not easily violated and will result in an elevated risk to reliability in cold weather months."

The 700-MW trigger is intended to account for improvements in system performance between the forecast year and the operating year, which are not fully accounted for in the modeling, the RTO said in its filing.

The allowance for reduction of 10-minute reserves in the analysis does not indicate allowance of any violation of NERC operations criteria, the RTO said, adding that it will continue to maintain needed generation reserves to meet mandatory reliability criteria during operation.

Connecticut regulators supported the revised modeling methodology because "it incorporates more recent data that would be updated annually and accounts for resources under state contracts, [and] balances conservative and optimistic approaches to avoid both over-procurement and reliability problems."

Market Failure

In a concurring opinion, Glick advised that "ISO-NE's apparent need to retain units for fuel security is the result of a market failure" and that the RTO's "ultimate approach to fuel security will need to be more sophisticated than the interim approach we approve today."

Glick added that the favorable ruling for ISO-NE "does not necessarily indicate that even the exact same proposal would be just and reasonable in other regions of the country," Glick said.

Units needed for fuel security would be economic if compensated for the services they provide, which should be procured through the competitive markets, he said.

"Individual, ad hoc contracts with particular resources whose retirement might, under the most conservative assumptions, create a fuel security concern is no way to address a region's long-term fuel security," Glick said.

The Tariff changes became effective Oct. 30. ■



Gaz Métro delivers LNG from its Montreal plant to customers in Vermont. | Gaz Métro

ISO-NE NEWS



Fuel Security the Focus at ISO-NE Consumer Liaison Meeting

By Michael Kuser

BOSTON — Fuel security topped the agenda at the quarterly meeting of ISO-NE's Consumer Liaison Group on Thursday.



Anne George | © RTO Insider

"While the calendar might not say winter yet, the cold season starts Dec. 1" for the RTO, said Anne George, ISO-NE vice president for external affairs. She **highlighted** three new ways the RTO is dealing with winter this year, including new measures on fuel security that were approved by FERC earlier in the week. (See [ISO-NE Fuel Security Measures Approved](#).)

First, the Winter Reliability Program was discontinued as Pay-for-Performance incentives took effect June 1. Second, a new energy availability forecasting and reporting framework has been added to the operating procedures to improve situational awareness and encourage proactive measures to avoid energy shortages.

"The third one is a way for resources to price in their opportunity costs for having fuel," George said. "It was not fully available to do that in the energy market last winter, and we hope that by doing this it gives resources the opportunity to value their fuel and ... that the energy market will reflect that value."

Market Design

"The wholesale energy markets were not designed to deal with fuel security at all," said Mark Karl, the RTO's vice president for market development. "We need to look at where we've come from. ... The world has changed and so the design objectives need to change."



Mark Karl | © RTO Insider

In a concurrence on the commission's Dec. 3 fuel security order, Commissioner Richard Glick wrote that "ISO-NE's apparent need to retain units for fuel security is the result of a market failure" and that the RTO's "ultimate approach to fuel security will need to be more sophisticated than the interim approach we approve today."



ISO-NE held its quarterly Consumer Liaison Group meeting in Boston on Dec. 6. | GridWise Alliance

Karl **said** the long-term solution the RTO is considering has three components: multiple day-ahead markets, a new ancillary service that's integrated into that, and a new, voluntary, forward seasonal auction.

The RTO plans to launch a quantitative and qualitative analysis on its proposal, including potential cost impacts, next year and file a proposal with FERC by July 1, 2019, he said.

The new ancillary service would seek "to maintain an inventory — what we call a buffer stock in economics — of fuel that can be converted into electricity."

While current markets optimize over a single day, the new design will optimize fuel supplies and stored energy over five or six days, Karl said. The voluntary auction is intended to provide an incentive for resource owners to procure fuel inventory for the next winter.



Paul Peterson | © RTO Insider

FERC's ruling, which approved an out-of-market agreement to keep Exelon's 2,274-MW Mystic plant running after its capacity obligations expire in May 2022, endorsed the ISO-NE proposal and rejected all of the New England

Power Pool's suggestions, **said** Paul Peterson of Synapse Energy Economics, which serves numerous NEPOOL participants, mostly in the End User and Alternative Resources sectors.

The NEPOOL alternative proposals approved by stakeholders and filed with FERC would limit the retention of resources for fuel security to Forward Capacity Auction 14, covering 2024-2025, and add FCA 15 only if necessary.

ISO-NE NEWS



NEPOOL also recommended requiring generators to report fuel status for winter; raising the threshold for triggering a fuel security reliability contract; and allocating reliability costs to the transmission portion of bill to reduce risk premiums from suppliers.

“Time will tell,” Peterson said. “We’ll have an opportunity four or five years from now to see whether or not the levels of fuel security that the [RTO] used to justify retention of Mystic really were true.

“And that’s one of the concerns on the ongoing back-and-forth between NEPOOL stakeholders and ISO-NE: What level of risk? What level of reliability? What level of cost? How are those things balanced out in a way that makes the region reasonably secure in the delivery of electricity?” Peterson said.



Thomas Golden | © RTO Insider

Natural Gas Questions

“How do we get an adequate supply of natural gas? How long

is it going to take to build the offshore wind projects?” asked Massachusetts Rep. Thomas Golden, House chair of the state legislature’s Joint Committee on Telecommunications, Utilities and Energy.

“There’s a misperception that New England is seeing a continually increasing demand for natural gas to generate electricity,” Peterson said.

“Since 2010, the share of power generated by natural gas has grown, but overall consumption of gas has declined and will continue to do so,” Peterson said. “By our projections, demand for natural gas in 2030 will have declined 41% from 2015 figures.” Peterson’s projection assumes the operation of a Massachusetts “clean hydro” transmission [line](#) by 2023 and the addition of 1,600 MW of offshore wind in 2027.

Millstone

Eric Annes, a technology analyst with Connecticut’s Department of Energy and Environmental



Eric Annes | © RTO Insider

Protection (DEEP), said that both DEEP and the state’s Public Utilities Regulatory Authority have found Dominion Energy’s Millstone nuclear plant to be at risk and that the 2,111-MW plant “is critical to our carbon goals and to winter fuel security.” (See [Connecticut Likely to OK Millstone for Zero-carbon RFP](#).)

“No one has had experience with the winter we’re about to experience this year or will experience the next couple of years,” Peterson said. “Suppliers don’t know what kind of costs they’re going to be facing. When they go to customers to offer them a bid for energy supply for 18 months or two years in the future, they’re going to put a risk premium on that because of the costs they don’t know whether they can take care of or not — they don’t even know how big they’re going to be.”

The CLG on Thursday elected a new coordinating committee for the 2019-2020 term. The new members and their respective states are: Deena Frankel (Vt.); August Fromuth (N.H.); Douglas Gablinske (R.I.); D. Maurice Kreis (N.H.); Erika Niedowski (R.I.); Guy Page (Vt.); Robert Rio (Mass.); Joseph Rosenthal (Conn.); Mary Smith (Mass.); Rebecca Tepper (Mass.); Mary Usovicz (Mass.); and Liz Wyman (Maine). ■

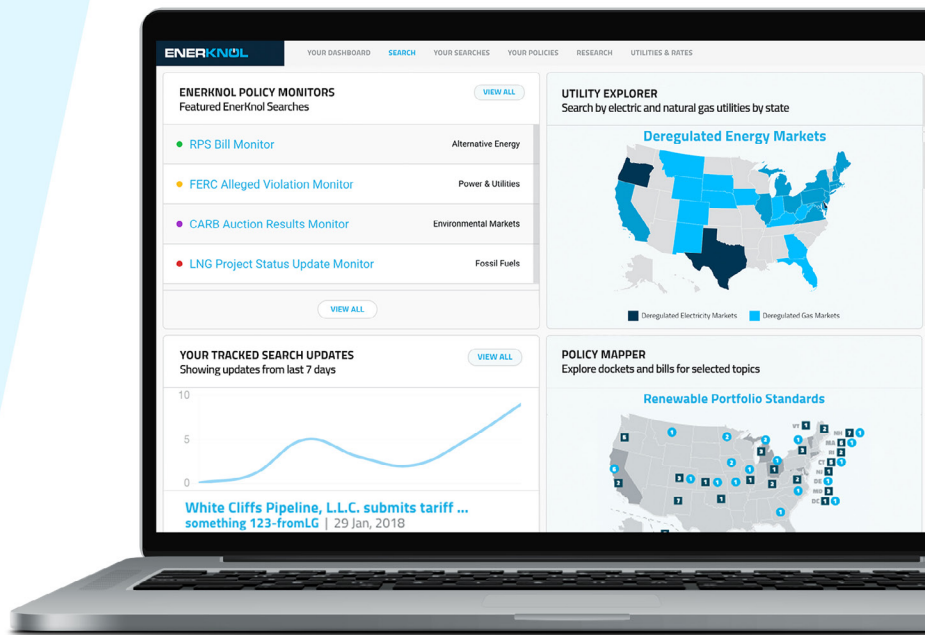
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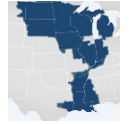
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MISO Board OKs Full MTEP 18 over Stakeholder Complaints

By Amanda Durish Cook

CARMEL, Ind. — MISO's Board of Directors voted unanimously last week to approve the \$3.3 billion, 442-project 2018 Transmission Expansion Plan in its entirety despite stakeholder objections to three projects.

Last month, the Planning Advisory Committee withheld endorsement of two **MTEP 18** projects: the rebuild of the Wabaco-Rochester 161-kV line in southern Minnesota, and American Transmission Co.'s proposal to replace a 138-kV circuit connecting Michigan's Upper and Lower peninsulas in the Straits of Mackinac. (See [MTEP 18 Advancing with 2 Contentious Projects](#).)

At the board's System Planning Committee meeting on Dec. 4, and again at the Dec. 6 board meeting, Xcel Energy's Carolyn Wetterlin insisted that the Wabaco-Rochester area is "not ripe for a project yet," asking directors to delay the project for a year so planners can



MISO executives report to the Board of Directors. | © RTO Insider

find a better solution to ease congestion in the area. Dairyland Power Cooperative representatives also reiterated their concern that the co-op's customers would have to pay for an unnecessary line, complaining that MISO staff and board were ignoring stakeholder voices.

Meanwhile, Consumers Energy challenged a third project, a \$21 million, 138-kV interconnection near the Michigan-Ohio border.

Consumers' Donald Lynd said Michigan Electric Transmission Co.'s (METC's) Morenci line is a distribution line under the seven-factor test of FERC [Order 888](#) because the line would be radial in nature.

"If MISO approves the project, Consumers Energy does intend to seek a determination from FERC," Lynd announced during a public comment period.

The RTO responded that it had no authority to address Consumers' request.

"MISO legal staff has reviewed this objection and has determined that under the terms of the Transmission Owners Agreement, asset classification is a matter to be determined between the transmission owner (METC) and FERC," it *said*.



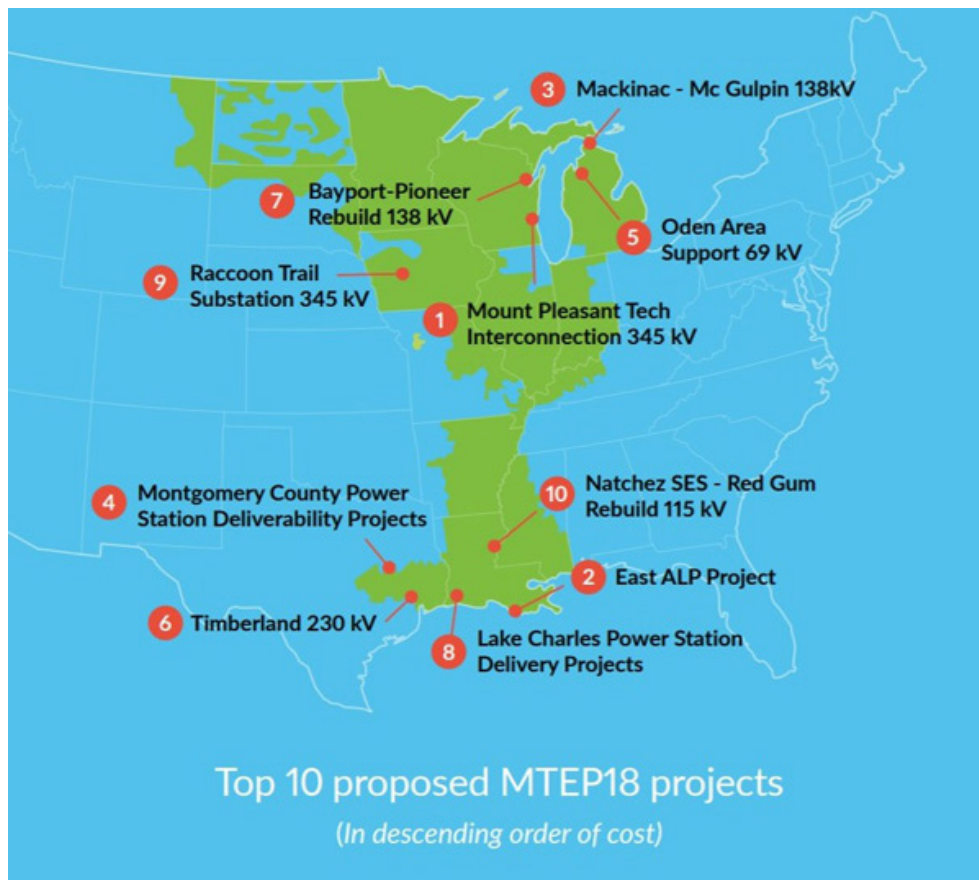
Mark Johnson | © RTO Insider

"Clearly, we're at an impasse for at least a few of the projects," Director Mark Johnson acknowledged before the SPC approved the full MTEP 18.

But he noted that the committee ensured that RTO leadership responded to the stakeholders and followed the MTEP procedure as outlined in the Tariff and Business Practices Manuals.

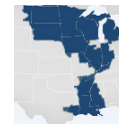
"I don't think we should ever have grand illusions that we will have 100% consensus with the size and scope of the projects in Appendix A," Johnson said.

Director Phyllis Currie said stakeholders should not view the board's approval of the projects as brushing aside member concerns. "We acknowledge there's going to be times when there's disagreement," she said. ■



10 most expensive MTEP 18 projects | MISO

MISO NEWS



MISO Board of Directors Briefs

Market Platform Replacement Enters Year 3

CARMEL, Ind. — The MISO Board of Directors last week approved the RTO's 2019 capital and operating budgets, allocating \$20.5 million for another year of the RTO's ongoing effort to replace its market platform.

MISO *sought* a \$312.6 million operating budget, a 3% decrease from 2018, and a \$27.2 million capital budget, an 8.3% decrease. The RTO's administrative fee will continue to be 40 cents/MWh in 2019, the same as 2018's rate.

Kevin Caringer, executive director of MISO's technology team, said early-phase vendor General Electric has been attracting the usual levels of talent to the company despite its *publicized* troubles.

During a meeting of the board's Technology Committee on Dec. 4, Caringer said MISO is currently "withholding judgment but having healthy skepticism" about GE's ability to deliver software needed to clear the day-ahead market until future platform deliveries are evaluated by the RTO. GE is supposed to have an updated delivery schedule to MISO by the year-end.

Further talk on GE's schedule was held for closed session of the board at the advice of MISO General Counsel Andre Porter.

MISO will not announce a recommended platform vendor until the fourth quarter of 2019, when it finishes evaluating alternatives.

Director Michael Curran asked MISO to create milestones to gauge GE's progress throughout 2019. "I'm struck by the fact that it's going to be 2019 fourth quarter before we have a sense of the performance," he said.

Caringer said that executives will provide quarterly updates.

MISO executives also confirmed that they have deliverable expectations for GE's work but did not reveal dates.

Director Baljit Dail said he felt more positive about GE's plan and new employees. He said the platform replacement schedule was on a "dark" trajectory earlier in 2018. (See [MISO Platform Replacement Risks Delay, Budget Overrun.](#))

By the first quarter of 2019, MISO will upgrade its web service to support modern browsers.

"It's a marathon, and we're into the first 5 miles of it. We've hit a really, really good pace," Dail told MISO executives, while commending the RTO's work on the project so far.

DART Outages

During an IT scorecard *presentation*, MISO staff disclosed it suffered an outage of its day-ahead and real-time (DART) application on the afternoon of Sept. 11. The RTO said a process within the program was unresponsive, causing its unit dispatch system and look-ahead commitment tool to miss the targeted solve time of five minutes. MISO said the unit dispatch system, look-ahead commitment tool and its coordinated transaction scheduler were not solving, leading the RTO to perform manual workarounds during the 40-minute outage and restart.

MISO said it experiences DART outages occasionally and the problem requires a solution from GE. RTO staff said it provided operator logs to GE detailing the outage.

Curran, Kozey Get MISO Send-off

Porter will take over as board secretary in 2019, replacing outgoing Senior Vice President Stephen Kozey, board members have decided.

The board voted in closed session on the succession decision. As a rule, all MISO personnel matters are taken up privately.

"I won't say you have you have big shoes to fill ... I would say you have a big head to fill," Curran told Porter, and after a beat and audience laughter, he said, "That probably didn't come out right."

Kozey is retiring at the end of the year after more than 18 years of service in MISO. Curran said Kozey helped build the RTO's legal team and commemorated him with some of the first written words about Kozey in the MISO record: "The candidate has been recruited without the expense of an outside recruiting firm."

The audience laughed then gave Kozey a standing ovation.

Curran, also departing MISO at the end of the year, likewise got a standing ovation. Curran has served on the board for 12 years.

Outside board counsel Karl Zobrist lauded Curran's insistence on "plain language and transparency" during his board tenure.



John Bear (left) and Michael Curran | © RTO Insider

"I've only known you for two years, but it feels like 20. You are the most generous mentor I've had," Director Barbara Krumsiek told Curran.

Director Thomas Rainwater praised Curran's "directness" and took a benevolent jab at him for now having to deal with ISO-NE's sloped capacity demand curve. Curran, who will *join* ISO-NE's Board of Directors in 2019, has long sparred with Independent Market Monitor David Patton over his appeals to adopt a downward-sloping demand curve in the MISO capacity market.

"I actually like you," Director Mark Johnson joked. MISO CEO John Bear borrowed a Curran phrase and called him "wicked smart."

Curran signed off saying, "I refuse to say 'good-bye'; it's 'see you later.'"

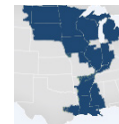
Director Phyllis Currie will take over as board chair in 2019. (See [MISO Board Selects Currie as New Chair.](#))

6 Added to MISO Membership

The board approved into MISO membership non-transmission-owning businesses Cleco Cajun, Nuclear Development, TransCanada Energy Sales, Xcel Energy Acorn Transmission and Xcel Energy Birch Transmission. The board also approved the transmission-owning membership application of the city of Henderson. The western Kentucky municipality owns Henderson Municipal Power and Light. ■

— Amanda Durish Cook

MISO NEWS



MISO Stakeholders: New Blueprint Needed for Tx Planning

By Amanda Durish Cook

CARMEL, Ind. — MISO stakeholders debating whether the RTO should embark on another regional transmission package said impact to customers and solid business cases should factor prominently.

MISO is asking whether it needs another long-term regional transmission plan like 2011's multi-value project (MVP) portfolio as it experiences a changing fleet and an increasing need to access new resources. The topic was the focus of the Dec. 5 Advisory Committee's quarterly hot topic discussion.



Aubrey Johnson |
© RTO Insider

Aubrey Johnson, MISO executive director of system planning and competitive transmission, said the approximately 37 GW of wind projects under study in the queue cannot be supported by the RTO's current system, even considering under-

construction projects in the MVP portfolio. The majority of MISO's 17-project portfolio will be online by the end of 2019.

MISO's transmission queue contains 483 projects totaling about 80 GW. Executive Director of Resource Planning Patrick Brown said MISO may be reaching an economic "break point" where the costs of network upgrades render projects uneconomic, especially in the wind-heavy western portion of its footprint. "The general cost of network upgrades is going to drive them out," Brown said.

Historically, 17% of proposed generators that enter MISO's interconnection enter the generator interconnection agreement phase.

'Stand by Me'

Per tradition, moderator Julia Johnson began the hot topic conversation with a song selection, this time Ben E. King's "Stand by Me."

"Blackout!" Johnson jokingly interjected while the lyrics "when the night has come, and the land is dark, and the moon is the only light we'll see" played in the room. More seriously, she said the takeaway from the song was for industry players to remain unafraid and working together on regional planning.

Alliant Energy's Mitchell Myhre said he didn't



Dec. 5 MISO Advisory Committee meeting | © RTO Insider

think MISO would need an entirely new transmission planning playbook but that it should analyze transmission project alternatives and engage in conversations about them. He said more analysis on transmission project alternatives may have lessened the late-stage disagreements over at least two projects in this year's Transmission Expansion Plan. (See related story, *MISO Board OKs Full MTEP 18 Over Stakeholder Complaints.*)

"We ask that those conversations [about alternatives] happen at the front end of the process so they don't come up in the back end of the process," Myhre said.

Multiple stakeholders said another possible crop of MVPs, if any, will need a new business case process, especially considering the fleet change that has occurred in the intervening years and the transmission cost allocation plan MISO will file at the end of the year.

"What if customers have had enough of transmission expansion? What if they're tired of having transmission lines going across their farms, yards. ... They have more options to bypass us completely. You can talk about MISO's value until you're blue in the face. What customers see is rising bills," Madison Gas and Electric's Megan Wisersky said.

She said customers might be better served by a reinforced distribution system than more transmission projects.

"We have to remember that these transmission lines do impose on communities," said Coalition of Midwest Transmission Customers attorney Jim Dauphinais, who agreed that

"What if customers have had enough of transmission expansion? What if they're tired of having transmission lines going across their farms, yards. ... They have more options to bypass us completely. You can talk about MISO's value until you're blue in the face. What customers see is rising bills."

—Megan Wisersky, Madison Gas and Electric

overbuilding transmission will result in more expensive bills.

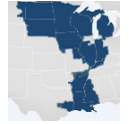
Dauphinais said strong business cases are a must for new regional transmission.

"We think there needs to be a study; we think there needs to be a process" to see if a long-term regional transmission plan makes sense, Missouri Public Service Commissioner Daniel Hall agreed.

However, Kevin Murray, representing the Coalition of Midwest Transmission Customers, said a strong business case can't be built on a speculative information about where resources might be constructed.

"We need to avoid the 'build it and they will come' sentiment. And we've seen hints of that in the past," Murray said. He said some

MISO NEWS



transmission projects might be more appropriately funded by interconnection customers for planned generation.

Clean Grid Alliance's Beth Soholt said her company will continue to support the *Cardinal Hickory Creek* line project in Wisconsin, which she said had a "solid as ever" business case. She urged the MISO community not to get too hung up on the infeasibility of the entirety of the projects in the queue.

"We're always going to have a queue. We're always going to have projects entering because

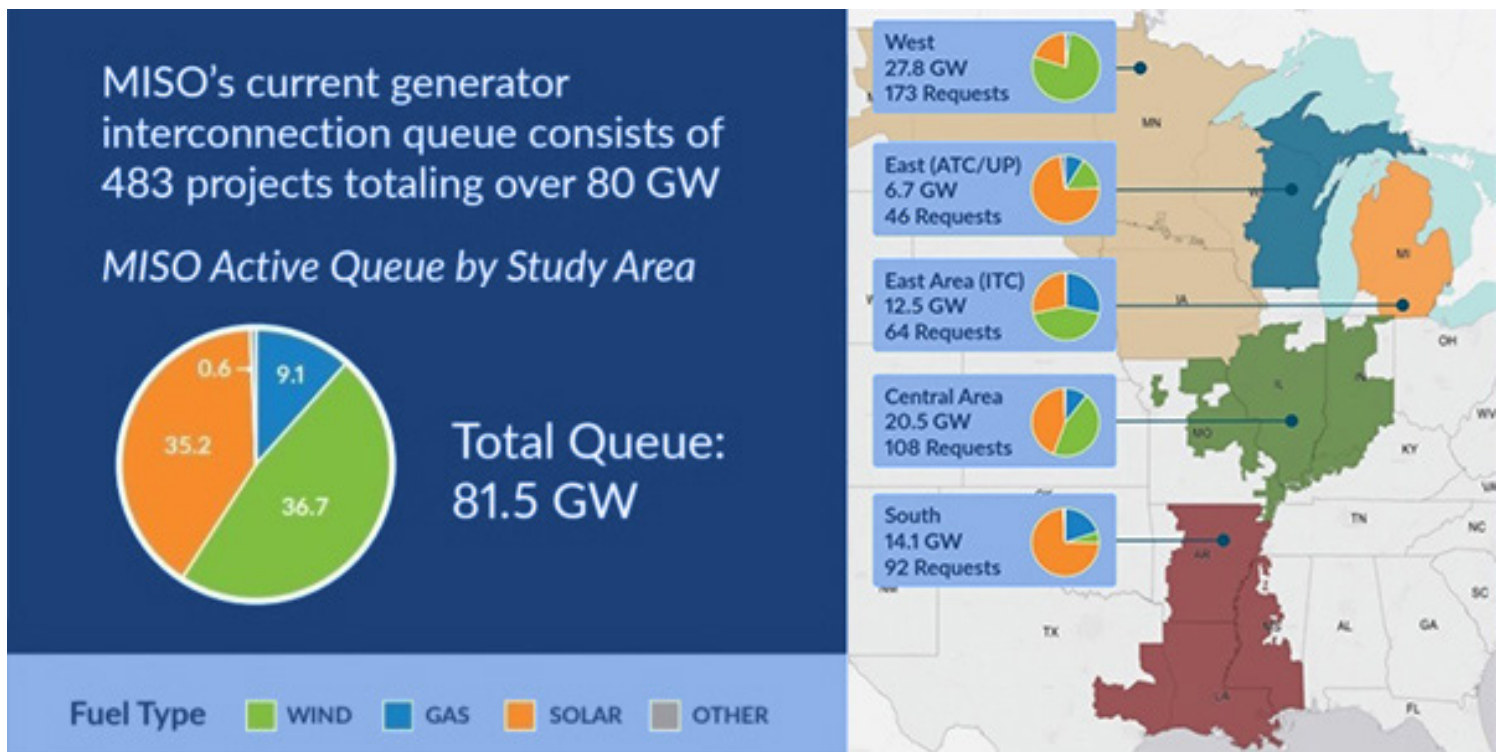
of economics," Soholt said.

NRG Energy's Tia Elliott, a representative of the Independent Power Producers sector, said grid buildout makes sense for a growing base of customers that prefer different resource options.

Soholt suggested that MTEP 15-year future scenarios should account for sustainability goals beyond renewable portfolio standards. Other stakeholders said MISO's "limited fleet change" future scenario, which doesn't anticipate widespread renewable use, is outdated

and too improbable to be used in transmission planning. Although MISO staff said this year's four future scenarios were developed for re-use over multiple planning cycles, some stakeholders said all of them should be revised. (See *MISO to Recycle Tx Planning Scenarios for 2019*.)

Others said accessing diverse resources may require the RTO's own transmission pathway to connect MISO Midwest and MISO South. Dauphinais said the RTO should make "deeper dives" into chronic transmission constraints that don't always show up in its annual market congestion planning study. ■



MISO queue as of late 2018 | MISO

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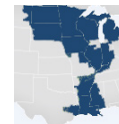
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MISO NEWS



MISO Members Split on Regulator Cooling-off Period

By Amanda Durish Cook

CARMEL, Ind. — MISO's 10 sectors are split over whether state regulators should be subjected to a one-year moratorium before they're eligible to serve on the RTO's Board of Directors.

The controversy surfaced in early fall with the nomination Minnesota Public Utilities Commission Chair Nancy Lange. Last month, MISO membership elected Lange to the board, though some stakeholders said she should be subject to the same one-year moratorium that the RTO requires of directors coming from member companies. (See [MISO Elects Lange to Board; Keeps 2 Incumbents](#).) This is the first time MISO has elected a sitting commissioner from one of the states in its footprint.

The board's Corporate Governance and Strategic Planning Committee has agreed to consider expanding the moratorium in 2019.

Lange has not yet resigned from the Minnesota PUC, though MISO's new director orientation begins today. MISO will hold another two-day orientation session in late January. Lange's term ends Jan. 7 and overlap between her PUC appointment and MISO training seems inevitable. MISO officials had promised an early resignation in order to avoid overlap. Meanwhile, 14 [applicants](#) are vying for Lange's seat in Minnesota.

Lange did not respond to RTO Insider's calls to her Minnesota office.

During a Dec. 5 Advisory Committee meeting, MISO Senior Vice President and Board Secretary Stephen Kozey said the cooling off period was introduced in 1996 to prevent conflicts of interest by member companies offering their former executives to serve on the board. While the stay-out period was not required by FERC, the commission accepted MISO's language.

Mark Volpe, representing the Independent Power Producers sector, pointed out that state regulators in MISO are on equal footing with dues-paying members through sector voting. He said that even though Environmental sector representatives are not dues-paying members, it would nevertheless be inappropriate for an environmental representative at the Advisory Committee to immediately transition to a director position.

Though Volpe said he had no reservations about Lange personally, he said she could have



Mark Volpe and Beth Sohlt | © RTO Insider

been seated at one of the four regulator seats at the Advisory Committee days before joining the MISO board.

"It's the spirit of the rules that's the real concern here," Volpe said.

Chris Plante, representative of the Transmission-Dependent Utilities sector, said he agreed with Volpe's observations.

"The sense of confidence that the membership and stakeholder body have in the MISO Board of Directors is very important to the legitimacy of the board's guidance to management," Kozey said. "If there's something that can improve that legitimacy, I expect that the next incarnation of the Corporate Governance and Strategic Planning Committee will be interested in hearing that."



Daniel Hall (left) and Ted Thomas | © RTO Insider

Missouri Public Service Commissioner Daniel Hall, however, said regulators bring valuable experience and do not stand to benefit from MISO decisions. Hall was one of two stakeholders this year on the board's Nominating Committee, which is charged with selecting board nominees.

"This shouldn't be an issue at all. I don't see how a commissioner serving on the board after their tenure is a conflict," Hall said.

Others said additional rules are unnecessary because many in MISO's stakeholder community maintain professional licenses that instruct individuals to avoid conflicts of interest and the appearance of impropriety. Advisory Committee Chair Audrey Penner said possible revisions to the Transmission Owners Agreement might include language about board nominees recusing themselves when they face conflicts of interest.

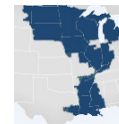
Arkansas Public Service Commission Chairman Ted Thomas said that while commissioners could decide to sit at the Advisory Committee table, Lange has not. Lange's colleague, Commissioner Matthew Schuerger, currently serves in the Organization of MISO States and is one of four commissioners representing the State Regulatory sector.

Thomas said regulators that have not been involved with MISO's stakeholder process should be free to accept director appointments.

"If we're going to draw the line, let's draw it in the right place," he said.

Advisory Committee Vice Chair Tia Elliott

MISO NEWS



Tia Elliott (left) and Audrey Penner | © RTO Insider

agreed that regulators that are not involved in the State Regulatory sector through OMS probably have little idea about MISO's inner workings. But she said the appearance of the situation is something members should consider. She pointed out that MISO transmis-

sion projects come before regulatory bodies in those states.

But Eligible End-Use Customers sector representative Kevin Murray said he thought the current situation is rare. "I think the odds of it happening again are extremely slim. I think we're making a big ado about nothing," Murray said.

Citigroup Energy's Barry Trayers, of the Power Marketing sector, said MISO may benefit from a person with a less steep learning curve joining the board.

Clean Grid Alliance's Beth Soholt asked if it's difficult for the RTO to attract qualified candidates. "We had a very wide and very deep pool, so it's not like we had to shake the bushes and rattle the trees to get candidates," said Madison Gas and Electric's Megan Wisersky, the other stakeholder who sat on this year's Nominating Committee.

Director Thomas Rainwater, who chairs the Corporate Governance and Strategic Plan-

ning Committee, asked members to come to a consensus on whether they would prefer a one-year sit-out.

"The board very much wants to be viewed as independent," he told stakeholders. ■



Thomas Rainwater | © RTO Insider

MISO, Stakeholders at Odds over Resource Availability Filings

By Amanda Durish Cook

the RTO plans to make by the end of the year to free up an additional 5 to 10 GW of capacity in time for the spring outage season.

The discord played out in meetings as part of MISO Board Week and during a special conference call of the Reliability Subcommittee on Dec. 7.

At the Dec. 5 Advisory Committee meeting, Reliability Subcommittee Vice Chair Ray McCausland, of Ameren, said MISO worked unusually fast on the short-term resource availability and need filing.

"For those used to MISO running at the lightning pace of a glacier, MISO has flown through this," he joked. McCausland also acknowledged stakeholder concerns about the pace of the filing. He said a few have voiced skepticism that the new load-modifying resource (LMR) treatment and outage coordination can in fact free up the capacity the RTO has cited as the reason for the Tariff filing.

Earlier this month, several stakeholders criticized MISO's plan to require more testing of and data from certain LMRs and impose stricter notification times for planned outages. (See [Stakeholders Critical of MISO Resource Availability Filing](#).)

Because of stakeholder pushback, the RTO said later in the Dec. 7 conference call that its originally planned Tariff filing will now become three separate Tariff filings: one each for demand response capability testing, LMR seasonal availability documentation and a new 120-day notice time for planned outages.

CARMEL, Ind. — Several MISO stakeholders are criticizing Tariff filings

Kevin Murray, representing the Coalition of Midwest Transmission Customers and the Eligible End-User Customers sector, called the original filing "controversial." He said a full filing runs the risk of garnering so many protests that FERC will refuse to act on it, especially considering a D.C. Circuit Court of Appeals ruling last year that the commission overstepped its authority in its approval of PJM revisions to its minimum offer price rule. (See [PJM MOPR Order Reversed; FERC Overstepped, Court Says](#).)

"I'm here to express my profound disappointment that we're here today," Murray said during the Advisory Committee meeting. He added that the RTO should do something about its lack of fast-start resources as winter approaches, particularly in MISO South.

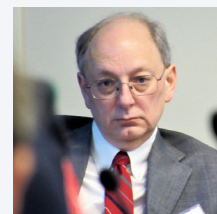
Coalition of Midwest Power Producers CEO Mark Volpe said MISO's proposed limits on outages may be punitive to generation owners. "We're going way too fast here on something this serious," Volpe said.

Jim Dauphinais, attorney for the Coalition of Midwest Transmission Customers, said the filing seeks to unnaturally force improved availability.

Imagining Blackouts

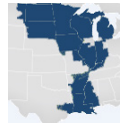
Board members who heard the discord urged stakeholders to work through their differences with MISO.

Director Baljit Dail asked stakeholders to imagine how they would



Jim Dauphinais | © RTO Insider

MISO NEWS



respond today if the RTO experienced rolling blackouts. “How would you approach this problem differently? How would you change your answer?” he asked.

“I appreciate that no one wants rolling blackouts in the press ... but I think there’s an unintended consequence here,” Madison Gas and Electric’s Megan Wisersky said. She said more rules for LMRs would drive some out of the market, resulting in reduced resources.

“I urge caution here,” she said.

However, representatives of the State Regulatory Authorities sector said they were supportive of a filing. Minnesota Public Utilities Commissioner Matt Schuerger said stakeholders cannot deny the urgency of needing changes.

Speaking at a Dec. 4 meeting of the board’s Markets Committee, MISO Executive Director of System Operations Renuka Chatterjee said “availability of resources is the key to avoiding real-time shortages.”

“We’re seeing an increase in unavailable megawatts for each of the last three winters,” Chatterjee told the committee.

Almost 12 GW (about 9%) of MISO resources are classified as LMRs, accessible only as part of emergency load management. The RTO had not called on LMRs for a decade after a localized Wisconsin emergency in February 2007 but has relied on them three times since 2017, most recently in MISO South in mid-September. Independent Market Monitor staffer Michael Wander said most MISO



Baljit Dail | © RTO Insider

South LMRs were unable to respond in time during the September event because the units have long start-up times.

MISO has seen a 4.6-GW decrease in installed capacity from existing resources since 2017.

“We’ve experienced retirements of what we considered excess capacity,” RTO President Clair Moeller explained to board members.

Dail said the situation underscores the need for MISO to be able to better supervise planned outages. “This just looks like it’s going to get more complicated as we go forward,” he said.

Responding to a question from Director Barbara Krumsiek about whether MISO’s neighbors face similar availability challenges, Moeller said SPP has a similar experience of growing renewable resources paired with conventional generation retirements.

Seeking Clarity

MISO discussed a few recent additions to the possible multiple filings during the Dec. 7 conference call.

Staff said they propose to issue scheduling instructions up to 12 hours in advance based on resource lead times but would not actually call on the resource until two hours before it’s needed. Demand response resources that acknowledge scheduling instructions but are not ultimately called would nevertheless receive credit toward the five deployments per year that would be required of LMRs.

DR would also prove demand reduction capability by “performing to its requirements when called upon during the prior planning year” in addition to MISO’s original proposal of participating in a real power test. Testing of DR resources would begin for resource qualification in the 2020/21 planning year.

But stakeholders said the new demonstration option was vague, with some asking about the minimum number of performance hours and how MISO would account for performance when it calls up partial demand-reducing output.

MISO Director of Resource Adequacy Coordination Laura Rauch said the RTO’s testing requirements would require full output of a DR resource for at least an hour.

Xcel Energy’s Kari Hassler asked what would happen if a properly scheduled planned outage takes more time to complete under the original scope of work and an emergency event occurs during the outage extension.

Rauch said the outage extension would likely fall under MISO’s “high-risk” determination, and the outage could be rebranded as a forced outage for the time it overlaps a maximum generation emergency, which would count against a resource’s accreditation.

However, she also said MISO is still working through revisions of its proposed filings and may choose to delay the outage coordination piece until January, still targeting changes by the spring outage season. She said the RTO will accept another round of feedback through the end of the week. MISO is planning to post an updated version of its filing or filings by Wednesday and will use stakeholder feedback in final revisions. ■



Renuka Chatterjee addresses board members. | © RTO Insider



IPPTF Updates Treatment of RECs, Carbon Charge Analyses

By Michael Kuser

RENSSELAER, N.Y. — NYISO last week recommended its carbon pricing proposal no longer include a mechanism that would make emissions-free resources with existing renewable energy credit contracts pay the carbon component of locational-based marginal prices (LBMPc).

NYISO's clawback proposal "creates a distortion in the market ... that places the ISO in the position of picking winners and losers, which is not where we want to be," Michael DeSocio, senior manager for market design, *told* the Integrating Public Policy Task Force (IPPTF). (See [NY Carbon Task Force Looks at REC, EAS Impacts.](#)) The ISO initially proposed the idea to reduce the potential for REC resources to receive double payments for their lack of emissions.

DeSocio noted REC payments are not solely linked to carbon abatement or avoidance but are primarily intended to support renewable resources. Withholding the LBMPc from resources with existing RECs would increase the uncertainty in the value and potential cost of such contracts going forward and also create a disconnect between the wholesale market price and payment to the resource, he said.

Double Payment Issue

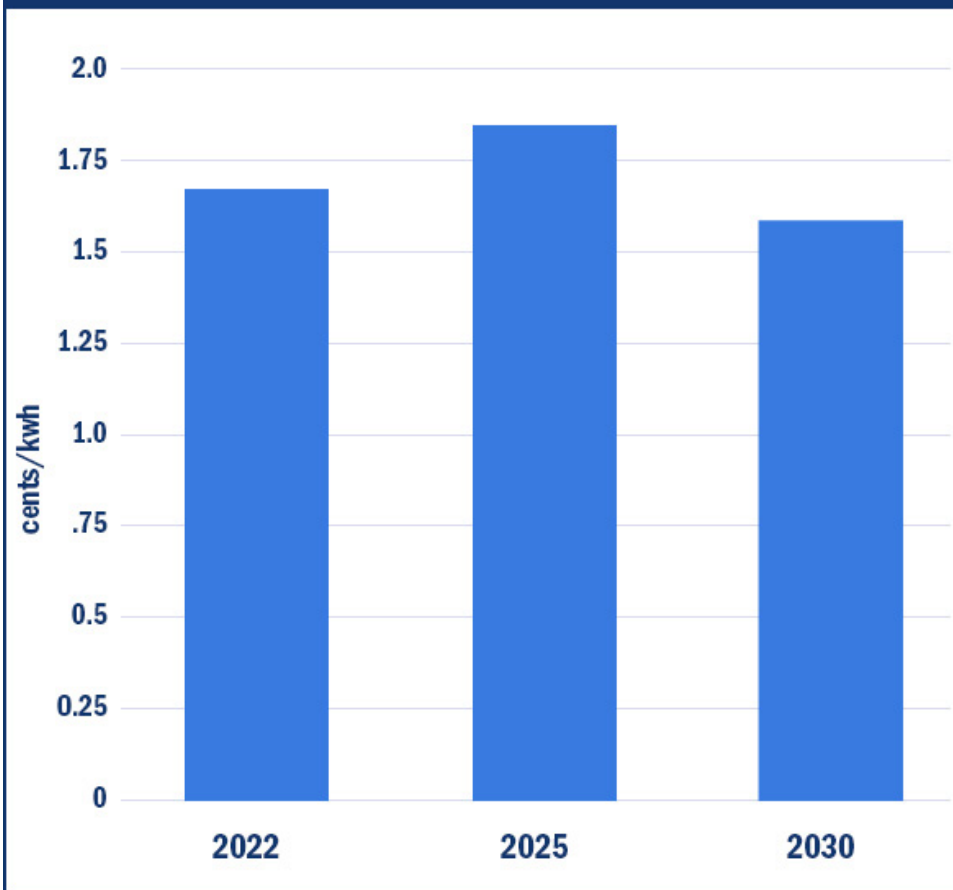
Multiple stakeholders expressed concern about the potential for double payments, with ratepayers paying for both REC contracts and an unforeseen bonus or windfall for holders of such contracts that predate the existence of a carbon charge.

"As much as there could be a concern with costs ... we don't view this as a problem with the design," DeSocio said. He estimated the possibility for between \$30 million and \$60 million in such payments in an overall program representing a few billion dollars, whether through the state's Clean Energy Standard alone or with carbon pricing.

The \$60 million estimate is an upper bound of any double payment, said Sam Newell of the Brattle Group.

One of the motivations for RECs "was to develop a new way of getting energy. ... So did you pay a little extra to help pave the way for the much larger amounts of clean energy the state plans to procure? Maybe. That was part of the purpose," Newell said.

Effects on wholesale energy prices



Effects of a carbon charge on wholesale energy prices | Brattle Group

Newell also pointed out carbon pricing was being contemplated at the time some of the existing REC contracts were signed. "To what extent did the REC prices get discounted accordingly? Were they willing to take a little bit lower price in a competitive process because they saw some upside from some future carbon prices?"

"It's not very accurate to just blithely call it a double-payment issue," said Warren Myers, director of market and regulatory economics at New York's Department of Public Service. "We've heard from a lot of parties about what they have to go through to get financing and the hedges they sign, so to say that generators are going to get double paid is a misstatement. ... What the ISO proposed, while well-intentioned, was a remedy that was worse than the malady." (See [NY Task Force Talks LBMPc, Residuals, Hedge Effects.](#))

Brattle Updates

Newell presented the task force with updated analyses on carbon price effects, including the outcome if NYISO's AC transmission project in western New York — the two components for which are now before the ISO's Board of Directors — does not get built by 2024 as the study projected.

The study assumes the projects would be built by 2023 to provide 350 MW of increased transfer capability across the Central East interface, while they could actually provide as much 875 MW of increased transfer capability, he said.

"So what would happen if these projects weren't there at all?" Newell asked. "Then you would just see a little more bottling in upstate and less LBMP upstate from a carbon charge, and the opposite downstate. ... If you get the

NYISO NEWS



full 875-MW increase in transfer capability, the state would be a little more uniform than we modeled with only a 350-MW increase on Central East.”

2022 Scenario

While the study motivation and scope remain unchanged, “we also did the updated [modeling and pricing software] runs to look at a 2022 scenario, as requested by stakeholders, and to look at what the market would look like if a carbon charge was implemented,” Newell said.

Brattle’s analysis continues to show minimal retail price impacts from a carbon charge, with the strongest impact in 2022 – the year of implementation, when consumer bills are projected to increase by 1.6%, mainly because of the retirement of Indian Point nuclear plant coupled with no AC transmission upgrades in service and a doubling of renewables upstate.

The biggest observation is relative to both the retail rate and the generation component of the rate, Newell said.

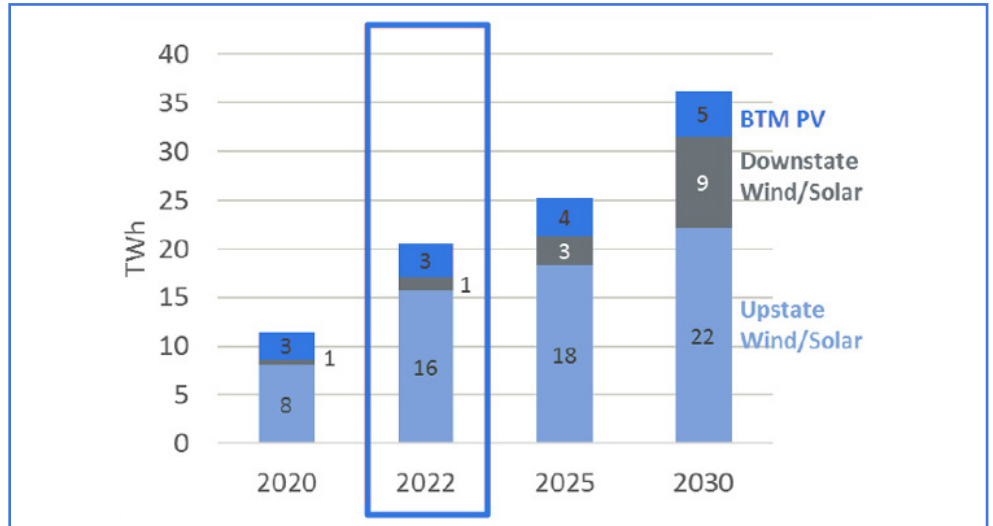
“If you look at the graph, it’s visually not far off the zero point, so that’s the main conclusion, with a little bit of a trend over time towards more benefit,” he said.

However, wholesale prices are expected to register their largest carbon cost impact – \$17.60/MWh – in 2025, with an estimated carbon charge of \$49/ton.

Nuclear Retention

Brattle also revised its projections of the retention of nuclear generation in 2030, increasing its assumption from 450 MW to about 850 MW of the 3,300 MW in upstate capacity.

The Public Service Commission approved the zero-emission credit program in 2015 to pre-



Summary of Modeled 2022 Scenario | Brattle Group

vent the premature retirements of three New York nuclear power plants, Exelon’s FitzPatrick, Ginna and Nine Mile Point. (See [Appeals Court Upholds NY Nuclear Subsidies](#).)

Newell said a carbon charge could boost the net revenues for upstate nukes and prompt owners of units in good physical condition to apply for license extensions.

The study assumes Nine Mile Unit 2 will remain under any case, while it considers the other three units to be at risk of retirement.

“You can see that there’s a fairly good case for some likelihood of retaining some of these plants,” he said.

Why Price Carbon?

Why even do carbon pricing? Newell asked.

“I really see two closely related reasons. One that we’ve talked about a lot is that you provide

a price signal that directly signals to the market how to operate in such a way that cost-effectively reduces carbon and how to invest in such a way ... where you avoid the most emissions; that’s where the biggest rewards go,” he explained.

Another major factor – harmonizing state policies and wholesale markets – has not been emphasized enough, Newell said.

“I’m talking about this from the perspective of somebody who works nationally and is seeing a lot of conflict on these issues,” Newell said. “And [I’m] seeing an opportunity for New York ISO and New York state to address this issue more successfully than the rest of the country and to be a leader in this regard.”

The IPPTF will next meet on Dec. 17 at NYISO headquarters to consider the final draft carbon proposal. ■

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PJM Board Demands Action on Energy Price Formation

By Rory D. Sweeney

WILMINGTON, Del. — PJM's Board of Managers has signaled that it is done waiting for stakeholders to make progress on a nearly yearlong initiative to improve energy price formation.

In a [letter](#) dated Dec. 5, the board gave stakeholders until Jan. 31 to reach any consensus they can on six energy price formation issues. After that, the board threatened, it will direct PJM to seek FERC approval for the changes without member endorsement under Section 206 of the Federal Power Act.

The six areas for changes include:

- Consolidation of Tier 1 and Tier 2 synchronized reserve products;
- Improved utilization of existing capability for locational reserve needs;
- Alignment of market-based reserve products in day-ahead and real-time energy markets;
- Operating reserve demand curves (ORDCs) for all reserve products;
- Increased penalty factors to ORDCs to ensure utilization of all supply prior to a reserve shortage; and
- A transitional mechanism for the Reliability Pricing Model energy and ancillary services revenue offset to reflect expected changes in revenues in the determination of the net cost of new entry.

"The board has reviewed evidence that demonstrates that when the system is experiencing stressed conditions, energy and reserve prices do not accurately reflect PJM operator reliability actions and, as a result, out-of-market payments increase substantially during those periods," the letter, signed by Board Chair Ake Almgren said. "Further, PJM's current reserve market rules do not accurately align the procurement of reserves with their reliability value or incentivize consistent response when deployed. The lack of alignment in the reserve markets mutes price transparency, shifts costs unfairly to consumers who have prudently hedged and limits competition to secure reserves at the least cost to consumers."

The board said stakeholder discussions have shown "widespread agreement that improvements to reserve markets are necessary"



PJM Board Chair Ake Almgren | © RTO Insider

and that PJM has proposed to stakeholders elements from other regions that have "successfully implemented ... more robust designs [that] more effectively value reserves and price operator actions."

The Energy Price Formation Senior Task Force last month delayed a vote on competing proposals from PJM and its Independent Market Monitor for revising the RTO's ORDC. Stakeholders had expressed reservations about both plans. (See [PJM, Monitor Remain at Odds over Energy Market Proposals](#).)

MRC Response

PJM CEO Andy Ott opened Thursday's meeting of the Markets and Reliability Committee by saying the changes are "critical to the ongoing evolution of our market" and that, "frankly, we think [the market rules] fall short today." He noted price spikes during extreme weather, first highlighted by the polar vortex in 2016, and thought some of the proposals, such as locational reserves, were "low-hanging fruit" that stakeholders would endorse "in the time period that's necessary."

"We really believe a comprehensive solution to this is necessary. I wish that stakeholders would have come to consensus," he said.

The forced deadline irritated some stakeholders and found support from others.

"We think that stakeholders have been working assiduously on this, and we're disappointed that PJM and the board think differently," said Carl Johnson, who represents the PJM Public Power Coalition. He noted that newly proposed ORDCs were introduced the previous week and said setting up an Enhanced Liaison Committee, used once before to implement the Capacity Performance construct, is the

tool available to the board for expediting the stakeholder process, not making threats.

Susan Bruce, who represents the PJM Industrial Customer Coalition, said stakeholders have not addressed some of the topics the board has asked for agreement on, such as alignment between day-ahead and real-time markets and aligning penalty factors.

"Those are issues that we haven't really tackled and we don't really have any information about," she said, asking PJM staff to provide information for stakeholders to analyze because "the calendar is creeping" up to the deadline.

"That will happen. Where's [PJM Senior Vice President of Operations and Markets Stu] Bresler? Make that happen," Ott said, assuring stakeholders that the board wants member input "so when we do present a package to FERC, it is as vetted as possible."

NRG Energy's Neal Fitch said many of the topics are "evergreen," and "we could as stakeholders talk about this for a very long time." He said the Enhanced Liaison Committee might not be the right plan.

"Perhaps calling the question in the very near future is the right thing to do," he said. "We've been working on this for a very long time. ... I think it's time for us to move on."

"From my perspective, the stakeholder group is actually moving in a negative direction," Calpine's David "Scarp" Scarpignato said. He questioned whether stakeholders should have Section 205 rights in the FPA over market rules in PJM's Operating Agreement because of how the stakeholder process gets bogged down. He said he doesn't agree with everything in PJM's proposal, like the transition plan, "but eventually you have to make a decision." ■



PJM Stakeholders Seek Streamlined, More Flexible FCP Rules

By Rory D. Sweeney

VALLEY FORGE, Pa. — After a year under new fuel-cost policy (FCP) rules, PJM stakeholders want to make some tweaks.

Discussions on the revisions commenced last week at a special session of the Market Implementation Committee. The special sessions are the result of a problem statement and issue charge approved by the MIC in September. (See “Review of Fuel Cost Policy Rules,” [PJM Market Implementation Committee Briefs: Sept. 12, 2018](#).)

PJM staff and stakeholders alike agreed the process could use some revisions to reduce its administrative burden. The rules went into effect in May 2017 after months of debate. In June 2017, the Independent Market Monitor announced that it had rejected fewer than 5% of FCPs during its annual review, but that those rejections accounted for roughly 11% of the units requiring FCPs. (See [PJM Monitor Rejects Fuel-Cost Policies for 11% of Units](#).)

John Rohrbach of ACES highlighted a specific **concern** that “innocuous” operator errors representing less than half a penny can create tens

of thousands of dollars in penalties.

“It seems reasonable to ask whether that is a reasonable system to have” such potential for penalties, he said.

The Monitor’s Joel Romero Luna clarified that PJM’s online information-submission portal rounds to the penny and that no penalty would be assessed if the error does not make it to the portal.

Rohrbach, however, pointed out that the Tariff and Operating Agreement give staff no leeway in assessing penalties for such FCP violations.

PJM attorney Chenchao Lu agreed that the current OA language doesn’t provide the RTO any discretion in assigning penalties for violations, though it does have some discretion in determining whether the FCP was violated in the first place.

Calpine’s David “Scarp” Scarpignato said the lenience should be expanded to include additional types of errors, including those “not intentional.”

“It’s very difficult to be able to determine intent just by looking at the data,” PJM’s Glen Boyle said. “If I move a decimal place on a num-



Attendees at last week’s special session of the Market Implementation Committee discuss potential changes to fuel-cost policy rules. | © RTO Insider

ber, is it intentional? How do I prove that?”

Additional Changes

PJM staff provided education on how the current FCP **procedures** work for developing cost-based offers. Stakeholders then listed a dozen areas of interest for revising the rules, including removing the administrative burdens for both the RTO and unit owners and adjusting potential penalties to be proportional to violations.

PJM’s Bhavana Keshavamurthy, secretary of the MIC, said she would add the topic to the agenda for the MIC’s Wednesday meeting for further discussion. ■

PJM Wins OK for Wider Day-ahead Bid Window

By Rory D. Sweeney

FERC last week approved PJM’s proposal to extend the deadline for day-ahead energy market bids and offers by 30 minutes, from 10:30 a.m. to 11 a.m. ([ER19-305](#)).

The approval is the final step in the RTO’s expedited implementation of changes to take advantage of enhanced computing power and puts it on track to complete the effort in mid-December. (See “Day-ahead Market Timeline Manual Changes,” [PJM Market Implementation Committee Briefs: Nov. 7, 2018](#).)

The changes were also made possible, PJM said, by a recent reduction in the number of biddable points for virtual transactions, which was part the third and final phase of its plan for mitigating uplift. (See [FERC OKs Slash in Virtual Bidding Nodes for PJM](#).)

PJM told FERC that the extension would provide natural gas-fired generators additional time to engage in fuel price discovery each day, thereby increasing certainty around costs.

“The additional time for price discovery will place gas-reliant generation units on more equal footing with market participants who are

not dependent on fluctuating daily natural gas prices when formulating and submitting their bids and offers in the day-ahead energy market,” the RTO explained.

The expedited implementation timeline means the changes will be in place before the winter season, when gas prices have been historically volatile.

ETI Requests

The Energy Trading Institute (ETI) supported the change, but it asked that PJM additionally work to further reduce the day-ahead solve time without damaging the efficiency of the market and provide additional information regarding the software and hardware upgrades for market efficiency and transparency purposes. It also asked the RTO to “evaluate the divergence in the market and the increase in uplift [since the reduction of available locations for virtual transactions] and provide additional analysis on the cost associated with the de minimis solve time gain of reducing virtual transactions.”

In its reply, PJM welcomed the discussion with ETI through the RTO’s stakeholder process but said the requests were out of scope for the filing. FERC agreed and dismissed ETI’s requests. ■



Mixed Ruling for Trader over PJM Repricing Events

By Rory D. Sweeney

FERC last week agreed with a financial trader that PJM failed to provide “all available supporting documentation” for two real-time repricing events that cost the company more than \$500,000, but the commission rejected the company’s effort to obtain refunds from the RTO.

The commission said it denied Monterey MA’s request for PJM to return to the original incorrect pricing to avoid an “absurd” result ([EL18-150](#)).

Monterey complained that it lost money on day-ahead financial positions it took after PJM revised nodal prices following events from April 1 to April 30 and June 22 to July 10 in 2016. While Monterey’s complaint was specific to those events, the company argued that PJM “frequently” revises real-time prices after the fact and “while the occurrence of these adjustments decreased in 2017, following an all-time high in 2016, the frequency of adjustments is again trending upwards, with 2018 numbers already matching or surpassing 2017 numbers.”

Bagley Event

In the April event, three of the four transmission lines to the BC Bagley 230-kV substation near Baltimore were out of service, according to the complaint. PJM said the fourth line was

also out, creating a “dead bus replacement” situation in which the RTO calculates the nodal LMP using active nodes nearby. That recalculation switched the marginal congestion cost at the bus from negative to positive, costing Monterey \$480,000.

However, Monterey argues that MISO’s state estimator shows the fourth line was still in service and that PJM’s outage reports didn’t include the line during that time. PJM failed to provide sufficient information when announcing the price repricing to explain why its data didn’t match up with data elsewhere, Monterey said.

LaSalle-Plano Event

In the second event, the LaSalle-Plano 345-kV line in Illinois was out because of forced outages on two 765-kV lines. Monterey took financial positions based on five-minute pricing signals over the previous few days, but the real-time LMPs were subsequently recalculated, costing the company \$31,000.

PJM told Monterey the prices were changed because the model didn’t match how RTO staff actually operated the system.

Monterey said it sought arbitration with PJM over the event, but the RTO denied the request.

XO Energy, another financial trader, told FERC that it also lost money during the LaSalle-



A financial trader in PJM’s virtual markets claims a recalculation of a real-time price at a dead bus cost it nearly half a million dollars. | *Pexels*

Plano event and supported Monterey’s request for Tariff and Manual 11 changes. XO agreed that PJM needs to be timelier in its customer response.

“Reasonable guidelines and Tariff obligations must be incorporated into these provisions to increase transparency and reduce abuse,” XO said.

FERC agreed that PJM failed to provide the amount of information required by its Tariff in connection with the Bagley event, but it also agreed with the RTO’s response that it complied with its Tariff in recalculating the LMPs. The commission therefore denied Monterey’s requests for changes, as well as its complaint about the LaSalle-Plano event. ■

PJM Board Expands Avenues for Feedback on Market Monitor

WILMINGTON, Del. — PJM members will have two new avenues for feedback on the RTO’s Independent Market Monitor starting in January, the Board of Managers announced in a Dec. 5 [letter](#).

The board will circulate an annual questionnaire, starting in January, for members to voice opinions on the Monitor. The letter didn’t suggest what questions are likely to be included.

Additionally, the board has asked the RTO to retain Michael Bardee to serve as a year-round external liaison “to receive direct member feedback” that will be reported to the board’s Competitive Markets Committee. Bardee has served as FERC’s general counsel and the director of the commission’s Office of Electric Reliability. Members can contact him at Bardee.pjm@gmail.com or 1-833-705-8428.

“The board is confident that this two-tiered approach will provide a broad and unbiased perspective, a committed level of accountability, and a means to a more complete understanding of strengths and

potential areas of improvement,” the board said.

The decision “to broaden and formalize the way [the board] collects and assesses information about market monitoring in PJM and to provide an opportunity for all stakeholders to give feedback” came as a recent suggestion through the RTO’s Liaison Committee, according to the letter.

“We welcome transparent feedback,” Monitor Joe Bowring said in an email response.

“We are always interested in market participants’ opinions. We look forward to continuing dialogue with market participants about all aspects of markets and the market monitoring function.”



Joe Bowring, PJM’s Independent Market Monitor | © *RTO Insider*

— Rory D. Sweeney



PJM SHs Seek End to Frequency Response Debate

By Rory D. Sweeney

VALLEY FORGE, Pa. — PJM will have to determine whether it wants to move forward without stakeholder endorsement on its plan to enforce primary frequency response (PFR) requirements beyond the standards of FERC Order 842 after members roundly rejected three proposals to revise the requirement.

RTO staff announced the *results* of a recent poll on the proposals at the Dec. 5 meeting of the Primary Frequency Response Senior Task Force (PFRSTF). None received more than 0.34 support; 0.5 was required to be advanced for consideration at the Markets and Reliability Committee. A question on whether PJM should make any change showed 0.73 in support of maintaining the status quo.

New units that enter the interconnection queue after Oct. 1 and existing units that request an uprate — including facilities that add units — will have to provide PFR, but there would be no new requirements for existing units that don't make any changes. Generators have opposed proposals to require existing units to provide PFR. (See [Primary Frequency Proposals Set for Vote in PJM](#).)

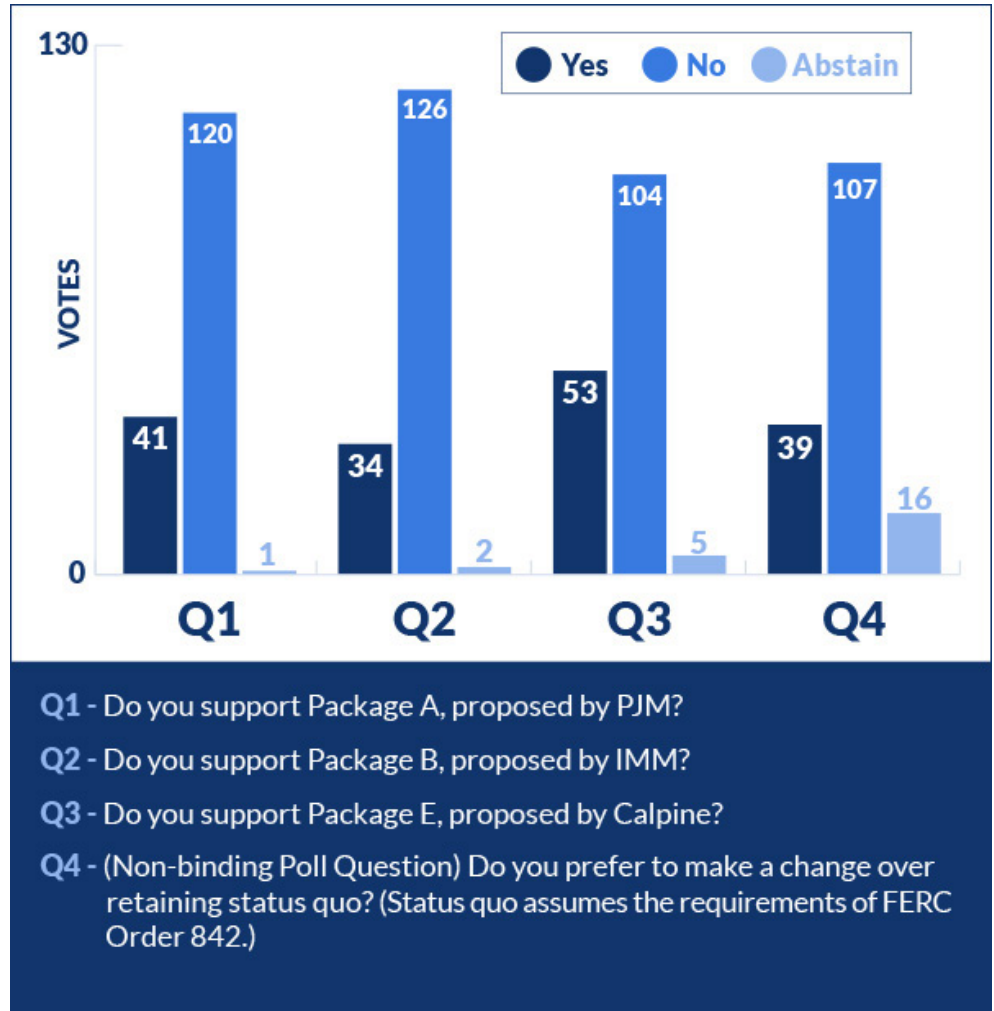
Stakeholders' comments at the meeting reiterated the view that the proposals were, as FirstEnergy's Jim Benchek put it, "a solution looking for a problem."

"The thing about this is ... it's really an Eastern Interconnection thing ... because each balancing authority has the obligation. Things are working," Benchek said. "I would suggest that PJM ... continue to monitor the situation, and if primary frequency response continues to degrade and needs to be addressed, then we restart this task force."

American Electric Power's Brock Ondayko agreed that the RTO should give Order 842 time to see if it corrects a trend PJM has noticed of reduced fleetwide PFR performance.

"In the meantime, I think PJM should probably explore the impacts of their own dispatch on the capabilities of units to provide [PFR]," he said. "The capability is so dependent on how PJM loads the assets, whether or not they have them moving prior to the [PFR event]."

Old Dominion Electric Cooperative's Adrien Ford echoed the remarks, saying the poll results are "clear guidance" that the status quo is preferable.



PJM stakeholders roundly rejected proposals to revise the RTO's primary frequency response requirements beyond FERC Order 842 in a recent poll. | PJM

"At this point, I think our work here is done," she said.

Wider Concern

"Based on the latest webinar NERC held, I think there is indication that frequency response is declining in general. Is there someone jumping up and down saying, 'The sky is falling'? I don't think so. However, I think all the trends show we're heading in that direction," PJM's Vince Stefanowicz said, noting that further delay risks NERC promulgating additional standards.

PJM's Danielle Croop said that the overall trend is reflected within the PJM footprint.

"We have seen trending down in our frequency response ... year over year for the past few

years," she said. "I definitely don't think it's PJM in a bubble that's concerned about frequency response."

Benchek assured that FirstEnergy's units will continue to provide PFR and saw the potential for NERC to revise its standards as beneficial rather than a risk.

"We're not going to take the governor controls off our units or anything," he said. "We want to comply. We want to have a reliable system. It's just not clear what we should do, so it's maybe prudent to wait for better guidance."

Other stakeholders asked PJM to continue to provide reports on unit performance and overall fleet response.

PJM's Glen Boyle agreed to doing so. ■



PJM MRC/MC Briefs

CAPS Concerned About FTR Changes

WILMINGTON, Del. — Ten Consumer Advocates of the PJM States (CAPS) members signed onto a letter urging PJM's Board of Managers to let "that process play out" concerning analysis of the RTO's financial transmission rights market and any subsequent rule changes, CAPS Executive Director Greg Poulos told stakeholders and staff at Thursday's Markets and Reliability Committee meeting.

While the other five manual revisions on the agenda were approved by group acclamation, Poulos asked that the revisions to Manual 06: [Financial Transmission Rights](#), developed as part of the manual's annual review, be voted separately. They were approved with one objection and seven abstentions.

PRD Review for Capacity Performance Requirements

Stakeholders endorsed revisions that would align PJM's price-responsive demand (PRD) rules with the Capacity Performance construct. While three [proposals](#) developed by the Demand Response Subcommittee were potentially under consideration, the voting didn't get past the main motion, which received 3.72 in favor in a sector-weighted vote with a 3.34 threshold. The MRC vote was accepted in the subsequent Members Committee meeting, moving it on to the board.

The main proposal requires PRD to reduce load in winter like other CP resources and will leverage existing load reduction and capacity nomination rules already approved by FERC for demand response. The status quo does not require winter load reduction, similar to PJM's rules for DR prior to CP. (See "Summer-only Demand Response," [PJM MRC/MC Briefs: Oct. 25, 2018](#).)

An alternative initially developed by Calpine proposed using performance assessment intervals (PAIs) to trigger performance assessments, bonuses and penalties instead of using them only when appropriate real-time LMPs are greater than the PRD energy price, which the endorsed proposal uses.

Susan Bruce, representing the PJM Industrial Customer Coalition, voiced support for a proposal from the Independent Market Monitor because it allows PRD to be based on summer load-reduction capability rather than year-round. The Monitor's proposal would not

require PRD to reduce load in the winter if the customer's load is already low and would use the old DR measurement and verification method to meet the CP annual requirements, which was updated based on CP and subsequently approved by FERC.

Surety Bonds

Exelon representatives, who had initially introduced one of the proposals to use surety bonds as a form of credit, called for deferring a committee endorsement on two proposals until a special PJM board committee reports on its investigation of the historic GreenHat Energy FTR default. The [proposals](#) were developed at the Credit Subcommittee. (See "Surety Bond Use," [PJM Market Implementation Committee Briefs: Oct. 10, 2018](#).)

The main motion would allow surety bonds as collateral for all market purposes, except FTRs, with a \$10 million cap per issuer for each member and a \$50 million aggregate cap per issuer. Exelon's alternative proposal would allow surety bonds as collateral for all market purposes, with a \$20 million cap per issuer for each member and a \$100 million aggregate cap per issuer.

Some members were concerned about considering the proposals while the board's investigation continues and because insurance companies can investigate claims against surety bonds prior to paying on the claims. PJM staff echoed previous assurances that the surety bond agreement language is designed to re-



Stakeholders discuss PJM issues at last week's meeting of the RTO's Markets and Reliability Committee. | © RTO Insider



PJM CEO Andy Ott speaks with Stu Bresler, who oversees the RTO's operations and markets, on the sidelines of last Thursday's Markets and Reliability Committee. | © RTO Insider

quire immediate payment of claims, identical to the requirements of letters of credit, which are already approved forms of credit. While some of the language came from other RTOs/ISOs, it remains untested legally, staff said.

Both proposals will be reconsidered at the Dec. 20 MRC meeting. PJM CEO Andy Ott said representatives of the special committee will call in to provide an update on the investigation.

Gas Pipeline Contingencies

Load-side preference won the day for an alternative developed by the D.C. Office of the People's Counsel to PJM's proposed rules and compensation plan for handling supply-constraint contingencies on gas pipelines.

The main [motion](#) endorsed by the Market Implementation Committee, which was originally developed by Calpine, would have allowed units switching fuels at PJM's direction to recover specific costs through a formula rate to be developed and filed with FERC. It would have been based on costs associated with fuel switching, exemptions from PJM performance charges during the fuel switch, and procedures for seeking cost recovery. (See "Gas Pipeline Contingencies," [PJM Market Implementation Committee Briefs: Nov. 7, 2018](#).)

Calpine's David "Scarp" Scarpignato offered an amendment to remove gas pipeline penalties from the rate, which was accepted as friendly. He said it would be "untenable" for generators

PJM NEWS



to potentially incur tens of millions of dollars in costs during an emergency and not be able to recover them.

The OPC's alternative allows for cost recovery to be filed at FERC by the generation owner. Bruce supported this proposal, noting concerns about what could be included in rates developed through the main motion and how they would be audited. She said her members agree on the fundamental ideas behind the main motion but would be "behind the blocks" in having to file complaints about recovery charges rather than the generator having to seek recovery.

Poulos said his members also supported the OPC proposal and expressed "a lot of frustration" that discussion of the proposals received "short shrift" at the upper committees, as it was scheduled for first reads and votes at both the MRC and MC on the same day.

"I think that the risk of putting forward an inadequate proposal is greater than the risk of going one more winter without it," said Panda Power Funds' Bob O'Connell, announcing that he planned to oppose all the proposals.

The main motion failed, receiving 3.13 in favor in a sector-weighted vote with a 3.34 threshold. The OPC alternative was endorsed, receiving 3.77 in favor. It received 4.26 in favor in a subsequent endorsement vote at the MC.

RPM Credit Requirement Reduction Clarifications

In the MC, attendees agreed to move proposed credit-related Tariff *revisions* to the consent agenda, where they were endorsed with no objections. The revisions remove an apparent overlapping credit reduction provision for qualified transmission upgrades in order to clarify milestone documentation requirements for internally financed projects and that capacity market sellers should submit requests for reductions.

Committee Elections

Attendees also elected *nominees* to the Finance Committee, sector whips and American Municipal Power's Steve Lieberman, representing the Electric Distributor sector, as vice chair of the MC for 2019.

Elections to the Finance Committee were:

- The D.C. OPC's Erik Heinle, from the End-Use Customer sector;
- Jeff Whitehead, representing Eastern Generation, from the Generation Owner sector;

- Credit Suisse's Marguerite Miller, from the Other Supplier sector; and
- Virginia Electric and Power Co.'s Jim Davis, from the Transmission Owner sector.

The tenures will all expire at the end of 2021. Tenures for the current representative from each sector on the committee expire either next year or in 2020, including the tenures for both representatives from the Electric Distributor sector.

The sector whips were Old Dominion Electric Cooperative's Adrien Ford, from the Electric Distributor sector; the PJM ICC's Bruce, from the End-Use Customer sector; Gabel Associates' Michael Borgatti, from the Generation Owner sector; Direct Energy's Marji Philips, from the Other Supplier sector; and Exelon's Sharon Midgley, from the Transmission Owner sector.

Bilateral FTR Retraction

PJM CFO Suzanne Daugherty announced PJM's plans not to follow up on additional information requested by FERC in a recent FTR-related filing and instead pushed to have it withdrawn. The MC voted in favor of showing its agreement with PJM's plan, but not without Shell Energy voicing its disagreement. The acclamation vote pass with six objections and 11 abstentions.

In the previous week, FERC approved two of four filings — and rendered moot a third — that PJM made in response to the GreenHat default. On the fourth filing related to bilateral FTR transactions, the commission issued a deficiency letter requesting more information. Shell and several financial traders protested the filings. (See [FERC OKs Key PJM Changes to Address GreenHat Default](#).)

Shell's Matt Picardi said his company protested to raise the issue of the underlying indemnification and that addressing the deficiency letter is important for hashing out those issues.



Shell's Matt Picardi discusses issues at PJM's Members Committee last Thursday. | © RTO Insider

Daugherty responded that "Shell has been very straightforward" with its opinion, but that its interpretation of the indemnity provision differs from PJM's. Staff would prefer to pull that back to discuss it in the stakeholder process because it was never addressed there, rather than hash it out at FERC.

"There was some discussion around the edges" of the indemnification issues during the GreenHat talks earlier this year, Picardi said. He said Shell would engage in any stakeholder processes on the topic but would not be "foreclosing" on its "other options" to push the issue.

Daugherty confirmed that PJM has no expectation of submitting another filing on the issue other than to have the discussion.

Stakeholders Approve Variety of Actions

Stakeholders endorsed by acclamation several manual revisions and other operational changes:

- Manual 03: Transmission Operations. Revisions developed to update the generator voltage schedule with new processes that require transmission owners to verify and submit voltage schedules via eDART, generation owners to review the schedules and the eDART contact to acknowledge the schedule. This will all need to be done annually. (See "Generator Voltage Schedule," [PJM Operating Committee Briefs: Nov. 6, 2018](#).)
- Manual 10: Pre-Scheduling Operations. Revisions developed as part of a periodic cover-to-cover review.
- Manual 14D: Generator Operational Requirements. Revisions mirroring those of Manual 03 above.
- Manual 27: Open Access Transmission Tariff Accounting. Revisions developed as part of the biennial review.
- Manual 11: Energy & Ancillary Services Market Operations. Revisions developed as part of ongoing revisions to the day-ahead timeline. (See "Day-ahead Market Timeline Manual Changes," [PJM Market Implementation Committee Briefs: Nov. 7, 2018](#).)
- Revisions to the day-ahead scheduling reserve for 2019. The 2019 calculation of 5.29% is a 0.01-point increase from the 2018 requirement. Endorsed with seven abstentions and one objection. (See "Day-ahead Scheduling Reserve Recommendation," [PJM Operating Committee Briefs: Nov. 6, 2018](#).) ■

— Rory D. Sweeney



SPP Stakeholders: Stick with Dec. 2019 Date for Western RC Services

By Tom Kleckner

The *Western Reliability Executive Committee*, which is overseeing SPP's effort to provide reliability coordination (RC) services to more than a dozen Western Interconnection entities, pushed back last week against the Western Electricity Coordinating Council's suggestion that the RTO coordinate its go-live date with that of CAISO.

SPP, CAISO and Canada's BC Hydro have agreed to provide RC services in the West in response to Peak Reliability's surprise move this summer to wind down its operations by the end of 2019. (See [CAISO RC Wins Most of the West.](#))

CAISO will become the RC for its existing territory on July 1, 2019, and take over RC services for many areas outside of California on Nov. 1. SPP will take responsibility for about 12% of the region on Dec. 3.

BC Hydro will become the RC for most of British Columbia on Sept. 2.

SPP Vice President of Operations Bruce Rew

told the committee during its Dec. 7 meeting that Peak is concerned that staff attrition may hinder its ability to continue providing RC services as it approaches its wind-down date.

At a WECC meeting last week, Jim Shetler, chair of Peak's Member Advisory Committee, also said the staggered go-live dates do not afford the organization any room for error. (See related story, [RC Transition Fraught with Pitfalls, WECC Hears.](#))

Rew said that during a recent Western RC-to-RC meeting, WECC said it may offer a streamlined recertification process to Peak and the new Western RC providers during footprint modifications. He said WECC's actions should mitigate some of the concerns.

"Peak will have already gone through July 1 and Sept. 2 transitions," Rew said. "As for [Peak] staff, they should have financial incentives to stay until January 2020. I don't see a significant difference in risk between Nov. 1 and Dec. 3... but I'm not in Peak's shoes, either."

Committee members pointed out that by Dec. 3, Peak will only be handling RC services for a



Bruce Rew, SPP | © RTO Insider

small portion of its footprint. Committee Chair Keith Carman, with Tri-State Generation & Transmission Association, urged SPP to "hold fast and steady" on the Dec. 3 date.

"I'm struggling with what the issue is," Carman said. "As the footprint gets smaller, they have less to worry about." ■

SPP Board of Directors/Members Committee Briefs

Board Approves Reduced Admin Fee for 2019

DFW AIRPORT, Texas — SPP's Board of Directors last week approved a more than 8% reduction in the RTO's administrative fee for 2019, although the fee is projected to rise again in 2020.

The RTO's Finance Committee based its recommendation for a 39.4 cents/MWh fee on a net revenue requirement (NRR) of \$157.5 million next year, a \$21.3 million reduction from prior estimates for 2019 and just \$3.2 million more than 2018's forecast. SPP is projecting a 4.4% increase next year in the billing determinants used



SPP Board Chair Larry Altenbaumer discusses the 2019 schedule as CEO Nick Brown listens. | © RTO Insider

to calculate the administrative fee and is also benefiting from a recent \$10.7 million over-recovery.

The administrative fee, which is collected under Schedule 1A of SPP's Tariff on transmission contracts between transmission providers and customers, was 42.9 cents/MWh for 2018.

"There's no promise that the fee can stay [low]," said Director Bruce Scherr, the committee's chair.

Scherr said future affordability will be

addressed as SPP moves into its next budgeting cycle. Board Chair Larry Altenbaumer said several times he would like to see an affordability task force created during the RTO's January meeting.

There was little discussion as the Finance Committee presented its recommendations for both the fee and SPP's 2019 budget. The budget, also approved without opposition, includes \$196.3 million in expenses, a 5.2% increase over 2018's forecast but 2.9% below 2019's prior estimates.

SPP allocates the NRR to transmission customers based on their purchase of point-to-point (PtP) transmission service and/or network integrated transmission service (NITS). NITS customers are billed based on the prior year's average monthly peak demand and represent approximately 90% of total annual billing determinants. PtP service is billed based on reserved hourly transmission capacity and represents about 8% of annual billing determinants.

Monthly true-up assessments cover any unreported load not covered by NITS or PtP service.

The NRR is expected to climb into the \$180 million range by 2021,

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SPP Briefs

HITT Wraps Up its Educational Work

SPP's Holistic Integrated Tariff Team (HITT) wrapped up the educational portion of its work last week and will now begin refining the high-level recommendations it will make to the Board of Directors.

SPP General Counsel Paul Suskie, who serves as the HITT's staff secretary, offered several suggestions on how the group might take the information and data it has gathered "and assimilate it into a report."

Suskie broke down the recommendations into sub-sections dealing with transmission planning, congestion rights and hedging, and resource adequacy, among others. However, no action was taken to endorse any recommendations during the team's Dec. 4-5 meeting, with stakeholders suggesting some of the concepts discussed be addressed by other working groups.



SPP's Paul Suskie (right) offers suggestions on the HITT's final report, as Vice Chair Rob Janssen (left) and Chair Tom Kent listen. | © RTO Insider

The HITT has an April 2019 deadline for delivering a report on the optimal alignment of SPP's planning processes, cost-allocation

methodologies, and market products and services.

Continued from page 33

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when a major computer system upgrade is planned. That would require an administrative fee of 45.2 cents/MWh.

Board Approves Group Chairs, Reliability Project

The board's consent agenda reaffirmed chairs for nine stakeholder groups; approved an \$8.9 million short-term reliability project; accepted the Oversight Committee's recommended 2019 Industry Expert Pool (IEP) that will evaluate any competitive upgrade projects; and passed scope changes for various working groups, primarily removing references to the dissolved SPP Regional Entity and ensuring equal representation among transmission owners and transmission users.

SPP said the following chairs were nominated with the unanimous support of their respective groups and will begin their two-year terms on Jan. 1:



December's Board of Directors/Members Committee meeting | © RTO Insider

- **Balancing Authority Operating Committee:** Bryan Taggart, Evergy
- **Change Working Group:** Carrie Dixon, Xcel Energy
- **Credit Practices Working Group:** Mark Holler, Tenaska Power Services
- **Economic Studies Working Group:** Alan Myers, ITC Great Plains
- **Market Working Group:** Richard Ross, American Electric Power
- **Model Development Working Group:** Nate Morris, Liberty Utilities
- **Operations Training Working Group:** Russell Moore, City Utilities of Springfield
- **Project Cost Working Group:** Tom Hestermann, Sunflower Electric Power
- **System Protection and Control Working Group:** Steve Wadas, Nebraska Public Power District

The reliability project includes a 5.6-mile, 161-kV line in the Kansas City, Mo., area that will address thermal overloads following several Kansas City Power & Light generation retirements.

The 2019 IEP pool will include 13 holdovers from last year and adds two new members: SPP retiree John Mills and consultant Tip Goodwin. Mills is the first former SPP employee to serve on the panel. The panel did not consider any competitive projects in 2018.

The consent agenda also included a board policy statement that will allow Markets and Operations Policy Committee-endorsed actions destined for FERC filings and not appealed by members to go through the regulatory process without further board approval. ■

— Tom Kleckner



Continued from page 32

New Staff Secretaries for MOPC, SPC

SPP announced Dec. 6 that senior executives Lanny Nickell and Barbara Sugg will take over the staff secretary positions on two of its most important committees, the Markets and Operations Policy Committee and Strategic Planning Committee, respectively.

The MOPC, relying on stakeholder groups, develops and recommends policies and procedures to the board. The SPC is responsible for the RTO's strategic direction.

Nickell, vice president of engineering, will assume the MOPC's reins from COO Carl Monroe, who has filled that position for 18 years. Monroe will continue to directly engage with the committee as a resource, CEO Nick Brown said.

Sugg, SPP's IT vice president and chief security officer, will replace Michael Desselle, who served as the SPC's staff secretary for 10 years.

Brown said the appointments will allow Nickell and Sugg "to continue [their] professional development and service to SPP." He made the announcement in a pair of emails to stakeholders.

SPP's Sorenson has Role at Bush Funeral

The SPP Market Monitoring Unit's Greg Sorenson, a supervisor of market surveillance, was part of a special naval escort for dignitaries and family members attending President George H.W. Bush's funeral ceremonies in D.C. last week.

Sorenson, a lieutenant commander in the U.S. Navy Reserve, arrived in the capital Dec. 2 to join 10 other Navy officers in escorting visitors at Andrews Air Force Base and the National Cathedral. Sorenson was present at Andrews when Air Force One landed with Bush's body and met Sully, the president's service dog.

"I had to rearrange some things, but [SPP was] very accommodating in allowing me to do this for our country," Sorenson told the *Northwest*

Arkansas Democrat-Gazette.

Staff Eyeing FERC Filing on Seams Projects

SPP staff were unable to gain stakeholder consensus last week on their proposal to change the criteria for regional funding of seams projects. The revision would apply to all seams projects unable to pass the interregional Order 1000 process and approved in an SPP regional study.

FERC in 2015 rejected SPP's proposed category for seams projects and their associated cost allocation, saying the plan was too broadly drawn. (See *FERC Rejects SPP Proposal for Seams Transmission Projects*.)

At the Seams Steering Committee meeting Wednesday, several stakeholders suggested the effort to create Tariff language would be worthwhile. However, committee Chair Jim Jacoby, with American Electric Power, said he wasn't sure the time and effort was worth it.

"It won't fix anything on the MISO side," Jacoby said, referring to the inability of the RTOs to agree on interregional projects. "Having something in the Tariff is a good thing, but I'm torn over the amount of effort it will take versus the benefits it will provide."

Staff said they will continue discussions with the committee in 2019.

They also told the SSC they were close to finalizing revisions to the joint operating agree-

ment governing the coordinated system plan for interregional projects with MISO. Staff said the RTOs hope to reach an agreement during the Interregional Planning Stakeholder Advisory Committee's *Dec. 20 conference call*, and then prepare the JOA for FERC filings in January or February.

The RTOs have agreed to revise the JOA to improve the chances of funding interregional projects. The changes will eliminate the \$5 million cost threshold for the projects, add avoided costs and adjusted production cost benefits to project evaluation, and remove the joint modeling requirement in favor of individual RTO regional analyses. (See *MISO, SPP to Ease Interregional Project Criteria*.)

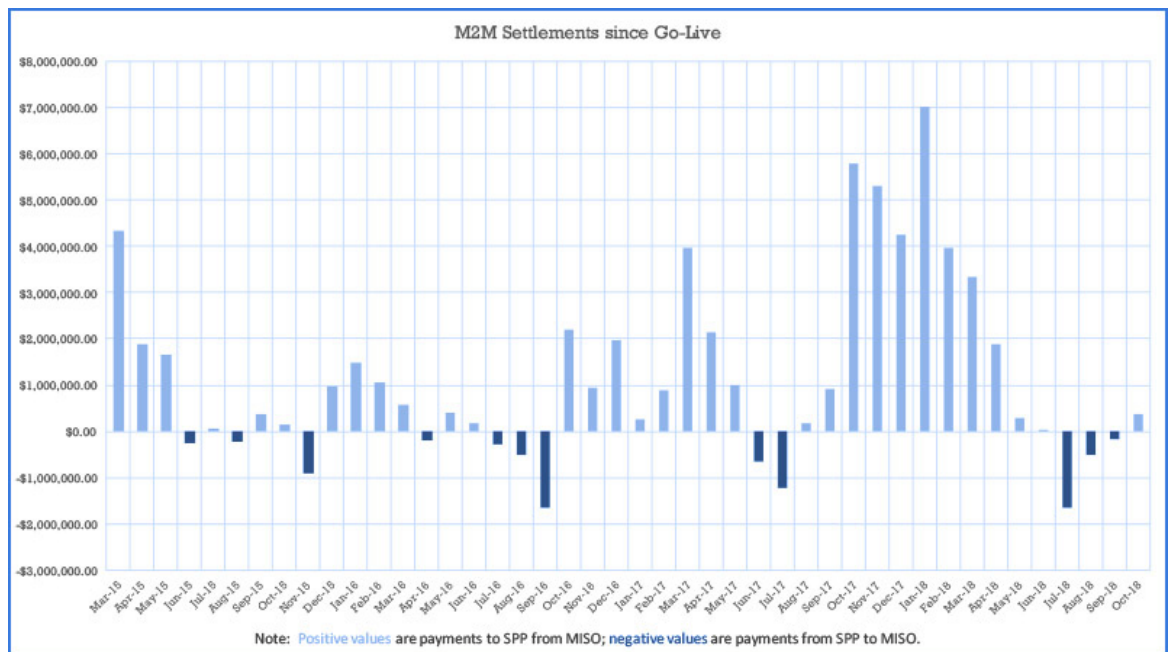
M2M Payments Flow in SPP's Direction Again

Staff told the SSC that the market-to-market (M2M) process wound up in SPP's favor in October, reversing three consecutive months of net payments to MISO.

Flowgates along the seam were binding for a total of 663 hours on SPP's side, resulting in more than \$380,000 in M2M payments. SPP has now amassed \$51.6 million in distributions since the two RTOs began the M2M process in March 2015.

Payments have flowed SPP's direction 20 of the last 25 months. ■

— Tom Kleckner



| SPP

FERC & FEDERAL NEWS

RTOs/ISOs File FERC Order 841 Compliance Plans

Continued from page 1

director of the Organization of MISO States.

Speaking at Infocast's Federal Energy Policy Summit on Thursday, Paslawski said "there are limits to what [the RTO] can do" to implement the order given its outdated system. For example, MISO established a 100-kW minimum size requirement for resources — the maximum allowed by the order — "because MISO's existing market systems do not support offer or bid quantities less than this amount."

Comments on the filings are due by Dec. 24. Several industry groups — including Advanced Energy Economy, the American Wind Energy Association and the Solar Energy Industries Association — filed a joint request to extend the comment period for another 45 days.

"The standard 21-day comment period will not be adequate for interested parties to review and comment on all of the RTO/ISO compliance filings," the groups *said*. "The filings are voluminous and contain proposed revisions to several tariff provisions and market rules." They also noted that the comment deadline is "in the middle of the holiday season, when many organizations are short-staffed."

"I think it's probably likely that the comment deadline gets extended," Scott Baker, senior business solutions analyst for PJM, said at the summit.

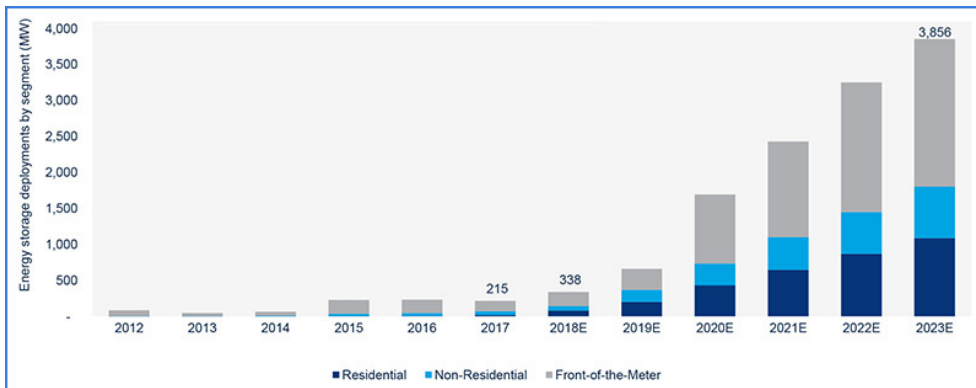
Requirements Vary

Each grid operator submitted a participation model for storage resources to provide any services of which they are capable, but requirements vary.

"RTOs have largely allowed storage to provide the same services, under the same conditions, as a provided by other types of resources. Sometimes this creates barriers to storage participation," the New York School of Law's Institute for Policy Integrity said in an analysis of the filings.

PJM's "onerous" 10-hour requirement is only possible for most resources "through significant derating of capacity, and even then may not facilitate cost-effective participation in the capacity market," the institute said.

"PJM also has proposed an accounting framework that effectively requires all charging by energy storage resources participating in PJM's participation model that are not owned



U.S. energy storage annual deployments will reach 3.9 GW by 2023, according to a report released last week by Wood Mackenzie. The report attributes the estimated increase in part to tariff changes spurred by FERC Order 841. | *Wood Mackenzie*

by load-serving entities to discharge (sell their energy) back to PJM," it continued. "These resources cannot sell to others or use the stored power themselves."

As for energy markets, resources would have flexibility under the proposals, with some grid operators allowing suppliers to participate in different "modes." How many modes — and what they're called — depends on the region.

PJM, for example, proposed to allow three modes: continuous, charge or discharge. In continuous mode, resources can both charge and discharge, with no limitations on start-ups or ramp rate.

NYISO would offer four modes: ISO-committed fixed, ISO-committed flexible, self-committed fixed and self-committed flexible. In the ISO-committed modes, suppliers would leave it up to NYISO to determine the most optimal dispatch times for their resources. In the fixed mode, the ISO would schedule them in the day-ahead market and dispatch them no more frequently than every 15 minutes in the real-time market. In the flexible mode, NYISO would dispatch resources in the real-time market based on LMPs. In the self-committed modes, suppliers would make these decisions themselves.

MISO would allow for eight "commitment statuses": discharge, emergency discharge, charge, emergency charge, continuous, available, not participating and outage (offline). (See [MISO Offers Storage Proposal, Promises to Exceed Order 841](#).)

Under the proposals, resources will be able to participate in any market they choose, without

"If you were just a battery that didn't want to participate in the energy market, but you were sitting there and have the capability to respond within 10 minutes to a synchronized reserve signal, we didn't have the ability for a resource like that to do that."

— Scott Baker, PJM

having to participate in others. For example, Baker noted that PJM currently requires resources wishing to provide synchronized reserves also participate in the RTO's energy market. "In other words, if you were just a battery that didn't want to participate in the energy market, but you were sitting there and have the capability to respond within 10 minutes to a synchronized reserve signal, we didn't have the ability for a resource like that to do that," he said.

In part because of California legislation requiring investor-owned utilities to procure storage, CAISO filed the fewest revisions among the grid operators. One of the more significant changes was that it reduced its minimum size requirement from 500 kW to 100 kW, Andrew Ulmer, ISO director of federal regulatory affairs, noted Thursday.

SPP noted that it gave storage resources in its footprint — all of which are currently pumped hydro and not able to vary their dispatch mode — the ability to stick with its current model for participation or register as a market storage resource (MSR). ■

FERC & FEDERAL NEWS

Senate Confirms McNamee to FERC

Continued from page 1

Manchin said Wednesday he changed his mind on McNamee after learning of statements suggesting the nominee denies humans' role in climate change.

Senate Majority Leader Mitch McConnell (R-Ky.) filed cloture on McNamee's nomination Nov. 29, but the vote to limit debate was postponed until after the state funeral of former President George H.W. Bush on Wednesday.

The cloture vote Wednesday was identical to the confirmation vote. After Senate rule changes in 2013, the vote to prevent filibustering presidential nominations requires a simple majority rather than a supermajority. Sen. Thom Tillis (R-N.C.) did not participate in either vote.

President Trump nominated McNamee in early October, after Robert Powelson left FERC in August to become CEO of the National Association of Water Companies, having served on the commission for only a year. McNamee, executive director of the Energy Department's Office of Policy, would serve the remainder of Powelson's term, which ends June 30, 2020.

McNamee could extend his tenure through 2025: The 2020 end date for his term means Trump would be able to re-nominate him before the end of the president's own term the following year.

Leaked Video

Democrats' opposition to McNamee stems in part from his role in drafting DOE's Notice of Proposed Rulemaking seeking subsidies for endangered coal and nuclear generators. Democrats on the ENR Committee urged McNamee to recuse himself from FERC's resilience docket, which it opened in January after rejecting DOE's proposal. (See [Democrats Urge McNamee's Recusal from Resilience Docket.](#))

In response, McNamee said he would consult ethics lawyers on the matter.

McNamee has served in the DOE Office of Policy since June. Prior to that, and after FERC's rejection of the NOPR in January, he worked briefly as the director of the Texas Public Policy Foundation's Center for Tenth Amendment Action, a group that files legal challenges over what it views as government overreach. It was in this role that McNamee promoted the center's Life: Powered initiative — described as a project to “reframe the



Bernard McNamee | © RTO Insider

national discussion” about fossil fuels — in a February speech captured on video. In the speech, McNamee described the effort to change public opinion about fossil fuels, which he called “the key not only to our prosperity [and] quality of life, but also to a clean environment.” He also attacked environmental groups, describing their activism against fossil fuels as a “constant battle between liberty and tyranny” and criticized renewable resources.

“Renewables, when they come on and off, it screws up the whole the physics of the grid,” he said. “So, when people want to talk about science, they ought to talk about the physics of the grid and know what real science is, and that is how do you keep the lights on? And it is with fossil fuels and nuclear.”

The [video](#) — which was apparently taken down from the TPPF's YouTube [channel](#) when McNamee was nominated — was uploaded to YouTube by the Energy and Policy Institute, a liberal advocacy group, on Nov. 20. The speech was a stark contrast to McNamee's promise days earlier at his confirmation hearing to “be a fair, objective and impartial arbiter in the cases and issues that would confront me as a commissioner.”

“After viewing video footage, which I had not previously seen, where Bernard McNamee outright denies the impact that humans are having on our climate, I can no longer support his nomination to be a FERC commissioner,” Manchin said in a statement explaining his vote Wednesday. “I would hope that Mr. McNamee will be open to considering the impacts of climate change and incorporates these considerations into his decision-making at FERC.”

McNamee Responds

After the video became public, Cantwell issued several supplemental questions to McNamee about his statements, saying “these biases will make it difficult both for you to be the impartial arbiter that you have committed to be, and for the American public to have confidence that you will be an impartial arbiter who relies on the ‘law and facts’ as you have stated in your testimony.”

In his [response](#) Nov. 26, before the committee vote, McNamee repeated his support for “a level playing field for all types of technologies and resources” and pledged to be “an independent arbiter, making my decisions based on the law and facts.”

Asked by Cantwell to “point to a peer-reviewed scientific study” that supports his criticism of renewables, McNamee cited NERC's May 2017 [comments](#) on DOE's grid study: “With no mass, moving parts or inertia, increasing amounts of inverter-based resources (such as solar photovoltaic) present new risks to reliability, such as managing faster fault-clearing times, reduced oscillation dampening and unexpected inverter action.”

He also cited a February 2018 National Renewable Energy Laboratory [study](#) on the challenges posed by California's “duck curve.”

“I recognize the value of all resources to operating the electric grid while also recognizing that resources may have different operating characteristics that may be necessary to support the electric grid during different situa-

Continued from page 36

FERC & FEDERAL NEWS

EPA Eases Rules for New Coal Generation But Eliminating CO2 Capture Won't Overcome Cheaper Alternatives

By Rich Heidorn Jr.

EPA on Thursday proposed eliminating the requirement that new coal-fired generation incorporate carbon capture technology — a largely symbolic measure given competition from lower-cost natural gas and renewables that has cut coal's market share.

The *proposal* would redefine the best system of emission reduction (BSER) for new, modified and reconstructed coal plants to “the most efficient demonstrated steam cycle in combination with best operating practices,” eliminating the Obama administration's 2015 BSER *requiring* partial carbon capture and storage (CCS).



Acting EPA Administrator Andrew Wheeler announces proposed coal emission rule changes at agency headquarters Thursday. | U.S. Environmental Protection Agency

Acting EPA Administrator Andrew Wheeler, a former coal industry lobbyist, said the change replaces “onerous regulations with high, yet achievable, standards” in furtherance of President



| NOAA

Trump's executive order promoting energy independence.

The revised BSER would limit large, newly constructed steam units to 1,900 pounds of

CO2 per megawatt-hour and new small units to 2,000 pounds/MWh. Newly constructed coal refuse-fired units would be limited to

Continued from page 37

Continued from page 35

tions,” McNamee said.

Cantwell also asked, “How can environmental groups possibly expect a fair shake from you as a FERC commissioner given that you equated these groups and their values with those of tyrants?”

McNamee responded: “I understand the difference between being an advocate and an independent arbiter.”

Echoes of Binz

McNamee's nomination somewhat resembles that of a previous nominee: Ron Binz.

Chosen by President Barack Obama in 2013 to be FERC chair, Binz withdrew his nomination after Manchin joined Republicans, then in the minority, in opposing him over his statements favoring renewables.

Binz served as chairman of the Colorado Public

Utilities Commission from 2007 to 2011. Part of the opposition to his nomination, led by the coal industry, stemmed from his participation in the drafting of Colorado's Clean Air-Clean Jobs Act, which offered utilities incentives for replacing coal-fired power plants with natural gas. The law led to the closure of several coal plants in the state. (See [Who is Ron Binz, And What Will He Do at FERC?](#))

But what *ultimately* ended up sinking his bid was the disclosure of documents showing he was communicating with public relations firm VennSquared Communications — which had been hired by Green Tech Action Fund, a nonprofit that provides grants for the development of clean energy technologies — in response to the coal lobby. The emails sparked a *furor* among right-wing media and led the previously noncommittal Lisa Murkowski (R-Alaska), then ranking member of the ENR Committee, to withhold her support.

On the Senate floor before the cloture vote

Wednesday, Murkowski referenced the “bipartisan concerns on [Binz's] efforts to recruit support for his nomination” as the key difference between Binz and McNamee.

Prior to McNamee's committee vote, Cantwell recalled the Binz controversy.

“It was not that long ago that this committee refused — refused — to confirm the nomination of Ronald Binz to the commission because of his support for renewable energy,” she said.

After the committee vote, Murkowski was asked by reporters about Cantwell's comments on Binz and Earthjustice's Kim Smaczniak's *tweet* asking “What happened to the Binz test?”

“I don't know that there was ever a ‘Binz test,’” Murkowski said. “If there was, I wasn't [giving] that. I have to look at every individual that comes before me, I have to ask the questions and make that determination.” ■

FERC & FEDERAL NEWS

Continued from page 36

2,200 pounds/MWh regardless of size (Docket # EPA-HQ-OAR-2013-0495).

EPA's announcement said revising the New Source Performance Standards (NSPS) will "provide room for American energy production to continue to grow and diversify," and Senate Majority Leader Mitch McConnell (R-Ky.) tweeted that the change will "bring relief to hardworking Kentucky families."

But those predictions were undermined by a footnote in EPA's Federal Register *notice*: "Power sector modeling does not predict the construction of any new coal-fired EGUs [electric generating units]. Therefore, based on modeled impacts, any [greenhouse gas] requirements for new coal-fired EGUs would have no significant costs or benefits."

The Republicans' spin on the announcement mirrored the Obama administration's lack of candor when it proposed limiting emissions from new coal-fired units to 1,100 pounds/MWh, far below the levels of the most efficient coal plants without CCS, which range from 1,700 to 1,900 pounds/MWh.

Although critics said neither of the two CCS demonstration projects cited by EPA — Plant Ratcliffe in Kemper County, Miss., and the SaskPower plant in Canada — had demonstrated the commercial viability of the technology, then-EPA Administrator Gina McCarthy insisted that the rule was "clearly not" an effective ban on new coal plants. (See [EPA GHG Rule May Turn on Viability of Carbon Capture](#).)

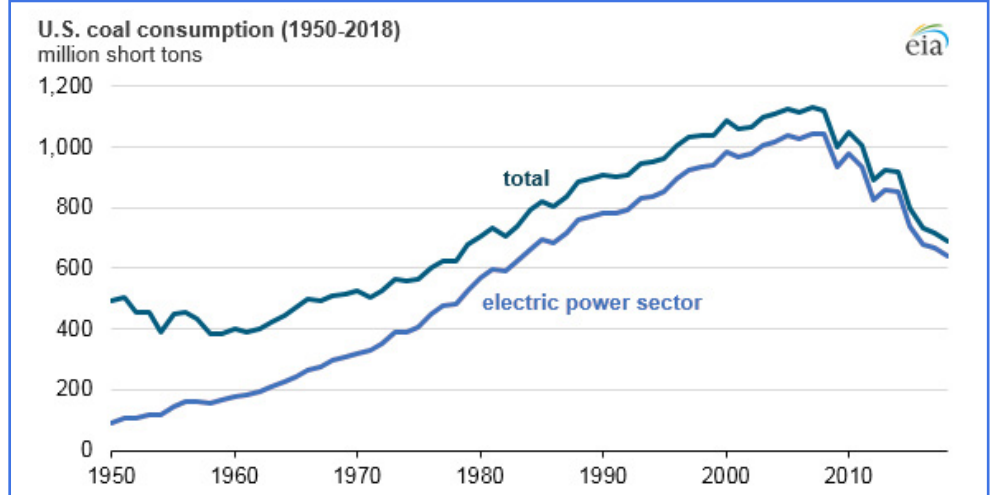
The Kemper County plant *suspended* the coal-gasification project in June 2017. SaskPower in July *announced* it would not expand its CCS project and instead would shut down two aging coal-fired plants.

Reaction

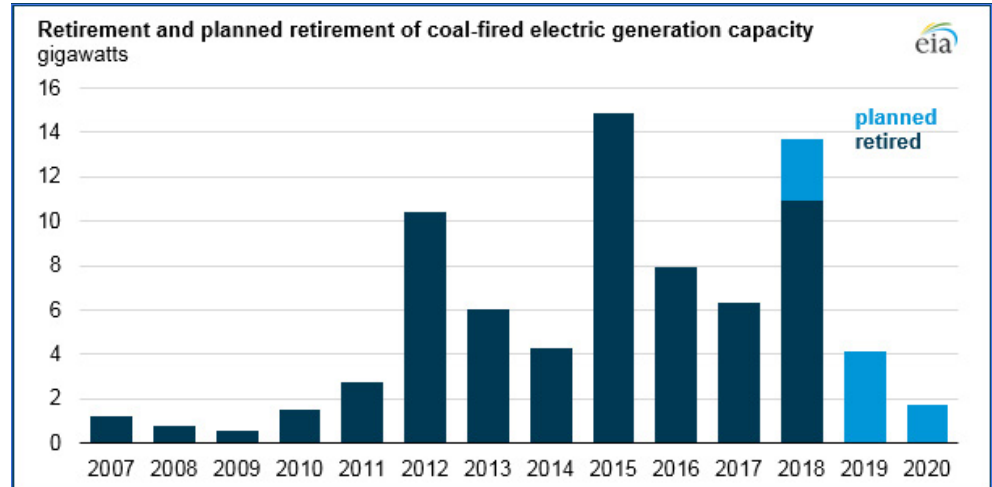
Pro-coal groups applauded the proposed rule change.

"Since the U.S will continue to rely on coal, it makes sense to invest in new high-efficiency, low-emissions coal-fired power plants to replace at least some of the plants that are retiring," said Michelle Bloodworth, CEO of the American Coalition for Clean Coal Electricity. "EPA's NSPS proposal can help achieve that goal by removing an unnecessary regulatory barrier."

Environmentalists were outraged by EPA's reversal, noting that the news came on the heels of increasingly dire climate change warnings in



U.S. coal consumption in 2018 is expected to be the lowest in 39 years. | EIA



Coal plant retirements are expected to near 14 GW in 2018, the second-highest on record. Another 4 GW of capacity are planning to retire by the end of 2019, according to EIA. | EIA

reports from the U.N. and the federal government. On Wednesday, scientists *reported* that after leveling off between 2014 and 2016, global CO2 emissions rose 1.6% in 2017 and 2.7% in 2018 to the highest levels on record.

"The Trump administration's proposal to ease carbon capture requirements for new coal plants is an affront on the science of climate change and the very real economic harms associated with ignoring its reality," said Lila Holzman, energy program manager of As You Sow.

But Mary Anne Hitt, director of the Sierra Club's Beyond Coal campaign, insisted EPA's announcement would not change the nation's move from coal, *noting* the growth of renewable energy and Xcel Energy's announcement last week that it is committing to 100% carbon-free generation by 2050. The Sierra Club

campaign says 281 coal plants have retired or planned to do since 2010 while 249 generators remain on its target list.

Just two days prior to EPA's announcement, the Energy Information Administration *reported* that U.S. coal consumption in 2018 would be the lowest since 1979, reflecting a 4% drop from 2017. Retirements for the year are expected to near 14 GW, the second-highest on record. Another 4 GW of capacity are planning to retire by the end of 2019.

"Only one, relatively small, new coal-fired generator with a capacity of 17 MW is expected to come online by the end of 2019," EIA said. It predicted power sector coal consumption will fall another 4% in 2018 and 8% in 2019.

Coal remains the top electric generation fuel for 18 states, EIA *says*. ■

Company Briefs

FERC OKs GridLiance Rate Settlement

GRIDLIANCE FERC last week approved an uncontested settlement setting GridLiance West's base return on equity at 9.6%, with a total ROE of 10.6% including 50-basis-point adders each for the company's transco status and RTO participation.

The commission had ordered hearing and settlement procedures after GridLiance filed a request for incentives for its investment in an upgrade to the 230-kV line between the Bob Switching Station and Mead Substation in California.

The cities of Anaheim, Azusa, Banning, Colton, Pasadena and Riverside, Calif., had protested the transco adder, which GridLiance requested just four months after reaching a settlement on a 10.1% ROE. The settlement allows the company to recover the transco adder effective July 25, 2018, but prevents any additional changes to the ROE before Oct. 25, 2019.

More: [ER18-1693-001](#)

Entergy Names New CEO for New Orleans Utility



Entergy last week announced it had named **David Ellis** as president and CEO of Entergy New Orleans, effective Monday.

Ellis was previously CEO of Global Power Technologies, a New Jersey-based company that develops energy management products and provides consulting services to utilities. He has a 27-year career in the energy industry, including at Converge International, Clean Power Markets and Enerwise Global Technologies.

"I believe Entergy New Orleans can and should be the model for the electric utility of the future," Ellis said in a statement. "I found the tremendous potential and willingness to create a smarter energy future for New Orleans compelling, and I look forward to partnering with the City Council and the community to make that potential a reality."

More: [Entergy](#)

Prochazka to Remain CenterPoint CEO Post-merger

CenterPoint Energy CEO Scott Prochazka will remain in his position once the company's merger with Vectren is complete, CenterPoint announced last week.



The company also announced that CFO **Bill Rogers** will retire by the end of the first quarter next year, when the merger is expected to be completed.

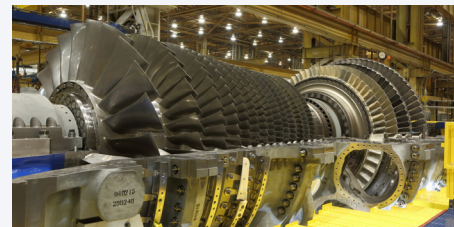
Rogers "has been a valued member of the executive leadership team and played an instrumental role in driving our strategy to advance functional excellence within the finance organization and grow our businesses as we strive to better serve our customers' needs," Prochazka said in a statement.

More: [CenterPoint Energy](#)

Reuters: At Least 18 GE Turbines Shut down for Repairs

Utilities around the world are shutting down at least 18 General Electric gas turbines for repairs and maintenance, according to plant operators and other industry experts with direct knowledge of the company who spoke to Reuters last week.

Power plant operators in Japan, Taiwan, France and the U.S. have or plan to shut

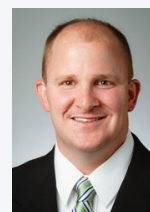


down at least 18 of the 55 new HA-model turbines that GE has shipped so far.

GE is setting aside millions of dollars to repair the turbines. Invenergy, Exelon and the Tennessee Valley Authority are among the U.S. utilities receiving replacement turbine blades for free under GE warranties.

More: [Reuters](#)

IPL, DPL CEO Jackson to Retire



Craig Jackson, president and CEO of both Indianapolis Power & Light and Dayton Power and Light, has said he will resign from his position at the end of the year, parent company AES announced last week.

Jackson, who took over as CEO of the utilities earlier this year, said he wanted to "spend more time with his family and begin exploring new career opportunities," AES said in a statement. He joined AES when it acquired DPL in 2011 and was promoted to CFO of its US Strategic Business Unit in 2013. He had worked at DPL for 10 years in several different positions before that.

"I am proud of all the accomplishments we've made together at AES over the past seven years," Jackson said. "It's been an honor to serve the people of Indianapolis and Dayton and the surrounding communities by providing reliable and affordable energy."

More: [AES](#)

Federal Briefs

Democrats Express Support for Manchin as ENR Ranking Member

While the prospect of Sen. Joe Manchin (D-W.Va.) becoming ranking member of the Senate Energy and Natural Resources Committee has upset environmentalists and climate hawks, the coal-state senator's party colleagues last week expressed support for him in the role.

Current ranking member Maria Cantwell (Wash.) is expected to become ranking member of the Commerce Committee, and none of the other senators on the ENR Committee who have seniority over Manchin — Ron Wyden (Ore.), Bernie Sanders (I-Vt.) or Debbie Stabenow (Mich.) — have expressed interest in leaving their posts as ranking members of the Finance, Budget and Agriculture committees, respectively.

Democratic senators said Manchin would work well with other members of the party and pointed to his vote last week against Bernard McNamee becoming a FERC commissioner. They also noted that other committees, such



as Environmental and Public Works, could also be charged with writing or reviewing climate-related legislation.

More: [Politico](#)

Groups Tell Congress to Act on Spent Nuke Fuel



A coalition of industry trade groups, state regulators, labor unions and clean energy organizations last week wrote to congressional leaders urging them to revive the federal used nuclear fuel program.

“Another year without progress on the Yucca Mountain repository license application and consolidated interim storage is untenable,” the groups said. “It is time for the federal government to meet its statutory and contractual obligations. Utilities and their electricity customers have done their part.”

The 15 groups — including the National Association of Regulatory Utility Commissioners, the Nuclear Energy Institute and the Edison Electric Institute — noted the \$40 billion sitting in the Nuclear Waste Fund, unused because of local and political opposition to the Yucca Mountain project.

More: [Coalition Letter](#)

Naval Academy to Raise Seawall as Water Levels Rise

The Naval Academy will raise its Farragut Seawall along the Severn River in Annapolis, Md., to ward off sea level rise for 75 years,

Superintendent Vice Adm. Ted Carter announced last week.

The project is still in the design phase but will likely begin construction in 2020, an academy spokesman said.

The Severn could rise up to 3.6 feet by 2050, according to an oceanography professor at the academy. The project would entail adding another 2.62 feet to the 5.4-foot wall.

More: [Capital Gazette](#)

Kudlow: White House Seeking to End EV Subsidies



Larry Kudlow, director of the White House National Economic Council, told reporters last week he believed that federal subsidies for electric vehicles

would end by 2020 or 2021.

Kudlow, President Trump’s top economic adviser, did not say how the administration would attempt to eliminate the subsidies, which would require an act of Congress. “We want to end, we will end those subsidies and others of the Obama administration,” Kudlow said.

His comments came after Trump lashed out at General Motors on Twitter after the company announced plans to cut up to 15,000 jobs and close five U.S. factories.

More: [Bloomberg](#)



Dominion Asks 4th Circuit to Reconsider ACP Halt



Dominion Energy last week asked the 4th Circuit Court of Appeals to clarify or reconsider its decision to suspend a federal permit to construct the Atlantic Coast Pipeline and order a halt to all construction of the \$7 billion project.

The court suspended the Fish and Wildlife Service’s permit for the project over the agency’s biological opinion of the project’s effects on four endangered species living in its route. Dominion said the order “grants significantly broader relief than necessary” and asked that the construction of the 600-mile project be allowed to continue except for the 100-mile segment where the species live.

FERC had ordered a halt to construction in August after the court suspended a portion of the opinion, as well as another permit from the National Park Service, but allowed the project to continue in September after FWS issued a new permit. The court has also stayed a permit from the Forest Service and is expected to rule on it soon.

More: [Richmond Times-Dispatch](#)

State Briefs

CALIFORNIA

Building Commission Approves Rooftop Solar Mandate



The Building Standards Commission last week approved a change to the state’s building code that, beginning in 2020, will

require all new residential buildings three stories or less to have solar panels on their roofs or hold community solar contracts.

The mandate, the first of its kind in the U.S., was approved by the Energy Commission in May.

“These provisions really are historic and will be a beacon of light for the rest of the country,” Building Standards Commissioner Kent Sasaki said.

More: [pv magazine](#); [The Mercury News](#)

CONNECTICUT

PURA Rules Dominion Millstone Plant at Risk

The Public Utilities Regulatory Authority last week ruled that Dominion Energy’s Millstone nuclear plant was at risk of retirement, making it eligible to compete in the state’s zero-emission resource procurement auctions.

PURA said the decision only allows the plant



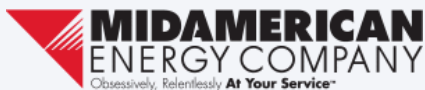
to participate in the auctions and “does not reach the issue of whether a power purchase agreement with Millstone should be selected” or approved by the Department of Energy and Environmental Protection.

The agency made its final decision earlier than expected. It issued its draft decision Nov. 16, but it was expected to finalize it until early next year. (See [Connecticut Likely to OK Millstone for Zero-carbon RFP.](#))

More: [Hartford Courant](#)

IOWA

MidAmerican Wind Facility OK'd over Environmental Objections



The Utilities Board last week approved MidAmerican Energy's proposed 591-MW Wind XII project, despite objections from environmentalists that it should be contingent on the utility closing some of its coal plants.

MidAmerican has pledged to generate renewable energy equal to its load. But that isn't enough to reduce the utility's carbon emissions, groups such as the Environmental Law & Policy Center told the board. Other groups said MidAmerican should be at least required to analyze its coal fleet's economics.

The board declined all such requests, saying they were outside the scope of the proceeding. With the addition of Wind XII, MidAmerican will have a total wind capacity of nearly 5,000 MW.

More: [Energy News Network](#)

KANSAS

KU to Power Lawrence Campus with Wind

The University of Kansas will join Kansas State University and Washburn University in powering one of its campuses entirely from wind generation.



The university last week signed a 20-year contract with Westar Energy to purchase all of its Lawrence campus' electricity needs for 1.8 cents/kWh from the Soldier Creek Wind Farm, expected to be operational by 2020.

A KU spokesperson said the deal will save the university about \$500,000 in its first year.

More: [The Kansas City Star](#)

MAINE

CMP Giving Some New Customers Steep Discounts

A combination of booming building construction in the state and a slew of staff retirements has left Central Maine Power



new customers.

As a result, these customers will only begin paying for their last 30 days of electricity service once they receive their first bill, regardless of when they actually began using electricity. The utility can only begin charging customers once their accounts are set up.

CMP hasn't bothered totaling its losses from the practice, as it expects to be able to make up for revenue shortfalls through its next rate case before the Public Utilities Commission.

More: [Portland Press Herald](#)

MANITOBA

Manitoba Hydro Seeking 3.5% Rate Increase



Manitoba Hydro last week filed a request with the Public Utilities Board for a 3.5% increase in its electricity rate, to be effective April 1.

If approved, the increase would generate estimated net income of \$31 million for the 2019-2020 fiscal year. The utility said it is not seeking an increase in its natural gas rates for the next two years.

More: [The Canadian Press](#)

MASSACHUSETTS

State Extends EV Rebate Program



The Baker administration last week extended the state's Massachusetts Offers Rebates for Electric Vehicles (MOR-EV) program to June 30.

Through the program, the state offers rebates of up to \$2,500 for residents who purchase a qualifying electric vehicle. Under the extension, however, that amount will be reduced to \$1,500 for purchases of less than \$50,000 beginning Jan. 1. The number of qualifying EVs will also be reduced; zero-emission motorcycles will no longer qualify.

unable to keep up with demand, leading it to delays in billing about 3,400

The extension was made possible by an additional \$3 million made available by the Department of Energy Resources.

More: [NGT News](#)

NORTH DAKOTA

Burleigh County Denies Permit for Controversial Wind Farm

The Burleigh County Planning and Zoning Commission last week voted 5-3 to deny a permit for Pure New Energy USA's proposed 250-MW Burleigh-Emmons Wind Farm.

The vote followed a four-hour hearing on the project that had been rescheduled because there was originally not enough space to hold everyone wishing to speak. More than 500 citizens attended last week's hearing, which grew heated at times.

Rep. Mike Brandenburg (R), usually a supporter of wind power, distributed a letter signed by state utilities to the commission that said none of them had agreed to purchase power from the facility. "There are good places to put wind farms. This is not a good place to put a wind farm because it does not have public acceptance," Brandenburg said.

More: [The Bismarck Tribune](#)

VIRGINIA

SCC Rejects Dominion's Integrated Resource Plan



The State Corporation Commission last week rejected Dominion Energy's 2018 integrated resource plan, saying it was incomplete and ordering the company

to submit additional information.

"The record further reflects that the load forecasts contained in the company's past IRPs have been consistently overstated, particularly in years since 2012, with high growth expectations despite generally flat actual results each year," the commission said. As an example, it said Dominion's estimated peak load for 2017 in its 2012 IRP was 2 GW less than the actual peak load for the year.

The commission ordered Dominion to revise the IRP using PJM's load forecasts, which are lower than the company's.

More: [Bacon's Rebellion](#)

WASHINGTON

UTC Rejects Hydro One's Acquisition of Avista



The Utilities and Transportation Commission last week rejected Hydro One's proposed \$5.3

billion purchase of Avista, citing meddling from Ontario politicians.

Newly elected Ontario Premier Doug Ford recently fulfilled a campaign promise and ousted the board of directors and CEO of Hydro One, of which the province owns

47%. The provincial government also recently passed legislation giving it a say in utility executives' compensation.

This and other actions by Ontario officials led the UTC to conclude Hydro One lacked sufficient independence from the province. "This sudden and complete change in Hydro One's leadership at the insistence of its former owner and largest shareholder, the province of Ontario, along with certain legislation passed quickly into law following the change in government leadership, demonstrates that Hydro One remains subject to management control by the province," the commission said.

More: [The Spokesman-Review](#)

WISCONSIN

Nowak Returns to PSC Chair



The state Senate last week voted along party lines to confirm **Ellen Nowak** as chair of the Public Service Commission.

Nowak returns to the role after a nine-month stint as secretary of the Department of Administration. She had previously served as chair since 2015, having been on the commission since 2011.

More: [The Associated Press](#)

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MISO: Energy Storage Could Work into Existing Market Structure Next Year
MISO could have a limited set of market rules for energy storage as early as 2019, ERCOT officials told the ERCOT Subcommittee last week.

Exelon, Pepco Urge Compromise Deal to Win DC PSC Approval for Merger
Exelon on Monday offered a joint DC Public Service Commission "middle ground proposal" in a bid to salvage the acquisition of Pepco Holdings Inc.

FERC Eliminates Intertie Convergence Bids in CAISO
FERC last week approved a request by CAISO to eliminate from its Turf a long-ignored provision establishing convergence bidding at scheduling points on the intertie into California.

Also in this issue:
Large hydrogenerator joins the Renewable Energy Club
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ERCOT Design Reopened
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For more information, contact Marge Gold (marge.gold@rtoinsider.com)

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