RTO Insider

Your Eyes and Ears on the Organized Electric Markets

CAISO ▪ ERCOT ▪ ISO-NE ▪ MISO ▪ NYISO ▪ PJM ▪ SPP

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EBA Annual Meeting

LaFleur Recounts Turbulent Tenure at FERC

'Every President's Second Choice'

By Michael Brooks

Cheryl LaFleur | *© RTO Insider*

WASHINGTON — FERC Commissioner Cheryl LaFleur last week provided a clip show of anecdotes from her tenure at the commission, giving attendees at the Energy Bar Association's annual meeting an insider's view of the nearly constant change of the past several years.

The May 7 speech was a farewell address to the bar from LaFleur, whose term ends June 30. Although she was not nominated for another term, LaFleur told the audience she intends to stay on past June; she's allowed to stay until the end of the year or a replacement is appointed. (See *LaFleur Announces Departure from FERC*.)

LaFleur's luncheon speech was a reminder of just how much turnover the commission has seen in less than a decade. During her time, LaFleur has served as acting chairman twice,

Continued on page 13

Federal Changes Add Uncertainty to Mexico's Power Market

By Tom Kleckner

Bob Anderson | *© RTO Insider*

HOUSTON — During a recent workshop on the Mexican power market, Tenaska's Bob Anderson ran through the litany of woes wrought on the market since President Andrés Manuel López Obrador took power last year.

The canceled power auctions, the gutting of the regulatory commission, the reconstitution of the state-run electric business — the government's heavy hand in creating more uncertainty in an already fragile market.

Still, Anderson said, Tenaska's vice president of business development, you will find some investors willing to take a chance in the Mexican market.

"It won't be Tenaska," he said. "We at Tenaska are not speculative traders."

Peter Nance | *© RTO Insider*

"I am a bit more sanguine about this," Que Advisors' Peter Nance said. "My experience in Latin America tells me that rules will change, but there will still be opportunities for private capital. Nevertheless, the new situation may be considerably different than the old, and there may be certain participants that are disadvantaged by the changes."

Mannti Cummins | *© RTO Insider*

"It's a real-life three-ring circus, but the clowns are in charge," said a more sardonic Mannti Cummins, who is working to develop a wind farm in Baja California Sur. (See *Land Rights a Challenge to Mexico Tx Developers*.)

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About 100 stakeholders attended the quarterly meeting of NERC's Board of Trustees and the Member Representatives Committee in St. Louis last week. | *© RTO Insider*

Also in this issue:

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In this week's issue

Correction

A *story* in the May 7 issue of RTO Insider incorrectly identified David K. Owens as the retired "head" of the Edison Electric Institute. He retired as EEI's executive vice president in 2017.

Stakeholder Soapbox

Is PJM's Reserve Proposal Helping or Hindering a Transition to a Clean, Flexible Grid?

By Jennifer Chen

PJM is seeking to *procure more reserves* at higher prices by augmenting its *operating reserve demand curve*.

Because the reserve and energy markets interact, energy prices will increase too. Consumer costs could grow by *$512 million to $1.7 billion* per year, and about 95% of this revenue would flow to fossil and nuclear resources.

CO_2 *emissions* could increase by up to 537,000 short tons (or decrease by about 116,000 short tons if higher prices bring down energy consumption). On the high end, CO_2 emissions would roughly equal driving another *100,000* cars around for a year.

Comments on PJM's proposal are due May 15 at FERC.

What is the problem PJM is trying to solve?

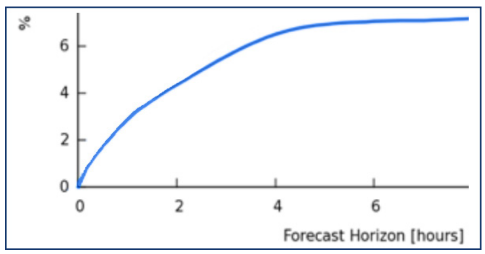
Operating reserves provide insurance against uncertainty in future supply and demand, which a grid operator must balance. A power plant might fail, demand might spike, or there may be less wind and solar power available than forecasted.

PJM believes that its market is not procuring enough or sufficiently paying reserves that can start up within 10 to 30 minutes. To be clear, PJM is not claiming that there are insufficient reserves on its system or that reliability is at stake in the near term. With *40,000 MW* of excess capacity, PJM has a surplus accessible to its control room operators. However, PJM would rather procure a consistently higher level of reserves through its market and rely less on its operators committing and compensating reserves as needed.

PJM also asserts that a higher penetration of renewables will require more accurate market price signals and improved grid flexibility.

What kinds of reserves, how much and are there substitutes?

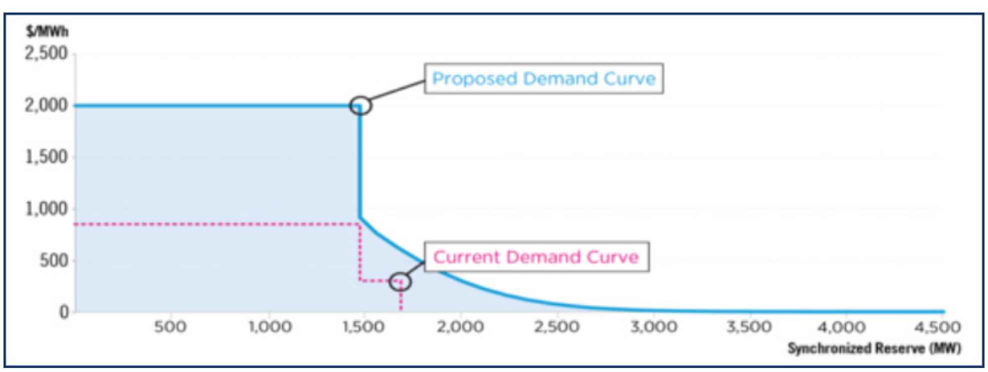
Less reserves are needed as future uncertainty decreases. Improving forecasts reduces uncertainty, as does shortening the forecast's look-ahead horizon. For example, the *wind forecast* 10 minutes from now is dramatically more accurate compared to the forecast for 30 minutes or an hour from now.



Wind forecast average absolute percent error quickly diminishes with forecast horizons shorter than an hour. | *National Renewable Energy Laboratory*

PJM's proposal focuses on 10-minute start-up reserves to address the uncertainty in a 30-minute look-ahead forecast and 30-minute start-up reserves for a 60-minute look-ahead. But *modeling* shows that shortening the look-ahead from 30 minutes to 15 minutes in PJM's proposal reduces the amount of reserves needed and cuts the proposal's estimated costs by about $183 million per year, or about 36%.

Newer, *faster resources* can help address uncertainties on shorter time frames, but older, less flexible resources need longer advance notice. Current market and operational rules are tailored to conventional resources, but market rules that enable operating the grid closer to real time can incentivize more flexibility from resources.



Current and proposed ORDCs | *PJM*

Ensuring that the grid can cost-effectively *integrate renewables* is important, but PJM singles out a particular kind of reserve instead of prioritizing reforms based on a comprehensive assessment. For example, PJM's 2014 *Renewable Integration Study* found that it can operate its system with up to 30% of its energy generated by wind and solar without significant reliability issues by investing in transmission and adding regulation reserves. PJM's variable renewable penetration is low, so it has time to pursue these reforms.

	Installed Cumulative Capacity of Variable Renewable Energy (VRE)[13] as a Percentage of Total Generation Capacity (2016)	Annual Average VRE Generation as a Percentage of Total Generation (2016)
CAISO	26.1% (16.8 GW)	21.0%
ERCOT	19.1% (19.2 GW)	13.8%
SPP	18.1% (15.2 GW)	16.1%
WECC	12.0% (17.5 GW)	7.7%
MISO	9.0% (15.5 GW)	6.9%
ISO-NE	5.8% (1.9 GW)	3.1%
PJM	4.7% (9.0 GW)	2.5%
NYISO	4.7% (1.9 GW)	2.9%

VRE here includes wind, solar photovoltaics and concentrating solar power. | *National Renewable Energy Laboratory*

Regulation reserves can respond within milliseconds to minutes and correct for inaccurate forecasts in real time, much faster than the reserves PJM is seeking to increase. CAISO, ERCOT and SPP — grid operators with more renewables than PJM — provide separate *regulation up and down* services. This helps when wind generation is high at night, demand is at its lowest and inflexible power plants operating at their minimum levels cannot further reduce output. Regulation down would be more valuable than regulation up in this case and could be provided by energy storage or responsive demand from customers. Regulation reserves *decrease* the need for reserves with slower response times, such as those PJM is seeking

Stakeholder Soapbox

to beef up.

Load-following reserves operate on the minutes to hours time frame (similar to the reserves in PJM's proposal) and can offset net demand after accounting for daily variation in renewable generation. However, there are substitutes for this type of reserve that also provide other services and thus may be more cost effective. Today, the *energy market itself provides a load-following service*. Accurate wholesale energy prices can attract resources capable of responding within five minutes. They can also encourage customers to reduce or shift demand to save and earn money through *demand response*. *Transmission* and newer *technologies* also reduce the need for load-following reserves by relieving congestion and evening out the variations in renewable generation.

Thus, before deciding to procure more 10- to 30-minute start-up reserves, PJM could improve its forecasts; shorten its look-ahead; consider increasing regulation reserves and separating them into up and down services; invest in needed transmission (particularly newer technologies implementable today); and improve energy price signals.

Which resources benefit from PJM's proposal?

PJM's proposal would procure more reserves from coal and gas plants that can ramp up, fast-start diesel generators and energy storage resources. Some flexible technologies will get a boost from reserve revenues, but the largest share of reserve revenue would accrue to gas plants that are already experiencing explosive growth from PJM's capacity market and to coal plants that could receive a *six-fold* increase in payments per year to provide synchronized (or spinning) reserves. Some of this revenue would be from plants staying online overnight at minimum output when demand is low.

Wind, solar and nuclear resources are ineligible to provide reserves unless they demonstrate their capability. DR could qualify to provide reserves up to a limit under PJM's proposal, but the *8,000 MW* of DR committed through the RTO's capacity market is emergency-only and not economically dispatched in its energy and reserves markets.

Separate from higher reserve payments, more than 70% of the revenue increase from PJM's proposal comes from higher energy market prices. Energy prices increase with higher reserve requirements because resources deployed to generate energy cannot provide reserves, so there is a lost-opportunity-cost payment folded into energy market prices.

Energy price increases make sense when there is a shortage of energy resources. But the modeling of PJM's proposal shows that it consistently raises energy market prices when there is no shortage because additional reserves are being procured *most hours* of the year, even during off-peak times and seasons.

So under PJM's proposal, inflexible generation that is always running benefits from consistently inflated energy prices. For example, coal plants could earn another *$120 million to $420 million* per year in higher energy revenues on top of higher reserve revenues. Solar, which only produces energy during daylight hours, gets a smaller boost than around-the-clock resources.

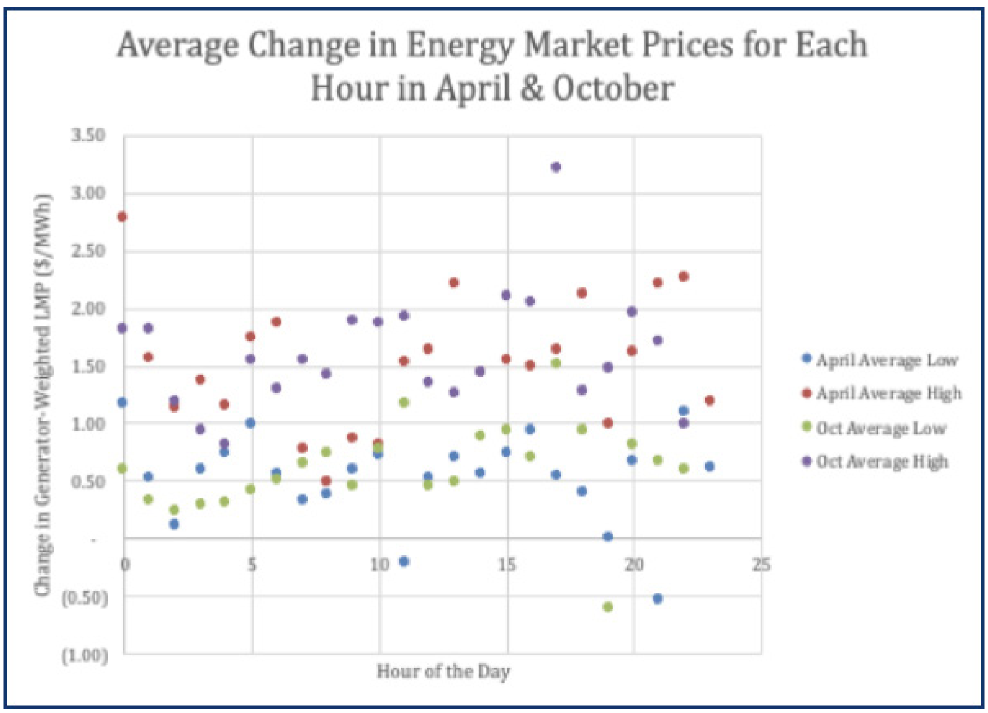
Many of the power plants benefiting from the reserve payments and inflated energy prices also receive capacity market payments to be available at all times. The capacity market is intended to supply the revenues needed to maintain a certain level of capacity in PJM that are not available through the RTO's other markets. Thus, higher energy and reserve revenues should translate to lower capacity revenues. However, any capacity revenue reduction to offset higher energy and reserve costs would not be timely nor commensurate without significant *rule changes*.

Does PJM's proposal improve price incentives during times of grid stress?

PJM's proposal would over-procure reserves (similar to how its capacity "*demand curve*" over-procures *capacity*). PJM's *modeling* shows that consistently keeping more reserves on the system actually depresses energy prices when the grid is stressed while maintaining higher prices during off-peak times. For example, keeping large power plants running at their minimum output levels would enable them to ramp up and provide energy during peak. Over the peak period, this could be cheaper than deploying reserves that can quickly start without being online, but customers would pay more overall to consistently maintain a higher level of reserves.

Lower prices at peak mute the incentive for flexible resources such as energy storage and DR to participate, while inflated prices overall would inefficiently subsidize inflexible baseload to stay on. This cost would be socialized among all customers, shifting costs to customers who value reserves the least and would rather manage their energy consumption to save money.

Higher prices during times of grid stress with lower prices overall can offer more distinct and accurate price signals to flexible resources while enabling consumers to save. The potential for *DR is still largely untapped* (estimated to be about 15% of electricity demand), and a key



Graph produced from PJM's data. Energy prices for nearly all hours, including off-peak hours, are bumped up even during shoulder months. | *PJM*

Stakeholder Soapbox

barrier is a lack of price signals.

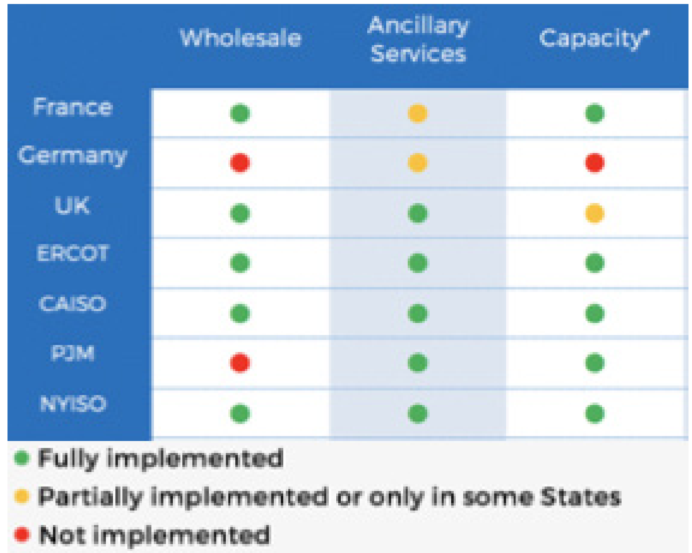
An alternative to boosting reserves to ensure future reliability

The ultimate goal is not to procure a certain amount of reserves at a sufficiently high price, nor is it to automate through the market potentially inefficient actions that operators take when they conservatively commit extra reserves. The goal is to design markets to produce efficient outcomes and, in doing so, maintain reliability standards and improve grid flexibility cost-effectively.

A market solution that avoids the market distortions introduced by PJM's proposal is to allow real-time energy prices to reflect the marginal cost of resources delivering that energy. Today, energy offers are capped below what many would consider the willingness of customers to pay for energy (known as the *value of lost load*).

With such a cap in place, operators are likely to procure additional reserves the market does not commit, without knowing whether consumers want the extra reserves. But if the market accurately values energy, the operators will know that the market is procuring the efficient level of resources and no additional reserves are required.

PJM could propose to lift energy market offer caps beyond the $2,000/MWh *permitted* for the purposes of setting energy market prices, while verifying that offers above a threshold are based on costs to safeguard against market power. As *noted* by former FERC Commissioner Norman Bay, the commission, market operators and market monitors are better equipped today to ensure that nothing like the Western Energy Crisis happens again.



	Wholesale	Ancillary Services	Capacity*
France	Fully implemented	Partially implemented or only in some States	Fully implemented
Germany	Not implemented	Partially implemented or only in some States	Not implemented
UK	Fully implemented	Fully implemented	Partially implemented or only in some States
ERCOT	Fully implemented	Fully implemented	Fully implemented
CAISO	Fully implemented	Fully implemented	Fully implemented
PJM	Not implemented	Fully implemented	Fully implemented
NYISO	Fully implemented	Fully implemented	Fully implemented

Fully implemented
Partially implemented or only in some States
Not implemented

Current status of demand response. "Capacity" here includes market products like reserves that guarantee supply. | *International Energy Agency*

Energy, not reserves, is the most fundamental product in the electricity markets today, and ensuring it is accurately valued through market dynamics should precede efforts to administratively set the value for other market products. Enabling true scarcity pricing by allowing real-time energy prices to reflect marginal costs will result in more accurate prices compared to raising energy prices through an adder reflecting a PJM-determined reserve value. Properly valuing energy will enable us to better evaluate how much reserves we truly need. ■

Jennifer Chen is senior counsel of federal energy policy at Duke University's Nicholas Institute.

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This is a preview of ERO Insider, a new publication providing exclusive coverage of NERC and the Regional Entities that form the Electric Reliability Organization. Pricing and other details will be coming later this spring. For now, email any feedback on our coverage to *EROInsider@RTOInsider.com*.

NERC MRC, Trustees Meeting Briefs

ST. LOUIS — Below is a summary of operational issues and personnel changes discussed at meetings of the NERC Member Representatives Committee (MRC) and Board of Trustees on May 8 and 9.

NERC Five-Year Performance Assessment

The board approved the filing of NERC's *Five-Year Performance Assessment* with FERC, NERC's argument for why it and the regional entities should be recertified as the Electric Reliability Organization under the Energy Policy Act of 2005.

In renewing NERC as the ERO in November 2014, FERC ordered it to continue to improve consistency and developing performance and reliability metrics (*RR14-5*). It also directed NERC to compare actual project completion times with estimated times and begin analyzing repeat violations by registered entities.

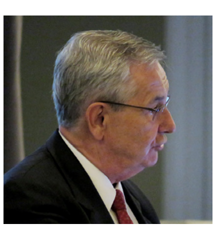
After NERC files the assessment, FERC will open a docket to invite public comment on the ERO's performance.

Among the accomplishments NERC cited during the 2014-2018 assessment period:

- The use of assessments and events analysis to identify, prioritize and mitigate risks to the bulk power system.
- The enactment of reliability standards on cybersecurity, physical security and planning risks.
- "Enhancements" to NERC's Compliance Monitoring and Enforcement Program (CMEP) and its Electricity Information Sharing and Analysis Center (E-ISAC).
- Improved efficiency by increasing the "alignment" of NERC and its REs.

Potential Change to Committee Structure

NERC is considering a restructuring of its Operating, Planning and Critical Infrastructure Protection committees to address the increasing overlap in their activities, Mark Lauby, NERC senior vice president and chief reliability officer, told the MRC.



Mark Lauby | © *RTO Insider*

Lauby said the current committee structure, which has been in place for more than a decade, is "expensive and time-consuming for NERC members."

The accelerating speed of change is causing a "blurring" of the committee silos and requires "cross-cutting [and] rethinking of many utility paradigms," he said, noting that several REs have changed their committee models.

Fred Gorbet | © *RTO Insider*

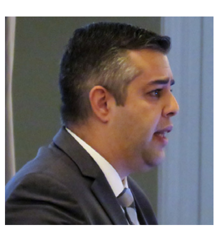
Because each of the three "technical" committees "identify and assess risk," Lauby said, a "stakeholder engagement team" that includes Lauby, MRC Chair Greg Ford and Trustees Ken DeFontes and Fred Gorbet, has been working since January on potential changes. The team is considering two alternatives:

- Retaining the three committees while adding an Oversight Committee to coordinate their work; or
- Replacing the three committees with a new Reliability Council reporting to the board.

The team will refine its proposal through July 18, when it plans a webinar to outline its plan. It is scheduled to be presented to the MRC about Aug. 15 and the board Nov. 6, with implementation in January.

Lauby said NERC's "advisory" committees (Compliance Certification, Standards and Personnel Certification Governance) have "distinct" missions and are not part of the review. Also exempt is the Reliability Issues Steering Committee, which Lauby said "has a unique charge and participation model."

On Thursday, the trustees approved amendments to the Standards Committee Charter to streamline it, clarify responsibilities and eliminate content discussed in other NERC governing documents, including provisions regarding Canadian representation and field tests. The charter was last changed in 2015.



John Moura | © *RTO Insider*

Changes to State of Reliability Report

John Moura, NERC director of reliability assessment, said the organization is changing the format of its annual State of Reliability Report, reducing its length from more than 200 pages to less than 50 and replacing some tables with infographics. The report is intended to identify system performance trends and reliability risks, and measure the health of the grid and the success of mitigation measures.

About 100 stakeholders attended the quarterly meeting of NERC's Board of Trustees and the Member Representatives Committee in St. Louis last week. | *National Renewable Energy Laboratory*

Moura said the change in format resulted from a decision to make the report more useful to regulators and industry leaders.

Before, "the audience was everybody: It was engineers, policymakers; it was anyone who wanted to know something about reliability. And if it's for everybody, it's for no one," he said. "So, we were really focused on, who was our target audience? And then that really kind of set the stage for everything else. I asked the question[s]: 'What does [PJM CEO] Andy Ott want to know about this? What does [FERC Chair] Neil Chatterjee want to know?'"

The draft was circulated to the Operating and Planning committees for comment last week.

The board will review and approve the release of the report in mid-June, with a target release date of June 19, before FERC's June 27 reliability *technical conference*.

Members Cautioned on Public Statements

General Counsel Charlie Berardesco disclosed that NERC's Feb. 22 revision to its *Participant Conduct Policy* resulted from a Wall Street Journal op-ed whose author cited his NERC affiliation.

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Charlie Berardesco | © RTO Insider

Although Berardesco did not identify the author, it was an apparent reference to a Feb. 20 *op-ed* by Robert Blohm that said renewable energy can't consistently balance power supply with demand. Blohm, a managing director at consultancy Keen Resources, was identified in the article as "an elected member of the Operating Committee and the Standards Committee" of NERC.

In a letter to the editor in response, Michael Goggin, vice president of consultant Grid Strategies, was likewise identified as "an elected member" of NERC's Planning Committee.

NERC's revised policy states: "Unless authorized by an appropriate NERC officer, individuals participating in NERC activities are not authorized to speak on behalf of NERC or to indicate their views represent the views of NERC, and should provide such a disclaimer if identifying themselves as a participant in a NERC activity to the press, at speaking engagements or through other public communications."

"We understand that people want to be involved and work in the arena of advocacy," Berardesco said. "But NERC has to have the ability to control the message on behalf of NERC."


Roy Thilly | © RTO Insider

"If you are doing an op-ed … best not to reference NERC at all because it's confusing," Chairman Roy Thilly added.

Trustees' Pay Unchanged

Trustee DeFontes told the board's Corporate Governance and Human Resources Committee that NERC will not be changing the trustees' salaries, which were last *increased* in August 2018. The board agreed then to increase the annual retainer by $15,000 to $127,500 in three $5,000 steps between 2019 and Jan. 1, 2021. The board chair's retainer is being raised to $175,000 in three steps over the same time period. Committee chairs receive an additional $10,000 and vice chairs are paid $5,000 annually.

Budget Updates

The ERO expects to end the current fiscal year about $3 million (1.5%) over budget, largely because of SERC Reliability's expansion into Florida, NERC Controller Andy Sharp told the board's Finance & Audit Committee on Wednesday.

SERC is projected to run $5.1 million over budget because of its absorption of the Florida Reliability Coordinating Council, which expects to run $1.6 million below budget, a net increase of $3.5 million.

NERC and the remaining REs are expected to be at or near budget for the year, Sharp said.

Through March 31, the "ERO Enterprise" was $2.9M (5.9%) under budget for expenses and capital spending.


Scott Jones | © RTO Insider

Chief Financial and Administrative Officer Scott Jones gave the committee a preview of the proposed 2020 budget, which anticipates a 3.8% increase after a 9.5% increase in 2019.

The projected assessment for 2020 is $72 million (+4.5%) from 2019, which was itself up 9.5% from 2018.

Costs for the E-ISAC are growing 13.3% while the rest of NERC will be flat to lower, Jones said.

Jones said "inflationary pressures on pay," especially for technical roles, have forced NERC to boost its annual salary increases to 3.5% from a historical 3%.

Jones said NERC has had to become "more flexible" on pay ranges because of the competition for talent. "We've had a history of being very rigid on the pay side. When we budget something … we sort of box ourselves in a little bit for that particular role," he said. "When we find good people, especially on the ISAC side, we want to negotiate hard and fair, but we also want to make sure we get good people."

First drafts of the budget are expected to be posted about May 17, with comments due June 28. The final draft will be posted July 15, with comments due July 31.

Personnel Changes

The meetings included several personnel matters:

- CEO Jim Robb announced the appointment by the board of new vice presidents Mechelle Thomas, chief compliance officer, and Howard Gugel, head of standards and engineering.


Suzanne Keenan | © RTO Insider


George Hawkins | © RTO Insider

- Nominating Committee Chair George Hawkins announced that the committee agreed to renominate Thilly and Trustee Suzanne Keenan to new terms and has hired executive search firm Leadership Lyceum to seek a new candidate to replace Janice Case, who will end her final term in February 2020. The trustees will review candidates at their next quarterly meeting in August. (The board increased to 12 members with the election in February of Colleen Sidford, representing Canada. It will drop back to 11 in February 2020 following the departure of Case and Frederick W. Gorbet.)

The trustees also approved the following committee appointments:

- Critical Infrastructure Protection Committee: John Greaves, Georgia Power, replaces Brian Harrell, formerly of Duke Energy as SERC's representative. Doug Currie, Hydro One, replaces Francis Bradley of the Canadian Electricity Association as the CEA representative.
- Reliability Issues Steering Committee: Woody Rickerson, ERCOT, replaces Dave Osburn, Oklahoma Municipal Power Authority, for a term ending Jan. 31, 2020.
- Compliance and Certification Committee: Appointed Nicole Mosher, Nova Scotia Power, representing the Northeast Power Coordinating Council. Reappointed Gregory Campoli, NYISO, representing ISOs/RTOs; Ted Hobson, JEA, representing FRCC until its dissolution; Jim Stanton, SOS International, representing Small End-Use Electricity Generators.
- Planning Committee: Appointed Richard Kowalski, ISO-NE, as an ISO/RTO representative for the remainder of the 2018-2020 term. Kowalski will fill a vacancy resulting from the passing of Dana Walters of NYISO. ■

— Rich Heidorn Jr.

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NERC Technology & Security Committee Briefs

ST. LOUIS — Below is a summary of the NERC Board of Directors Technology & Security Committee meeting Wednesday.

Australia and New Zealand to Join in GridEx V

NERC Chief Security Officer Bill Lawrence | *© RTO Insider*

GridEx V will see increased international participation, including the possible use of "active injects" from Australia and New Zealand to simulate a "worldwide assault … on Western civilization," Chief Security Officer Bill Lawrence said.

The exercise, scheduled for Nov. 13-14, also will see increased participation by the natural gas industry, he said.

The "executive tabletop" portion of the exercise, formerly constructed as a continent-wide attack, will this time affect a "specific region with severe electric and natural gas impacts," Lawrence said. The targets will no longer be CEOs but the "operational level: the COO, CSOs, etc."

They will discuss what they learned from "a bad, bad day on the grid in hopes, and active preparations, that it wouldn't happen for real," he explained.

"GridEx is a lot about information sharing and some analysis, but really it's the engagement opportunity. It's building those trade routes [to industry and government] that will be of particular value," he said.

Lawrence said he was encouraged to have the participation of Australia and New Zealand, who are members of U.S.' Five Eyes intelligence alliance, along with the U.K. and Canada. He recalled the worldwide preparations for Y2K, when it was feared that legacy computer systems that represented four-digit years with only the final two digits would be flummoxed by the change from 1999 to 2000. "We were able to see New Zealand and Australia stay lit up [on Jan. 1, 2000,] and have a much higher confidence that North America was going to be good to go as well," he said.

E-ISAC Continues Growth

Lawrence gave the committee an update on growth plans for the Electricity Information Sharing and Analysis Center (E-ISAC), which is expected to triple in size by the end of 2022 from the 20 staffers it had at the end of 2017.

The 2020 organization chart shows a staff of 47, an increase of seven full-time equivalents for analytics, watch operations and engagement, and three for corporate support. 2020 will be the third year of a five-year strategic plan that has already seen NERC add 19 FTEs.

The ISAC plans another 14 hires for 2021 and 2022 to enable 24/7 watch operations and support investments in technology and collaboration with strategic partners.

Lawrence said the E-ISAC is using consultants to help develop policies, such as information sharing protocols, that are "repeatable and scalable as we grow our team."

"The E-ISAC is not as mature as we should be for a 20-year-old organization," he said.

Lawrence said the move to a 24/7 watch operation was prompted by stakeholder input. "They want somebody who is awake at the phone. Right now, we do have 24/7 coverage but it's with duty officers with a phone by the nightstand."

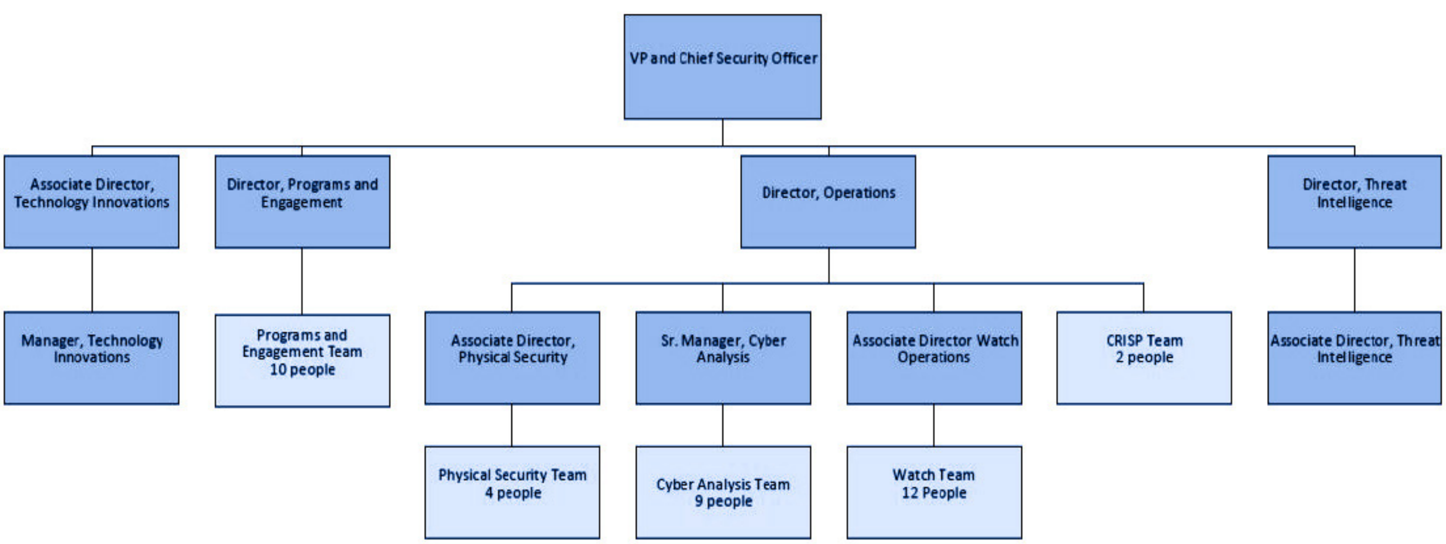
The ISAC will initiate 24/5 operations this year with 24/7 staffing in 2020.

Lawrence praised the infrastructure support NERC is providing the ISAC. "It means that I don't need to build my own IT, HR, legal [and] external affairs [capabilities], and I can focus on the analysts that are going to provide … value."

Lawrence Downplays Denial of Service Incident

Lawrence decried *media reports* characterizing a denial of service incident involving a WECC member in March as a cyberattack, saying there has been no evidence of malicious involvement.

"It was a denial of service. So, something happened to — in this case — a piece of …



The 2020 organization chart for the E-ISAC projects a staff of 47, an increase of 10 over the current budget. | *NERC*

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> **"The E-ISAC is not as mature as we should be for a 20-year-old organization."**
>
> – NERC Chief Security Officer Bill Lawrence

communications technology — [firewalls] — that for about five minutes acted like a deer in the headlights. They went offline, causing a brief breach of communications" between the control center and generation.

The unnamed company *disclosed* the March 5 incident to the Department of Energy in an electric emergency and disturbance report (OE-417) that said it affected Kern and Los Angeles counties in California; Salt Lake County, Utah; and Converse County, Wyo. although no customers were impacted.

Lawrence said the incident led to a "leap to conclusions" that it was caused by hackers.

"But in this case, it might have been that or something as simple as a scan that detected this certain vulnerability that's known about these [firewalls]. So, you update them with a patch and they're good to go against that vulnerability," he explained. "It's not a distributed denial of service where somebody is just slamming against the firewall and keeping the communication systems down. It's a hiccup, and they come back on and we gain visibility.

"There was no generation loss; no customers lost service," he said, adding that a root-cause analysis is being conducted. "Calling it a cyberattack stretches the definition of cyberattack."

FERC Commissioner Bernard McNamee | © *RTO Insider*

The following day, however, FERC Commissioner Bernard McNamee described the incident as an "attack" during remarks to the Board of Trustees. McNamee said afterward he was speaking based on media accounts and not information shared with FERC. ■

— Rich Heidorn Jr.

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NERC Standards News Briefs

ST. LOUIS — The NERC Board of Trustees voted Thursday to approve a supply chain report and a new standard on third-party transient electronic devices while retiring 84 reliability requirements. Below is a summary of the actions on, and discussions of, standards at the May 8-9 meetings of the Trustees and the Member Representatives Committee (MRC).

Standards Efficiency Review Retirements OK'd

Completing Phase 1 of the Standards Efficiency Review (SER) project begun in 2017, the trustees approved the complete retirement of 10 standards and the elimination of some requirements for seven standards.

NERC also approved the withdrawal of MOD-001-2, which has been awaiting FERC approval since February 2014 (*RM14-7*). It was intended to ensure that calculations of available transmission system capability support reliability and that the methodology and data behind the calculations are disclosed to applicable registered entities. The standards authorization request (SAR) said the standard was no longer needed because other standards, including subsequent improvements to transmission operator rules, ensure that real-time operations observe system operation limits.

Howard Gugel | © *RTO Insider*

Each of the changes received 87 to 97% approval on balloting that closed May 2, said Howard Gugel, vice president of engineering and standards. (See *NERC Standards Retirements Go to Final Ballot*.)

In total, 77 requirements and part of one requirement are being retired in addition to the six MOD requirements being withdrawn.

The seven standards for which only some of the requirements were eliminated were given updated version numbers reflecting the revisions:

- FAC-008-4 – Facility Ratings
- INT-006-5 – Evaluation of Interchange Transactions
- INT-009-3 – Implementation of Interchange
- IRO-002-7 – Reliability Coordination – Monitoring and Analysis (reflecting the retirement of Requirement R1 and a variance for reliability coordinators in WECC; see below.)
- PRC-004-6 – Protection System Misoperation Identification and Correction
- TOP-001-5 – Transmission Operations
- VAR-001-6 – Voltage and Reactive Control

Gugel said FERC staff have expressed concerns over a few of the retirements but that NERC staff agree with the rationale provided by the standards development team and are confident that the retirements will not cause any vulnerabilities. "When we file this with FERC, we will provide additional supporting arguments and lay out how all these standards requirements hold together to bridge any potential gap," he said in response to a question from Chair Roy Thilly.

NERC Standards Proposed for Retirement

(Project 2018-03)

Standard	Proposal (R=Requirement)	Purpose
FAC-008-3	Retire R7,R8	Ensure facility ratings used in the reliable planning and operation of the Bulk Electric System are based on technically sound principles
FAC-013-2	Complete retirement	Ensure PCs perform annual assessments to identify potential future transmission system weaknesses and limiting facilities over near-term planning horizon
INT-004-3.1	Complete retirement	Ensure dynamic schedules & pseudo-ties are communicated and accounted for appropriately in congestion management procedures
INT-006-4	R3.1, R4, and R5	Ensure that responsible entities conduct a reliability assessment of each Arranged Interchange before it is implemented
INT-009-2.1	Retire R2	Ensure BAs implement the interchange as agreed upon in the interchange confirmation process
INT-010-2.1	Complete retirement	Provide guidance for required actions on confirmed/implemented interchange
IRO-002-5	Retire R1	Provide System Operators capabilities to monitor/analyze data
MOD-001-1a	Complete retirement	Ensure TSPs perform calculations to maintain awareness of available system capability and future flows on theirs and neighbors' systems
MOD-001-2	Withdrawal	Ensure calculations of available transmission system capability support reliability and underlying methodology/data are disclosed to applicable registered entities
MOD-004-1	Complete retirement	Promote consistent/reliable calculation and use of CBM to support analysis, system operations
MOD-008-1	Complete retirement	Promote consistent/reliable calculation and use of TRM to support analysis and system operations
MOD-020-0	Complete retirement	Ensure that assessments and validation of past events and databases can be performed; requires LSEs, transmission planners and resource planners to provide system operators and RCs data on interruptible demands and direct control load management
MOD-028-2	Complete retirement	Increase consistency/reliability of transfer capability calculations for short-term use by entities using Area Interchange Methodology
MOD-029-2a	Complete retirement	Increase consistency/reliability of transfer capability calculations for short-term use performed by entities using Rated System Path Methodology
MOD-030-3	Complete retirement	Increase consistency/reliability of transfer capability calculations for short-term use performed by entities using Flowgate Methodology
PRC-004-5(i)	Retire R4	Identify/correct the causes of misoperations of protection systems for BES elements
TOP-001-4	Retire R19, R22	Ensure prompt action to prevent/mitigate instability, uncontrolled separation, or cascading outages
VAR-001-5	Retire R2	Ensure voltage levels, reactive flows, and reactive resources are maintained within limits in real-time to protect equipment and reliability

Abbreviations
BA: Balancing Authority | BES: Bulk Electric System | CBM: Capacity Benefit Margin | IROL: Interconnection Reliability Operating Limits | PC: Planning Coordinators | SOL: System Operating Limits | TLR: Transmission Loading Relief | TRM: Transmission Reliability Margin | TSP: Transmission Service Providers

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Team Reviewing Feedback on SER Phase 2

Phase 2 of the Standards Efficiency Review is considering changes in six areas of the organization's operations and planning (O&P) and critical infrastructure protection (CIP) standards.

John Allen | © *RTO Insider*

John Allen, chair of SER Phase 2, briefed the MRC on the results of the industry survey that ended March 22 with submissions from 75 participants. (See "Chair Urges Comments on Standards Efficiency Review," *NERC Standards Committee Briefs: March 20, 2019*.)

Participants were *asked* to indicate via a 1-10 scale how much they supported each of six concepts.

Changes to the evidence-retention rules, which vary by standard, ranked highest at 8.12, said Allen, manager of reliability compliance for the City Utilities of Springfield (Mo.). It was closely followed by consolidating information/data exchange requirements (8.11); moving requirements to guidance (7.85; and developing a risk-based standards template (7.78).

Less popular were relocating competency-based requirements to the certification program/controls review process (6.85) and consolidating and simplifying training requirements (6.19).

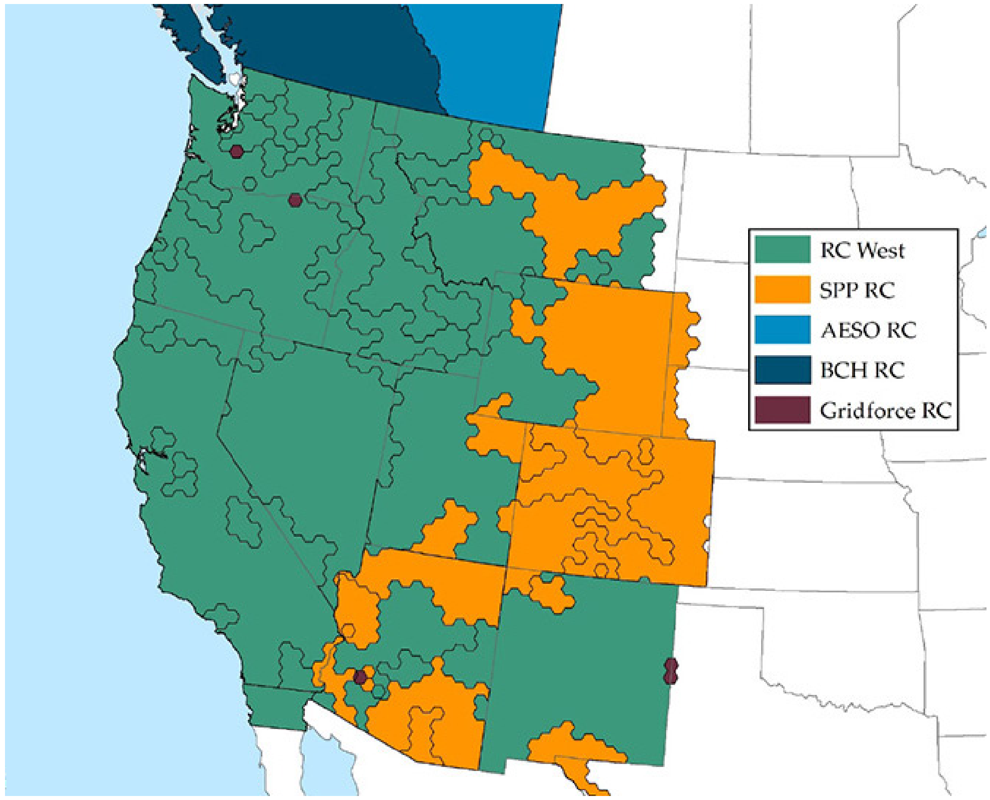
The Phase 2 team will use the feedback to evaluate and prioritize the concepts for potential action.

Trustees OK WECC Variance; Questions on Gen-only RC, Calif.-Ariz. Seam

The trustees approved reliability standard *IRO-002-6* (Reliability Coordination – Monitoring and Analysis), which adds a variance for the WECC region to address its transition to multiple reliability coordinators (RCs) with the demise of Peak Reliability. (It was immediately supplanted by IRO-002-7, reflecting the retirement of Requirement 1 from SER Phase 1.)

The variance requires each RC to develop a "common interconnection-wide modeling and monitoring methodology" for use in operational planning analysis and real-time assessments, including facility ratings, thermal limits and steady state voltage limits.

"Actions that happen up in the Northwest can impact the Southwest, so for us it's important to have that coordination across the entire model," David Godfrey, WECC's vice president of reliability and security oversight, told the board in an update on the RC transition.



Western Interconnection reliability coordinator footprints, with GridForce RC marked as red dots | *WECC*

David Godfrey | © *RTO Insider*

The Eastern Interconnection, which has 16 RCs, has not asked for the standardization requirement WECC sought, Gugel said.

"In the Eastern Interconnection, there's a lot of coordination that occurs there, but the geographic spread and regional diversity there sometimes doesn't lend itself to requiring a common model," he said. "Something going on in Florida for an operation situation may not be necessary for the folks up in Manitoba. It does seem to be necessary out in the Western Interconnection, but we're continuing to evaluate whether it would be necessary in the East."

Godfrey's presentation included a map showing most of the West has chosen CAISO's or SPP's RC services but that several generation-only balancing areas — wind, solar and gas units — have selected *Gridforce Energy Management*.

"This will fit within our certification criteria?" Thilly asked.

"We're early in that part of the process," responded NERC General Counsel Charlie Berardesco. "I would ask a little patience as we consider the application and the actual technical details. … We haven't made a determination on anybody yet."

CEO Jim Robb said the transmission operators and balancing authorities are accountable for ensuring they have an accredited RC.

NERC CEO Jim Robb | © *RTO Insider*

"We've made it very clear when this whole regime change started to occur a year-and-a-half ago that if — by the time Peak winds down — there aren't certified reliability coordinators in place, we pull out heavy-duty enforcement actions," Robb said.

He also said he was concerned about the seam between Arizona and California, noting "that's been a corridor where bad things have happened in the past."

"Are we pretty confident that seams agreements that are being developed will provide

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for fairly seamless operations on those paths?" he asked Godfrey.

Godfrey said he was, adding, "We will continue to monitor that to make sure that [the agreements are] enforced."

NERC Task Force to Build on EPRI EMP Study

Mark Lauby, NERC senior vice president and chief reliability officer, told the MRC that the organization is launching a task force in response to the Electric Power Research Institute's April report on the threat of electromagnetic pulses.

The EPRI report concluded a high-altitude nuclear explosion could cause a multistate electric outage but not the nationwide, months-long blackout some observers have warned of. (See *EPRI Report Downplays Worst-Case EMP Scenario*.)

Lauby said the task force will review the EPRI report to identify additional research needs and best practices and potential reliability standards for mitigating the impacts. He noted that the report did not look at the impacts on generation.

The group is expected to begin work this month and present any SARs to the Standards Committee, if needed, in the fourth quarter.

"This is not to relitigate the research results," Lauby said. "But rather, now with what we've learned from those results ... we are better informed to understand exactly what makes sense from a guideline perspective or standard perspective."

Robb told the Board of Trustees on Thursday that Lauby has laid out an "aggressive" timeline.

"We now understand the science," he said. "So we can galvanize our resources, and industry's, to start to think through, 'OK, what sort of response is required here?'"

Supply Chain Report Recommends Expanding Standards

The trustees accepted staff's *Supply Chain report*, which recommends revising the supply chain standards to address electronic access control or monitoring systems (EACMS) and physical access control systems (PACS) to high and medium impact bulk electric system cyber systems. Monitoring, alarming and logging systems would be excluded.

FERC ordered NERC to expand protections to EACMS last October, when it approved the organization's supply chain standards: CIP-013-1 and modifications in CIP-005-6 and CIP-010-3 (*RM17-13*, Order 850). (See *FERC Finalizes Supply Chain Standards*.)

Among the best practices cited in the report are use of "well-known, trusted and established vendors" and those with third-party accreditations or self-certification of their supply chain practices.

"We stand ready to facilitate; we don't intend to be the accreditor but do want to be a part of the process," Gugel told the MRC on Wednesday.

The report did not recommend including all low-impact BES cyber systems in the standards but called for additional study on whether low-impact systems with external routable connectivity should be covered. Staff are working on a data request under Section 1600 of the NERC Rules of Procedure to obtain additional information on the subject. It also will continue monitoring the issue through questionnaires and surveys.

To address potential risks to such systems in the interim, staff will work with the Critical Infrastructure Protection Committee (CIPC) Supply Chain Working Group to develop guidelines to help entities evaluate their protected cyber assets on a case-by-case basis. The report also recommends that entities refer to best practices of the North American Transmission Forum, North American Generation Forum, National Rural Electric Cooperative Association and the American Public Power Association.

CIP Standard Approved

The trustees approved CIP-003-8 (Cyber Security – Security Management Controls) in response to FERC's April 2018 order approving CIP-003-7 and directing NERC to modify it to "mitigate the risk of malicious code that could result from third-party transient electronic devices."

Section 5.2.1 in Attachment 1 of CIP-003-7 requires the use of at least one safeguard before connecting a transient cyber asset to a low-impact BES cyber system, including reviews of antivirus updates and application whitelisting.

The revision adds a new section 5.2.2 to ensure that the entity acts to mitigate any risks identified in the reviews from Section 5.2.1. It requires entities to "determine whether any additional mitigation actions are necessary and implement such actions prior to connecting the transient cyber asset" (*Project 2016-02*).

The evidence that entities can provide of compliance include documentation from change management systems, email and contracts that identify a review.

FERC Briefing

Andy Dodge, director of FERC's Office of Electric Reliability, provided the MRC an update on two reliability standards pending before the commission:


Andy Dodge | © *RTO Insider*

- Comments are due June 24 on FERC's April 18 Notice of Proposed Rulemaking proposing to adopt CIP-012-1 (Cyber Security – Communications between Control Centers), which would require protections for communication links and data communicated between BES control centers and clarify the types of data that must be protected (*RM18-20*). (See *FERC Proposes Revisions to NERC CIP Standard*.)

- Also pending is CIP-008-6 (Cyber Security Incident Reporting), which NERC filed on March 7 in response to a July 2018 FERC order (*RM18-2*). The commission called for expanded reporting of cybersecurity incidents, saying attempts not currently reported could lead to bigger, more successful attacks. The standard would expand mandatory reporting to include actual or attempted compromises of an entity's electronic security perimeter (ESP) or associated EACMS. (See *FERC Orders Expanded Cybersecurity Reporting*.)

Post-technical conference comments are due May 24 on FERC's March 28 joint technical conference with the Department of Energy on security investments (*AD19-12*). (See *TSA Defends Pipeline Security Practices Before FERC*.)

Dodge also mentioned FERC staff's March 29 *report* on lessons learned from commission-led CIP audits in fiscal 2018. The second in what is intended as an annual report, it includes the results of the audits by the Office of Electric Reliability and input from the Office of Enforcement and Office of Energy Infrastructure Security.

The report makes 13 recommendations, including implementing valid security certificates within BES cyber systems; using strong encryption for interactive remote access; and replacing or upgrading "end-of-life" system components of cyber assets. ■

— Rich Heidorn Jr.

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LaFleur Recounts Turbulent Tenure at FERC

'Every President's Second Choice'

Continued from page 1

the official chair for nine months and the lone commissioner for a month.

In contrast to Commissioner Bernard McNamee — who the day before gave the EBA the same colorless keynote that he's delivered at other conferences — LaFleur was loose, sipping a glass of wine and cracking jokes, often at her own or the commission's expense.

She began her tenure in July 2010 after serving as executive vice president and acting CEO of National Grid. "I knew what FERC did; I knew its jurisdiction of course. I had read plenty of FERC orders; I knew enough to read them from the back."

She arrived without any agenda, personal or political, she said. "I didn't really have any clearly developed policy agenda I was there to do, other than a vague sense that I could add value on reliability because I had run a company. So, when people said, 'What are you going to focus on?' The very first week I would say, 'Oh, uh, a lot of reliability.'"

LaFleur was also candid about her reactions to some of the commission's most tense and uncertain moments, lamenting how the country's partisan divide slowly began to affect the commission's work. Nevertheless, she said, the commission's staff remained diligent and dedicated.

She recalled an article listing the top five candidates to replace Chair Jon Wellinghoff in 2013. "And I was not mentioned as a top-five candidate, even though I was one of two sitting Democrats at the commission. Hello, Rodney Dangerfield." Then, after President Barack Obama nominated Ron Binz for the chair, "[Commissioner] John Norris went postal because he wasn't nominated."

When Binz's nomination was withdrawn in the face of opposition from the coal industry, "it seemed like it was getting more political — at least what we thought was political at the time," LaFleur said. (See "Echoes of Binz," *Senate Confirms McNamee to FERC*.)

In November 2013, 45 minutes before the start of the commission's monthly open meeting, LaFleur received a call from the White House telling her that Obama had named her acting chair. At the end of the meeting, Wellinghoff announced his departure and LaFleur's promotion. "And the looks on the people in

FERC Commissioner Cheryl LaFleur gives a keynote speech at the Energy Bar Association's annual meeting May 7. | © *RTO Insider*

the room: 'Oh my God, something actually happened at a FERC meeting!'"

She "had zero transition with Jon," who left that day. Fortunately, she said, senior commission staff helped familiarize her with her new duties.

Months later began what LaFleur called a "very tumultuous" period. Obama nominated Norman Bay, then director of the commission's Office of Enforcement, to be chair; a memo detailing a FERC analysis of the most critical 30 substations in the country was leaked to *The Wall Street Journal*; and the end of LaFleur's term was coming up, leaving her to run the commission while she wondered whether she would be reappointed.

"There were some really awkward moments," she said. "I remember the open meeting when I congratulated Norman on his nomination. You could just hear a pin drop in the commission meeting room."

Obama did nominate her for a second term, but Bay's nomination, like Binz's, was controversial. Bay and LaFleur appeared before the Senate Energy and Natural Resources Committee together in a joint confirmation hearing, where several senators said LaFleur should have been named chair.

"We had to field questions about each other,"

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LaFleur said. "And I thought that was the height of the craziness, but then it got crazier." (See *Analysis: LaFleur Cruises, Bay Bruises in Confirmation Hearing*.)

In a deal between the White House and the Senate, LaFleur was named the official chair for nine months while Bay served as a commissioner.

Trump's Arrival

Bay took the gavel in April 2015. "For about a year and half after that, life seemed pretty settled," LaFleur said. "Whether I was chairman or Norman was chairman, the work kept going." With the addition of Commissioner Colette Honorable in December 2014, the commission was fully staffed.

However, the commission's ranks began to dwindle with the departures of Phil Moeller in fall 2015 and Tony Clark 11 months later. "It really didn't seem like a big deal at the time, but obviously it was in retrospect. As we went into the [2016 presidential] election, a lot of the press talk and industry gossip was about who Hillary Clinton would make chairman. ...

"Of course, I was never mentioned. I knew I would never be mentioned.

"So then came the election," she said, taking another sip of wine. The commission had scheduled a technical conference on energy storage for the day after the election. "So, we're sitting in the commission meeting room trying to focus on some pithy storage issues, thinking, 'What is going to happen? What's going to happen?'"

After President Trump's inauguration, LaFleur said a messenger from the White House dropped off a letter at the front desk of FERC making her the acting chair once again. "I am truly every president's second choice. ... It was just bizarre."

Bay announced his resignation the next day, and the commission had nine days before he left to vote on as many as orders as possible before it lost its three-member quorum. Trump nominated Robert Powelson and Neil Chatterjee in May, and they were swiftly advanced to the Senate floor by the ENR Committee. LaFleur said she and Honorable were thrilled, but the nominations languished for almost two more months, during which Honorable departed at the end of her term, leaving LaFleur as the only commissioner.

"In early August, I finally gave up [waiting for the Senate to vote] and took a vacation." While she was away, Powelson and Chatterjee were confirmed. After Chatterjee was sworn in, she received another call from the White House informing her that he would be the new chair. "So, I stayed on vacation," she said.

In comparison to Wellinghoff's departure, the transition from LaFleur to Chatterjee was well coordinated, aside from "one unusual change which was more administration involvement in selecting senior staff," she said. "But we took it in stride; we were excited to be back in the saddle."

The new chief of staff, Anthony Pugliese, came to FERC after a stint at the U.S. Department of Transportation as a member of President Trump's so-called "*shadow cabinet*." (See "Mum on White House Input on Staff," *FERC Chair Praises Perry's 'Bold Leadership' on NOPR*.)

'Rifts Started to Appear'

The quips dissolved and the room became silent as LaFleur spoke about the Department of Energy's 2017 Notice of Proposed Rulemaking calling for RTOs and ISOs to compensate generators with 90 days' worth of on-site fuel their full operating costs. The NOPR "hit [FERC headquarters at] 888 First St. like a thunderclap," LaFleur said. "We were already working as hard as we could to catch up, but we had to spend most of the fall grappling with the NOPR.

"It was very divisive. And it soaked up a lot of time and energy that we could have directed at the backlog of policy dockets that we had lined up. ... I was really happy when FERC unanimously rejected the NOPR in January 2018. That was what the record required, but it also protected FERC's independence." She praised Powelson "for holding his ground on his pro-market views" and then-Chair Kevin McIntyre "for bringing us together."

In May 2018, however, "rifts started to appear on the commission, and I fully acknowledge that I was a part of those rifts." The three Republican commissioners voted to narrow the circumstances under which FERC would estimate greenhouse gas emissions from natural gas pipeline projects. The decision was part of its rejection of a request for rehearing of its approval of Dominion Energy Transmission's New Market Project pipeline. (See *FERC Narrows GHG Review for Gas Pipelines*.)

The new policy reversed the commission's practice since late 2016 of including more information on upstream and downstream GHG emissions in its pipeline orders.

"I've thought a lot about what happened, and in part, I think the polarization of Washington, D.C., and societal rifts on big issues have sort of spread to 888 First St., especially the profound societal disagreement about climate change," she said.

"Throughout this period ... I tried to keep my same regulatory philosophy. I'm still trying to decide case by case, still trying to get things partly my way and still trying to find a middle where I can, if there is a middle. ... I'm trying to keep our disagreements about the way we conduct our environmental reviews from forcing me to dissent every single time, even if I have to supplement the climate analysis myself.

"I expect that the courts will ultimately require the commission to do more climate analysis," she added.

Another Reset

The most consequential event of 2018 came when McIntyre — who had been absent from the commission's open meetings since July as he battled brain cancer — relinquished the chair back to Chatterjee, LaFleur said. McIntyre succumbed to his illness and died Jan. 2.

"The loss of Kevin was a major blow to the agency on both a personal and professional level," LaFleur said. Coupled with Powelson's departure last summer, "we had to reset again, and the reconstituted FERC that started in December 2017 never really fully had a chance to get its bearings."

"In retrospect, it's hard to deny the collective impact of all these events, particularly the continued changes in commission membership and leadership, and our underlying policy disagreements," she said. "It's hard to deny that that hasn't had a significant impact on our work as a commission."

LaFleur acknowledged that since the loss of McIntyre and the arrival of McNamee, the commission has seen more dissents, separate statements and partisan splits. She said she has written separately 36 times in 2018 and 10 times in 2019.

She also revealed that "even some less prominent orders that have nothing apparently to do with climate have gotten stalled because individual commissioners are too dug in on something to agree on language. And this has happened far more frequently than in the past."

But she said that the splits along party lines only "give the appearance that people are voting by party philosophy and not individual views." She also lamented the lack of certainty caused by the splits. "If you keep changing your positions by who's in the seats, it doesn't promote regulatory continuity and regulatory certainty for the regulated community." ■

Overheard at the EBA 2019 Annual Meeting

WASHINGTON — The Energy Bar Association last week named the general session at its annual meeting in honor of the late FERC Chairman Kevin McIntyre, who died last year. The two-day conference included discussions on climate change, distributed energy resources and transmission rates, along with speeches by current FERC commissioners. Here's some of what we heard.

100% Renewables?

During the general session, which was about solving climate change, Karl Hausker, senior fellow at the World Resources Institute's Climate Program, noted the growing number of companies, states and environmentalists calling for the use 100% renewable resources.

But Hausker also noted that the four pathways to limit global warming to 1.5 degrees Celsius in the U.N. Intergovernmental Panel on Climate Change's report, released in October, only call for 60 to 80% renewables. Other studies, including those by the Obama administration and even the Natural Resources Defense Council, "all conclude that we can have a renewable-dominant system, but you can't go all the way to 100%." At a certain percentage, system operating costs increase exponentially, he said.

Hausker said other states are "trying to bridge this divide between the advocates of 100% renewables and those who would take a broader technology palate" by increasing their renewable portfolio standards but also setting a more long-term goal of zero emissions. "That's a very significant development, and I think it's a way we can bridge this divide between climate hawks."

Appearing on a panel on natural disasters and utility infrastructure were from left, moderator Floyd Self, Berger Singerman; Kodwo Ghartey-Tagoe, Duke Energy; Shannon Pierce, Nicor Gas; Fritz Hirst, NERC; and Jenny Erwin, Smart Wires. | © *RTO Insider*

He also said, "we should spread our chips and not bet the climate on one or two technologies, no matter how green or fuzzy or politically acceptable they are right now."

"We don't really have a choice on whether to commercialize carbon capture and sequestration technology," he said. "At a minimum, we're going to be needing to draw CO_2 out of the atmosphere by mid-century ... we need to get on that task now."

All Hands on Deck in Duke Storm Preparations

In a panel on natural disasters and utility infrastructure, Kodwo Ghartey-Tagoe, Duke Energy's South Carolina president, talked about his utility's new normal after surviving "two '500-year' storms" — Hurricanes Florence in 2017 and Irma in 2018.

"So, we're preparing year-round for these now, and I will tell you something we implemented recently: Every employee has a storm role in our company. You're either answering phones, or you are joining a scout team to assess damages, or you join a logistics team to arrange for the feeding and caring of employees and contractors who do the restoration work. There's a role for every one of our 30,000 employees.

"Lately because of all the flooding, we've had to find some innovative ways to [assess storm damage]," he continued. "We've become very adept at using drones to assess damages. … And these drones cannot just be piloted by anyone; you've got to be a licensed pilot to operate these drones. And when we run out of licensed pilots we have to reach out to our neighboring utilities."

Ghartey-Tagoe said Irma "heightened the need for prestaging closer to where the storm is expected to hit," a lesson he said the company put to use in preparing for Florence.

"It was the most challenging and most demanding effort in storm restoration in Duke Energy's history," he said. "We expected so much damage that we arranged for 20,000 resources to come into our territory before the storm even hit."

About 2,000 personnel and their equipment were staged at the Darlington Raceway. "I'd never seen so many trucks in my life," he said.

"I didn't even know this until then: There are companies you can hire to come in and cook

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for 1,200 people — prepare three meals a day for 1,200 people."

The loaned utility workers supplemented Duke's own. "We had linemen whose families were impacted — their homes were destroyed — and yet they did not take a day off," Ghartey-Tagoe said. "They were out there restoring customers."

Innovation in FERC Hearing Processes

"This is not a panel; it's an infomercial," said FERC Administrative Law Judge John P. Dring, as he opened a panel on alternatives to hearings for disputes involving less than $1 million.

Dring said a survey he conducted two years ago found it cost $1 million to try a case at FERC involving a single witness. That means that in disputes less than that, there is an "economic foreclosure of due process rights," he said.

As a result, Dring has been exploring alternatives, including expedited track 1 hearings with limited discovery and shorter briefing papers.

Steve Pearson of Spiegel & McDiarmid said a streamlined track 1 proceeding could be attractive to his clients: small, municipally owned transmission-dependent utilities.

It involves an "a la carte" procedural schedule tailored to ensure the case can be tried for less than the amount in controversy. The minitrials will have no precedential effect. Pacific Gas and Electric and the city of San Francisco recently incorporated minitrial provisions in their tariffs.

"You've got to be [interested in a] settlement. You've got to be focused on reaching a resolution to the case," Pearson said. "If you're interested in fighting, this isn't for you."

Jeffrey Jakubiak of Gibson, Dunn & Crutcher outlined the concept of a "harmonic auction," which can be used to settle two-party disputes that can be quantified. "I think there are many cases that could benefit from this, maybe reactive power cases," he said.

It begins at the midpoint between the two "terminal positions" — the outcome that each bidder considers optimal — with an agreed upon "interval amount," the minimum change in bid positions.

The winner of a coin toss is given an opportunity to accept a bid offered at one interval away from the midpoint, in the direction of his or her terminal position.

If this bid is not accepted, the next bid price is one interval away from the midpoint in the direction of the loser of the coin toss.

Discussing alternatives to full FERC hearings were, Jeffrey Jakubiak (left), Gibson, Dunn & Crutcher; and Steve Pearson, Spiegel & McDiarmid. | © *RTO Insider*

If this bid is not accepted, the bid moves an additional interval amount from the midpoint, toward the coin toss winner's terminal position (two intervals from the midpoint).

The process continues until one of the parties accepts the bid. Understanding the counterparty's goal is essential to success.

"You want to say 'uncle' right before they do," Jakubiak explained.

Back to the Future

One panel discussed whether FERC would ever resolve how to calculate the return on equity for transmission lines.

In October, FERC proposed a new method for calculating ROEs, saying it will no longer rely solely on the discounted cash flow model and instead use a composite of it and three other models. (See *FERC Changing ROE Rules; Higher Rates Likely*.)

The proposal was a result of the D.C. Circuit Court of Appeals rejecting FERC's 2011 Opinion 531, which reduced a group of New England transmission owners' ROE from 11.14% to 10.57%. John P. Coyle, a partner at Duncan & Allen, *pointed* out that FERC's new calculations produced figures nearly equal to those calculated in Opinion 489 in 2006, which set the initial 11.14% rate.

"If Doc Emmett Brown were here today, he would say, 'We're going back to the future!'" Coyle said in his best Christopher Lloyd impression, while displaying a picture of the DeLorean time machine.

Coyle said that the court rejected Opinion 531 because FERC didn't include any evidence to support its conclusion, not because it found the new ROE itself to unjust and unreasonable. He displayed data showing decreases in bond yields between opinions 489 and 531.

"What happened between 2006 and 2011? Let me see. Lehman Brothers filed for Chapter 11. We had the Great Recession."

Awards Season

Kirkland & Ellis' Robert Fleishman, who has edited the Energy Law Journal since 2005, was awarded the EBA's 2019 President's Award.

"Bob's dedication to EBA is unparalleled. He has served in countless capacities since 1995, his term as editor-in-chief of the Energy Law Journal being just one," said EBA President Matt Rudolphi in a *statement*. "I can think of no one more worthy of the President's Award."

Daniel T. Pancamo, of Phelps Dunbar, was named winner of the Jason F. Leif Chapter Service Award, and former EBA President Emma Hand, of Dentons, was named the EBA's first Diversity and Inclusion Champion. ■

— Michael Brooks and Rich Heidorn Jr.

EBA Annual Meeting

RTO Board Members Share Views on Oversight Role

By Rich Heidorn Jr.

WASHINGTON — Day Pitney attorney David Doot had a list of questions to ask the present and former RTO board members on a panel he moderated at the Energy Bar Association's annual meeting May 6. But the alpha dog board members quickly seized control, asking each other questions rather than wait for prompting.

Barney Rush, ISO-NE (R) and former PJM Chair Howard Schneider | *© RTO Insider*

Former PJM Chair Howard Schneider started, asking his fellow panelists, "Are boards policymakers?"

Barney Rush, a member of ISO-NE's board, said he saw the board's role as akin to the "town crier" in identifying problems.

"We're listeners," said MISO Director Barbara J. Krumsiek, former CEO of Calvert Investments. "We have to be very careful and diligent listeners."

Barbara J. Krumsiek | *© RTO Insider*

Michael Curran | *© RTO Insider*

Former MISO Chair Michael Curran, now on the ISO-NE board, jumped in with his own question, asking whether boards serve as "thought leaders."

"More often than not, we're reactive to stakeholder problems," responded Rush. He recounted the discussions the board, the New England Power Pool, the New England Conference of Public Utilities Commissioners and New England States Committee on Electricity had in 2017 on whether to implement a carbon tax in the region. (See *ISO-NE Effort to Accommodate States Leaves them Alienated*.)

"Once it became a nonstarter to the states, we dropped it," he said.

Krumsiek, a mathematician and former Pepco Holdings Inc. director, said the board has an important role in strategy development. "The energy sector as we all know is undergoing the most significant disruption and innovation in its history and arguably the most significant disruption and innovation of among all industries," she said.

As a result, MISO's board meets twice annually. "I've never been on a board that's met twice a year for strategy," she said. "But our industry demands it."

MISO also has created a standing technology committee to address cybersecurity and ensure its market systems evolve to handle new products, she said. "The urgency of this is clear. All the disruption we're talking about is often technology-solved and technology-driven."

Doot, who serves as secretary to NEPOOL, ISO-NE's stakeholder body, eventually got to ask more of his questions, querying the panel on board turnover and other matters.

Providing Oversight Without Being Overbearing

Discussing the need for board members to provide active oversight without meddling in day-to-day operations, Krumsiek said she follows the advice she received from Curran when he was on the MISO board: "Noses in, fingers out."

Rush said the ISO-NE board asks two questions when management comes to it with a proposal. "One question is, 'What is the actual substance of the issue you're asking us to think about and what are you asking us to respond to?' The other that's always in our minds is, 'Are we comfortable with the process that you undertook to come to that recommendation to us?' Do we feel that you have undertaken the appropriate review, ventilation, thoughtfulness, consultation with everybody?"

Licensing for FTR Traders?

Marji Philips | *© RTO Insider*

When Doot opened questions to the audience, Direct Energy's Marji Philips cited the GreenHat Energy default in PJM's financial transmission rights market, asking when boards should "push back" on their executives. (See *Report: 'Naive' PJM Underestimated GreenHat Risks*.)

Schneider responded first but said he could not comment on the default, noting "I was out of [PJM] by the time it blew up."

Curran, who also serves on the NASDAQ board of directors, said the incident highlighted the need for licensing of traders to "take these bad players out of the market." GreenHat's two principals had come to FERC's attention earlier for their roles in J.P. Morgan Ventures Energy Corp.'s scheme to manipulate the CAISO and MISO markets between 2010 and 2012.

"You misbehave, we'll pull your license," Curran said. "It's being performed at other organizations. Why wouldn't we consider it?"

Krumsiek said she also favored licensing of traders in RTO markets. GreenHat "would not happen in most financial markets," she said, adding, "To have expected RTO markets to have reached maturity in 20 years is probably [unrealistic]."

Board Independence and the Role of the States

Schneider, who was part of PJM's first Board of Managers in 1997, recalled that when the board was formed, one sector, which he did not name, sought veto power on issues the board could consider. The board refused to sit unless the veto power was eliminated, he said. "And that spark of independence has remained throughout," said Schneider, a senior consultant at Charles River Associates.

Schneider called the states "key policy players in the RTO paradigm."

"And while an RTO is quasi-governmental in a sense, the states — for whatever reason — initially chose not to become members of PJM. In retrospect, I think that was a mistake," he said.

Acknowledging there are pros and cons to state participation, Schneider continued, "The pros to me are they get in on an issue earlier. They think about the issue, and they have some [clout] as a member that they don't have as a non-member.

"The states that we represent are not a monolith. The states have different views and they need to come across with their views in the context of a stakeholder meeting."

"I think [on] that last point, you may have some disagreements up here and in the audience," Doot said.

"It wouldn't be an Energy Bar Association [meeting] if there weren't disagreement," joked Schneider, the only lawyer among the panelists.

"Fair point," responded Doot. ■

CAISO/WECC News

Tucson Electric Power Signs up for Western EIM

By Robert Mullin

The Western Energy Imbalance Market chalked up another future member Wednesday after Tucson Electric Power signed an agreement with CAISO saying it will join the real-time market in April 2022.

The Arizona utility's move comes just two weeks after Spokane, Wash.-based Avista announced it would be joining up with the EIM at the same time, potentially bringing the market's participation level to 15 out of 37 balancing authorities in the West. (See *Cold Forces NW to Dip More Deeply into EIM as Avista Joins*.)

With Arizona Public Service already trading in the market, and Phoenix-based Salt River Project slated to join in April 2021, TEP's membership will expand the EIM's reach to include all of Arizona's major population centers. TEP, a subsidiary of Canada-based Fortis, serves about 417,000 electric customers in the Tucson metropolitan area.

Tucson Electric Power expects to sharply increase its renewable energy portfolio with a new wind farm in southeastern New Mexico. | *Tucson Electric Power*

TEP estimates that participation in the EIM will save the utility about $13 million annually.

"The EIM will help TEP save money for customers by expanding our real-time access to renewable power and other low-cost energy resources across the Western grid," Erik Bakken, vice president of system operations and environmental at TEP, said in a statement.

TEP owns or controls 2,531 MW of generating capacity, including 255 MW of utility-scale solar and 80.4 MW of wind; its service area also contains about 220 MW of commercial and residential rooftop solar. In March, the utility announced it would sharply expand its renewable energy portfolio with the construction of the 247-MW Oso Grande Wind Project in southeastern New Mexico.

The utility operates 2,175 miles of high-voltage transmission, with key links into wind-rich New Mexico and the neighboring balancing area of Public Service Company of New Mexico, whose own plans to join the EIM in April 2021 have been complicated by moves by state regulators. (See *PNM's Bid to Join Western EIM Gets Approved in Part*.)

The EIM's current members are APS, Idaho Power, NV Energy, PacifiCorp, Portland General Electric, Puget Sound Energy, Powerex and the Sacramento Municipal Utility District, which began transacting last month. The Los Angeles Department of Water and Power and Seattle City Light also are scheduled to go live in April 2020.

CAISO last month said the EIM has yielded $650.26 million in benefits for its members since being launched with PacifiCorp as its first member in November 2014. ■

CAISO/WECC News

PG&E Probed by Plaintiffs' Lawyers, SEC

Judge Orders Utility's New Leaders to Tour Paradise

By Hudson Sangree

A 55-plus community in Pardise was completely destroyed by the Camp Fire. | © *RTO Insider*

PG&E Corp. came under criticism last week from a federal judge, who ordered its new CEO and board members to view the scene of the devastating Camp Fire.

Lawyers representing victims of that disaster and others urged a bankruptcy judge Wednesday to order the utility to turn over internal records related to wildfire liability.

And PG&E said May 2 it was being investigated by the Securities and Exchange Commission for its accounting of wildfire losses.

In short, it was another bad week for beleaguered PG&E and its utility subsidiary, Pacific Gas and Electric, which are undergoing Chapter 11 bankruptcy *reorganization* after devastating wildfires in the past two years. (See *Calif. Must Limit Fire Liability, Governor Says*.)

PG&E remains on probation for crimes associated with the San Bruno gas line explosion in 2010, which killed eight residents of a suburban San Francisco neighborhood.

In that case, U.S. District Court Judge William Alsup on May 7 ordered PG&E's board members to visit Paradise, Calif., where the Camp Fire killed at least 85 people and leveled most of the town of 27,000 residents in the Sierra Nevada foothills. Alsup said he wanted PG&E leaders to see the wreckage of the deadliest fire in state history.

Eleven of PG&E's 13 directors are newly appointed, along with new CEO Bill Johnson, who started work May 2. (See *Former FERC Commissioner Brownell Named PG&E Chair*.)

In the bankruptcy case, lawyers for PG&E and those representing thousands of fire victims faced off for two hours Wednesday before U.S. Bankruptcy Judge Dennis Montali in San Francisco.

A federal judge told PG&E leaders to go to Paradise, Calif., devastated by the Camp Fire in November 2018. | © *RTO Insider*

Attorneys for the creditor committee of tort claimants said they wanted information, which PG&E refused to turn over, about the role of the utility and its contractors in starting the Camp Fire and the estimated cost, including any potential government fines that PG&E might have to pay.

The California Public Utilities Commissioned fined PG&E a record $1.6 billion after the San Bruno gas explosion, and plaintiffs' lawyers said a similar fine could be imposed for the Camp Fire.

State fire officials haven't concluded their investigation yet, but PG&E has said its equipment likely started the fire, which began beneath the 100-year-old Caribou-Palermo transmission line in rural Butte County on Nov. 8, 2018 — six months before Wednesday's hearing.

Sounding exasperated, Montali told the lawyers to try to settle the dispute among themselves.

The judge is scheduled to rule soon on a petition by PG&E to enjoin FERC from interfering in the bankruptcy case. The commission recently reaffirmed its own ruling that it shares jurisdiction with the court over PG&E's wholesale power purchase agreements. (See *FERC Denies PG&E Rehearing Over Contracts Dispute*.)

PG&E has indicated it may try to rescind or renegotiate hundreds of PPAs worth billions of dollars with generators of renewable energy, and it wants Montali to have sole authority over the contracts. ■

ERCOT News

Texas ROFR Bill Passes, Awaits Governor's Signature

By Tom Kleckner

The Texas Legislature last week passed legislation giving incumbent utilities the right of first refusal (ROFR) to build transmission projects in the state.

The House of Representatives passed a final reading of *Senate Bill 1938* by a 139-5 margin May 7. The bill, which passed the Senate 31-0 on April 17, was substituted for the House's identical *version*.

The bill now awaits Gov. Greg Abbott's signature before becoming law. It would become effective immediately, thanks to an "emergency" rider.

The legislation grants certificates of convenience and necessity (CCNs) to build, own or operate new transmission facilities that interconnect with existing facilities "only to the owner of that existing facility." (See *Texas ROFR Legislation Pits Incumbents, Transcos*.)

Rep. Dade Phelan, a sponsor of the bill, told representatives the bill will "ensure the Public Utility Commission, and not the federal government, will have jurisdiction over Texas transmission rates."

ERCOT is not subject to FERC jurisdiction. However, parts of West Texas and East Texas lie in the SPP and MISO footprints, respectively.

Opponents of the legislation argue it would undercut competition in the state, making it illegal for anyone other than incumbent utilities to build new transmission and eliminate the Texas Public Utility Commission's authority to license new entrants to build transmission assets and provide transmission services.

"We are confident that the transmission industry is moving toward more competition," GridLiance spokesperson Vera Carley told *RTO Insider*. "It is clear that ratepayers will increasingly advocate for more competition in the transmission industry once they see the effect of competition on costs."

GridLiance cited a *Brattle Group study* it commissioned that indicated competitive projects under FERC Order 1000 have come in at an average of 40% below initial estimates. The study noted 15 projects have been selected through ISO/RTOs' competitive processes, but none of the projects have yet to be completed.

The bill's passage also means NextEra Energy Transmission will likely lose its winning bid for the Hartburg-Sabine Junction 500-kV project in East Texas, which it received last year from MISO. The PUC has yet to grant the project a CCN.

Among those voting against the bill was Rep. Travis Clardy. His inquiry to the Department of Justice's Antitrust Division resulted in the department filing comments expressing its concern the legislation would limit competition, potentially raise electricity prices and lower the quality of service.

In arguing against the bill, Clardy warned of "protractive" private litigation and potential federal legislation in response to the law.

"There is no urgency or haste. There is no reason to pass this bill now," he said. "This bill, I don't believe, has been properly vetted."

Legislators voting for the bill painted it as a victory for the Texas economy and large power users. ■

The bill's sponsor said it will "ensure the Public Utility Commission, and not the federal government, will have jurisdiction over Texas transmission rates."

| *Wind Energy Transmission Texas*

ERCOT News

Federal Changes Add Uncertainty to Mexico's Power Market

Continued from page 1


José María Lujambio Irazábal | © *RTO Insider*

José María Lujambio Irazábal, who heads the energy practice for Mexican law firm Cacheaux Cavazos & Newton, said the changes will result in a stronger state-run utility (the Federal Electricity Commission (CFE)), a weaker regulatory body (the Energy Regulatory Commission (CRE)) and a neutered Ministry of Energy (SENER).

A former member of President Felipe Calderon's administration (2006-2012), Lujambio Irazábal said CFE will enjoy a "privileged position" under the new administration. Its octogenarian CEO Manuel Bartlett Díaz is determined to "Make CFE Great Again," Anderson said, having felt insulted by the 2014 reforms designed to open up Mexico's electricity market. "He will tell you the ignorant ways that was done," he said.

Cummins called it a back-to-the-future agenda, designed to strengthen CFE by reconsolidating the various generation businesses created by the reform. The focus is now on maintaining the utility's aging fossil plants, as that will mean jobs.

"Any unit that CFE has that can run, should run. You're talking about 500 different maintenance jobs to prepare for this summer," Anderson said, noting the upgrades will make about 4 GW of additional capacity available this summer.

That should be a welcome development for the Mexican grid, which has seen its reserve margin drop from about 6% last year to less than 2% this year, said Rebecca Bollenbach of Essentia Advisory Partners. She said Mexico suffered through 44 cases of "emergency situations" and more than 1,000 alerts last year.

"Six percent is [grid operator] CENACE's happy place right now," Bollenbach said. "When ERCOT looks at a 6%, 7% reserve margin, everyone gets real nervous."

Already this year, the Yucatan Peninsula has been twice hit with major power outages, leaving millions of people across three states in the dark for more than an hour.

Perhaps that's why in April, CFE's board approved an expansion plan to develop 13 GW of new facilities, all owned and operated by the utility. The first major projects involve five combined cycle gas-fired plants with an aggregate capacity of 2.76 GW, at a cost of $2.4 billion.

"That's a substantial shift from the last administration," Nance said. "If it's carried forward, the auctions are not going to be resumed. CFE doesn't need to buy any power at auction."

'Real Doozies'

In the meantime, López Obrador's administration canceled a long-term auction, the fourth in a series, planned for last December. Bartlett Díaz has said there will be no more power auctions.

"Why should we buy electricity when we can produce it ourselves?" he told *El Financiero*, a business publication. "We are not going to discuss this; the CFE is not a company that buys electricity. It is a company that produces and distributes electricity. Why should anyone force us to buy electricity?"

It apparently won't be the CRE, which had its budget reduced by 31.1% in December and then fired about 60% of its workforce.

"That's a great amount of technical and intellectual capital out the door," Anderson said.

López Obrador was also able to fill four vacancies among the seven CRE commissioners, appointing them himself when he was unable to gain approval from the Mexican Senate. All four newcomers come from petrochemical backgrounds.

"Some real doozies," Cummins said. "Heavy on state control, lacking orientation of any sort to electrical markets."

"Some of them are not real experts," said Lujambio Irazábal, a former general counsel at CRE. "Who will regulate the market and impose sanctions when needed?"

Lujambio Irazábal said SENER, Mexico's counterpart to the Department of Energy, is facing many of the same issues.

"With no undersecretary of electricity appointed, a dramatic lack of expertise and no political commitment to keep promoting new developments in the market, who will design and implement electricity policy?"

López Obrador himself has been all over the map. He initially promised new coal plants, thus reducing Mexico's dependence on U.S. gas, before April's announcement of five combined cycle projects. He has talked about repowering the country's hydro installations, and the administration has publicly announced a goal of 100,000 solar rooftop installations by 2024.

"If you want to make jobs, jobs are installing stuff on rooftops," Nance said.

Mexico's demand for power continues to grow at an annual rate of 2 to 3%. While the country has 75 GW of capacity on the grid, about a third of it is aging and unreliable or dependent on similarly aging transmission lines. Demand is expected to hit 50 GW for the first time this year.

In addition to canceling remaining power auctions, the López Obrador administration also pulled tenders for two major transmission projects up for international bids: the $1.2 billion, 870-mile, 500-kV connection between Mexicali in Baja California and Hermosillo, Sonora, in northwestern Mexico; and the $1.7 billion, 1,000-mile, 500-kV Oaxaca project between Mexico City and Veracruz.

The projects were "not a priority for the government," Bollenbach said.

"You still have 3% growth nationwide. How are you going to meet that demand?" Nance questioned. "There's no reserve margin for certain hours of the year. You've got to build something."

Anderson called the language private investors hear "very aggressive … so most of us just back away."

He said the market needs to express why the reforms are so important. "It wasn't to tip the scale for private companies. It was to create market efficiencies," Anderson said.

Foreign investment is not dead, however. Spain's Iberdrola recently said it *plans to spend $1.3 billion* in five new generation plants — two combined heat and power, two wind farms and a combined cycle plant — as part of an initiative to invest $5 billion in Mexico over the next six years. The power will be marketed to "private enterprise" as part of an agreement with the Confederation of Industrial Chambers.

"There's still room for international capital; it's just different ways," Nance said. "With CFE restructuring, you could have a separate business unit that could partner with other firms. That might be where development takes place. Partnering with CFE might be a more expected and typical outcome of all this." ■

ERCOT News

ERCOT: More Capacity, but Emergency Ops Still Expected

By Tom Kleckner

ERCOT said Wednesday that its final *resource adequacy assessment* for this summer indicates "a potential need" to enter energy emergency alert (EEA) status in order to maintain system reliability.

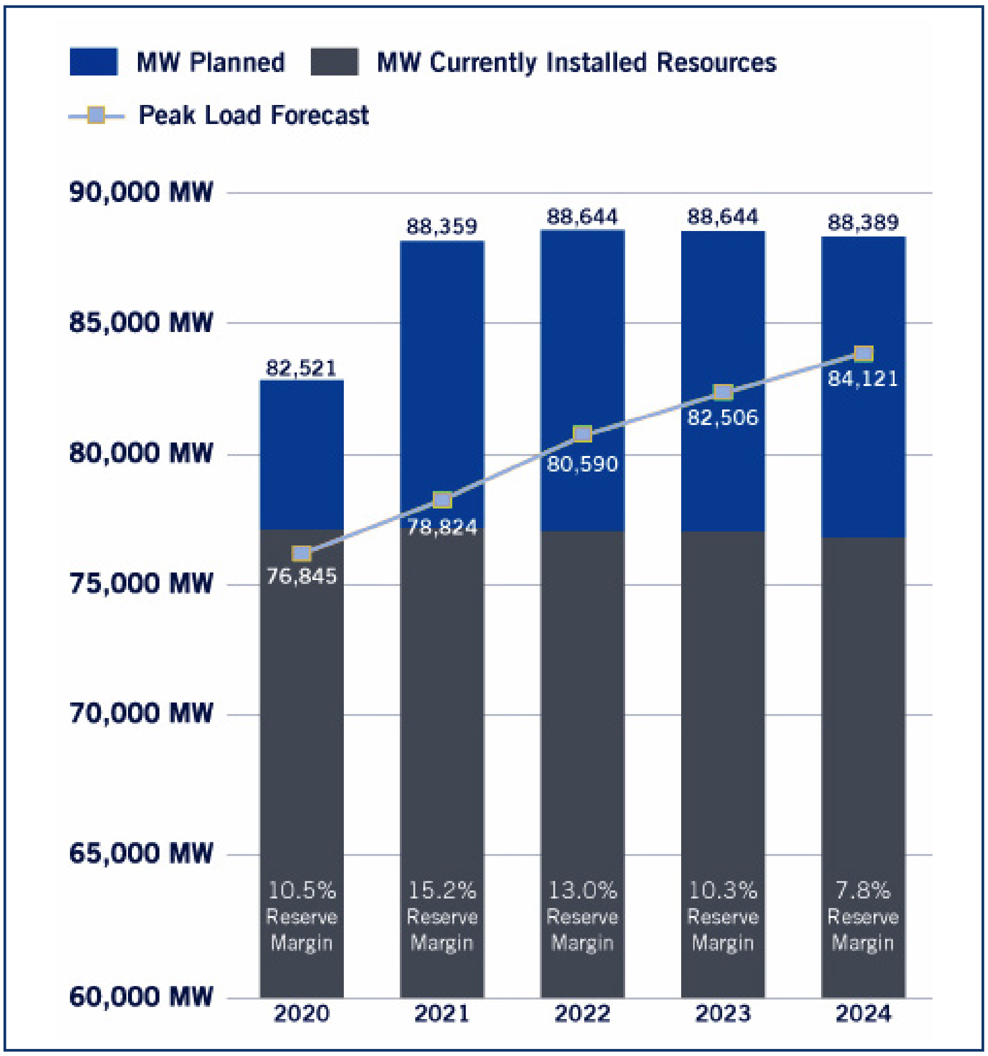
The Texas grid operator is forecasting a peak demand of 74.9 GW, 1.4 GW higher than the all-time record of 73.5 GW set last July. ERCOT will meet that demand with 78.9 GW of available capacity, a slight increase from its spring assessment of resource adequacy.

The good news: ERCOT's planning reserve margin for the summer has increased to 8.6% from an historic low of 7.4%. The grid operator's target reserve planning margin is 13.75%.

"At this reserve margin level, it's more likely we'll have to use additional resources available under emergency operations procedures on several occasions this summer," ERCOT's Dan Woodfin, senior director of system operations, said during a media call Wednesday.

"We're confident we'll be able to maintain the reliability of the system as a whole. That's our job," Woodfin said in response to persistent questions about the possibility of blackouts this summer.

"It's probably one of the lowest planning reserve margins on record — based on all the data we've seen historically — going into a summer peaking area," John Moura, NERC director of reliability assessment, told the electric reliability organization's Member Representatives Committee in St. Louis on Wednesday. "So [there are] certainly some challenges, but I believe the operators have the right tools in order to keep the system stable and operating the system reliably."



ERCOT's future demand and capacity | *ERCOT*

Woodfin and ERCOT Manager of Resource Adequacy Pete Warnken said the grid operator has a number of tools at its disposal should operating reserves drop to 2.3 GW and force an EEA 1 declaration — the lowest emergency rating. At that point, ERCOT can take emergency imports from SPP over DC ties, use emergency response service and institute load-reduction measures, among other options.

"We have the tools and procedures in place," Warnken assured his audience.

The ERCOT reserve margin for the summer months (June-September) was raised thanks to the return of a 365-MW NRG gas-fired unit, 111 MW of upgrades to 12 generating units and an increase in the amount of DC tie imports. (See *NRG to Bring Back Gas Plant for Summer 2019*) The grid operator's Board of Directors in April approved a change to import forecasts, basing them on the amount of power that could be brought in during emergency conditions and not historical forecasts.

ERCOT on Wednesday also released a *preliminary assessment* for the fall months (October-November) and an updated *capacity, demand and reserves (CDR) report*.

The fall assessment forecasts a peak demand of just over 61 GW, with more than 84 GW of capacity available.

The updated CDR includes an additional 733 MW of installed wind and solar capacity. It also includes 517 MW of battery storage as being newly eligible for inclusion.

The updated CDR forecasts above-normal growth in demand of 2.5 to 3% through 2022. Oil and gas development in West Texas and new industrial facilities on the Texas Gulf Coast account for much of that growth, ERCOT said.

The grid operator expects the reserve margin to reach 15.2% in 2021, when almost 6 GW of planned resources in the interconnection queue, primarily wind and solar projects, become eligible for the CDR. It projects the reserve margin will dip back below 8% in 2024, when peak demand is expected to exceed more than 84 GW. ■

Rich Heidorn Jr. contributed to this story from St. Louis.

Mild Weather Undercuts CenterPoint Q1 Earnings

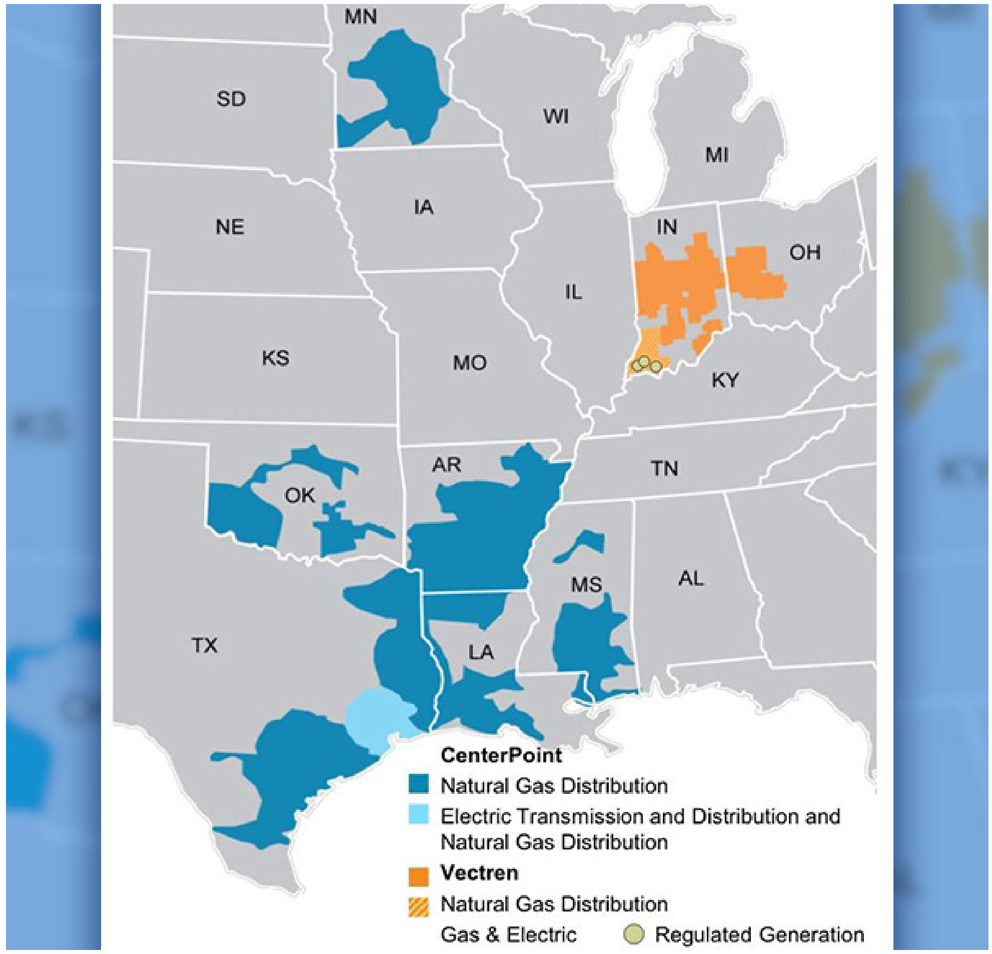
CenterPoint Energy on Thursday *reported* that mild weather that reduced customers' power usage drove first-quarter earnings down to $140 million ($0.28/share), from $165 million ($0.38/share) a year ago.

When adjusted for one-time gains and costs, the Houston-based company's earnings came in at 46 cents/share, falling 4 cents short of Zacks Investment Research's consensus.

CEO Scott Prochaska | © *RTO Insider*

Still, CEO Scott Prochaska said he was pleased with the results.

"While weather-related impacts affected first-quarter earnings, we remain confident in our anticipated 2019 full-year performance. Our utilities continue to benefit from strong customer growth and recovery mechanisms allowing for timely recovery of capital invested on behalf of our customers," he said.



CenterPoint Energy's service territory | *CenterPoint Energy*

CenterPoint's earnings excluded costs and other impacts of its $6 billion acquisition of Vectren. The Indiana utility, the acquisition of which was *completed* Feb. 1, reported a one-month operating loss of $9 million, which included $20 million in merger-related expenses.

The Indiana Utility Regulatory Commission recently recommended CenterPoint consider smaller-scale options instead of a proposed 700- to 850-MW combined cycle natural gas turbine, company officials said.

"The commission wants to see investment made in ways other than a bet on a single large plant," Prochaska told investment analysts during a call Thursday.

CenterPoint's share price closed Thursday at $29.25, down almost 4% from the previous close. ■

— Tom Kleckner

Texas PUC Briefs

Commission Signs off on Oncor-Sharyland-Sempra Deal

Sharyland Utilities' Lino Mendiola (center) explains the intricacies of the deal as Oncor's Matt Henry (left) listens.

The Texas Public Utility Commission last week gave its *final blessing* to a $1.37 billion transaction involving Oncor, Sharyland Utilities and Sempra Energy (Docket *48929*).

The commission signed off on the order during its Thursday open meeting, after first requesting clarification to language on certificates of convenience and necessity (CCNs) that it found confusing.

PUC Chair DeAnn Walker filed a *memo* before the meeting that said "having multiple CCNs can be confusing" and asked the parties to ensure the final order would not lead to unintended consequences before approving a transaction that has spent months before the commission.

"We have no concern with the brilliant memo you wrote," Oncor General Counsel Matt Henry said.

Not to be one-upped, Lino Mendiola, legal counsel for Sharyland Utilities, said, "Matt stole my words."

The series of transactions will result in Sempra, which acquired Oncor last year, gaining a 50% stake in Sharyland Distribution & Transmission Services and Oncor taking ownership of Sharyland's transmission-owning InfraREIT. The asset exchange will extend Oncor's footprint in West Texas and "de-REIT" the Sharyland utility in South Texas. (See *Oncor-Sharyland-Sempra Deals Inch Toward Approval*.)

The parties agreed to regulatory commitments that include a promise to provide $17 million in merger-savings rate credits and to implement a ringfence at Sharyland Utilities. Oncor and Sharyland also agreed not to seek recovery of nearly $39 million of outstanding regulatory assets.

PUC Amends Resource Adequacy Rules

The commission amended a portion of its *agency rules* related to resource adequacy in ERCOT and also repealed outdated language that referred to a high systemwide offer cap of $4,500/MWh (now $9,000/MWh).

The *amended language* will update reporting requirements "consistent with current practices" and ERCOT protocols and clarifies that the gird operator will still be able to administer pricing mechanisms, such as the operating reserve demand curve, after the peaker net margin threshold is reached and the low systemwide offer cap is applied (Project *48721*). (See "Reduction in Peaker Net Margin Threshold Tabled," *ERCOT Technical Advisory Committee Briefs: March 27, 2019*.)

Left to right: Commissioners Shelly Botkin, DeAnn Walker and Arthur D'Andrea

Commission Assesses $136K in Penalties

The commission also approved three settlement agreements representing more than $136,205 in administrative penalties.

- Real estate investment firm The Connor Group was fined $96,205 and ordered to provide refunds totaling $88,794 to current and former tenants related to billing of common-area electric charges (Docket *48925*).
- Oncor agreed to pay $25,000 for inaccurate disconnect switch telemetry that may have contributed to higher-than-normal market prices (Docket *48926*).
- Ector County Energy Center was docked $15,000 for a non-spinning reserve service failure (Docket *48927*). ■

— Tom Kleckner

MISO News

MISO Tames Flows on North-South Transfer Limit

By Amanda Durish Cook

CARMEL, Ind. — MISO says a new process to better contain flows on its North-South settlement transmission path is working as intended.

The new practice was prompted by a MISO South maximum generation event in January 2018, where the RTO exceeded the limit on the transmission linking its Midwest and South regions over multiple dispatch intervals. (See *Louisiana Regulators Question MISO South Max Gen Event*.)

MISO staff spent several months reassessing the RTO's control of transfer flows after the violation, Director of System Operations Tim Aliff said during a Market Subcommittee meeting Thursday.

Now, MISO has switched from using its Unit Dispatch Systems (UDS) to "real-time and raw measurements" to reduce instances where the limits are exceeded, Aliff said. As of August 2018, the RTO also reduced the effective transfer limit in its system to 90% of contractual values.

Aliff said the two dispatch methods — using UDS and real-time operator monitoring — can result in different megawatt predictions on the settlement path.

MISO said its strategy so far "has resulted in greatly reducing number and duration of exceedances." Aliff said using a 90% threshold of the settlement limit dramatically cuts — but doesn't eliminate — limit overruns. From January to August 2018, MISO exceeded transfer limits on 2,073 occasions. Since August 2018, MISO has exceeded the limits 522 times.

Customized Energy Solutions' Ted Kuhn said the changes make MISO "a good citizen."

Tim Aliff | © *RTO Insider*

WPPI Energy economist Valy Goepfrich asked whether the RTO intentionally violated settlement limits using the UDS in January 2018 to dispatch the North in order to serve the South.

"We didn't plan to exceed the limits," Aliff answered, saying a variety of factors, including a dearth of generation in MISO South, caused the RTO's raw flows to exceed the settlement limits.

During the past winter, Independent Market Monitor David Patton observed that the settlement path bound frequently in the south-to-north transfer direction because of cold weather in the northern part of the footprint. He said MISO had been derating regional transfers from what was originally scheduled so it didn't exceed the megawatt limits laid out in its settlement agreement with SPP. Patton said such derates caused the contract path to bind almost 300 MW below the megawatt limit on average this winter.

"I think it's worth in the future thinking about how to calibrate these scheduling limits so we're making full use of the" regional directional transfer, Patton said at an April 11 Market Subcommittee meeting, adding that both the South and Midwest regions benefit in different seasons with full use of the megawatt limit.

While MISO came close to violating the 2,500-MW limit on the south-to-north constraint during the Jan. 30-31 maximum generation emergency, it did not ultimately exceed the limit. The *settlement agreement* stipulates that MISO has an obligation to reduce internal transfers within 30 minutes once the limit is exceeded. The two RTOs also agreed that transfer limits can be temporarily increased or decreased to avoid a system emergency, provided there is adequate communication and the actions don't cause an emergency in a neighboring balancing authority. MISO and SPP maintain a six-member operating committee composed of their staffs and joint party representatives to oversee compliance with the settlement agreement.

MISO is also currently accepting proposals for projects designed to relieve the North-South transmission constraint, predicting the settlement path flows will become increasingly expensive. (See *MISO Seeking Proposals to Relieve North-South Constraint*.)

The RTO said it will continue to monitor and calibrate flow control to determine whether additional changes are needed. ■

MISO News

Michigan Regulators Intercede in MTEP Complaint

By Amanda Durish Cook

Michigan regulators are stepping into a dispute over how to classify a contested interconnection project included in MISO's 2018 Transmission Expansion Plan (MTEP).

In a FERC complaint filed last month against MISO and Michigan Electric Transmission Co. (METC), Consumers Energy argued METC's $21 million, 138-kV Morenci line near the Michigan-Ohio border has more in common with a distribution project than a transmission project and should be classified as such (*EL19-59*).

Consumers says the seven-factor test laid out in FERC Order 888 supports its contention because the line would be radial in nature. The company asked FERC to determine MISO "cannot approve or mandate the construction of a local electric distribution facility as part of its annual transmission planning process."

MISO included the Morenci project in its 2018 Transmission Expansion plan over Consumers' objection, saying it had no authority to address the complaint and the matter should be decided between FERC and the transmission owner. (See *MISO Board OKs Full MTEP 18 over Stakeholder Complaints*.)

Michigan Public Service Commission | *Google*

But Consumers said MISO's view that "it is irrelevant whether its transmission expansion plans might include local distribution projects … is unacceptable to Consumers Energy, and it should be unacceptable to FERC, because it is a form of agnosticism with very real consequences." MISO should vet the classification of its transmission projects — especially contested ones, the company said, asking FERC to remind the RTO of its "inherent obligation" to classify transmission projects.

Consumers argued MISO didn't attempt the seven-factor transmission test when it should have, but MISO countered it followed both its Tariff and Transmission Owners Agreement, which stipulate the seven-factor transmission test be performed by "appropriate regulatory authorities." The RTO asked FERC to dismiss the complaint in a May 3 response.

On May 2, the Michigan Public Service Commission intervened to claim jurisdictional authority, opening its own case to apply the seven-factor test and *scheduling* a prehearing conference for June 4 (*U-20497*). METC, along with affected generator Wolverine Power Supply Cooperative and co-op member Midwest Energy & Communications, have requested FERC delay a decision on the complaint until the Michigan PSC rules in the dispute.

The PSC has also suggested FERC order a modification to the MTEP process to allow state entities with jurisdiction to apply the seven-factor test before a project makes it to the MTEP list.

However, Wolverine has argued it has a "time-sensitive need" for a transmission upgrade to deliver wholesale power and said the case is not the "appropriate proceeding to revise the MISO Tariff or to expand the scope of MISO authority to include facility classifications."

Consumers has said it will suffer "concrete harm" if the line is built, saying it will have to pay for the line in METC's transmission rates and be prevented from constructing an alternative distribution project to serve Midwest Energy's anticipated load growth.

Consumers also contends a FERC determination that the line is distribution should be "uncontroversial."

"Federal law does not give MISO the power to approve or compel construction of local distribution facilities, or to regulate such facilities directly," the company said. ■

MISO News

MISO Ponders Changes After Latest PRA

By Amanda Durish Cook

CARMEL, Ind. — MISO last week proposed to change the deadlines and deliverability requirements for next year's Planning Resource Auction as it continued to release detailed data from this year's event.

Eric Thoms at the RASC | © *RTO Insider*

At a Resource Adequacy Subcommittee meeting Wednesday, MISO Manager of Capacity Market Administration Eric Thoms kicked off his presentations on a lighthearted note as his team continues to break down the auction results.

"There's a common term floating around: post-PRA hangover," Thoms joked. "A lot of caffeine helps."

Last month, MISO's annual capacity auction cleared at $2.99/MW-day in all zones but Lower Michigan's Zone 7, which cleared at $24.30/MW-day. Prices declined sharply compared with last year's nearly uniform $10 clearing price. Altogether, the RTO committed 134.7 GW worth of capacity for the 2019/20 planning year beginning June 1. (See *Most MISO Zones Clear at $3/MW-day in 2019/20 PRA*.)

MISO is still releasing more detailed *data* on this year's auction.

Thoms said multiple zones in MISO contained marginal resources that set the $2.99/MW-day price.

This year's auction was the first to include external resource zones based on external balancing authorities. As a result, MISO cleared about 1,533 MW from SPP, PJM, Ohio Valley Electric Corp., LG&E Energy Transmission Services, Associated Electric Cooperative Inc., Southwestern Power Administration and the Tennessee Valley Authority.

MISO said the auction results were generally consistent with its loss-of-load expectation (LOLE) study, though LOLE load forecasts were slightly higher than those submitted by load-serving entities. The PRA's system coincident peak of about 124.9 GW was slightly lower than the LOLE study prediction of 125.5 GW.

Timeline Change Next Year

MISO is considering changing some timelines before for the 2020/21 PRA, including deadlines for demand response testing, submission of generator verification testing data, behind-the-meter registration, unforced capacity values and the posting of preliminary auction data. In most cases, the various *deadlines* would be extended into the winter instead of late fall.

MISO is also proposing to open and close the offer window during "normal business hours."

"My staff doesn't like getting up at 12:01 a.m. to open the offer window and close it at 11:59 p.m. on a Friday night," Thoms said.

The RTO would like to open the PRA's four-day offer window at 8 a.m. ET and close at 6 p.m. Currently, the offer window runs from 12:01 a.m. on the first day of the auction through 11:59 p.m. on the fourth day.

"We've never received any offers at 2 a.m.," Thoms added.

MISO said it may make a Tariff filing in summer to alter the PRA timeline.

New Deliverability Rules

MISO will also require that its traditional resources be deliverable to their full installed capacity (ICAP) values by the 2020/21 planning year auction.

The capacity deliverability rules will apply to resources with both network resource interconnection service (NRIS) and energy resource interconnection service (ERIS). However, the rules will not apply to intermittent resources — including wind, solar and storage devices — whose deliverability requirements will be based on some sort of historical or average output. The exact process has yet to be proposed.

Darrin Landstrom, MISO resource forecasting adviser, said the change in deliverability requirements won't have a big impact on cleared megawatts in the auction. He said some generators may have to request broader transmission service, which could take up to a maximum of 105 days for study and approval. MISO estimates that about 1.4 GW of capacity clearing this year's auction may not be deliverable to installed capacity levels.

Darrin Landstrom | © *RTO Insider*

Both the Independent Market Monitor and the Coalition of Midwest Power Producers (COMPP) have contended that MISO doesn't properly account for deliverability because its LOLE study assumes that all capacity resources are fully deliverable on an ICAP basis. However, the RTO allows resources to demonstrate deliverability only up to the unforced capacity (UCAP) levels, which tend to be about 5 to 10% below full ICAP levels. FERC in March dismissed COMPP's complaint on the matter, finding no Tariff violation. (See *FERC: No Merit in MISO Deliverability Complaint*.)

MISO *requires* capacity resources to demonstrate deliverability either by having NRIS, which stipulates that the entire ICAP be deliverable, or ERIS, which requires that firm transmission service be reserved up to the UCAP level.

The RTO has said it doesn't hold capacity resources to different standards because it doesn't require NRIS resources to perform to ICAP levels, instead requiring both to demonstrate deliverability up to their UCAP levels for the purposes of the capacity auction. But the RTO is now proposing to require ICAP-level performance across the board beginning with the 2020/21 auction.

MISO is seeking stakeholder opinions and suggestions on the new deliverability requirement through the end of the month. The RTO said it may make changes to its Business Practices Manuals.

COMPP's Mark Volpe said he thought the changes might constitute a new "condition of service" that would require parallel changes to the Tariff as well as the BPMs.

MISO General Counsel Michael Kessler responded that the RTO's legal team would monitor the proposal to see if it requires a Tariff revision.

Seasonal Plans

MISO is meanwhile still making plans to adopt a seasonal component for its capacity auction but will hold the proposal until the 2021/22 planning year. (See *MISO Gives Tentative Nod to Seasonal Capacity Design*.) RTO staff are currently conducting analyses on introducing a seasonal construct. ■

MISO News

Senator Backs MISO Generator Replacement Proposal

By Amanda Durish Cook

A U.S. senator is urging FERC to support MISO's proposal to transfer interconnection rights for existing generators that have been retired, demolished or replaced with new generation.

Sen. Tina Smith (D-Minn.) filed comments with FERC early this month, urging the commission to consider that MISO's generator replacement proposal — currently pending before FERC — stands to benefit renewable generation and could nudge owners of high-emitting generators to make cleaner upgrades (*ER19-1065*).

In her comments to FERC, Smith said the plan could support the goals behind Minnesota's Next Generation Energy Act of 2007, which requires the state to reduce its 2050 greenhouse gas emissions to 80% below a 2005 baseline.

"For the electric sector, meeting that goal will require the replacement of high-emitting generators and a continued rapid expansion of low- and non-emitting generators," she said. "MISO's proposal will remove incentives for the owners of current high-emitting generators to put off upgrading to low- and no-emission generators by enabling replacement of legacy generating equipment in a manner that avoids significant additional costs."

Tina Smith | *Facebook*

"MISO's proposal will remove incentives for the owners of current high-emitting generators to put off upgrading to low- and no-emission generators by enabling replacement of legacy generating equipment in a manner that avoids significant additional costs."

– Sen. Tina Smith

Under MISO's proposal, interconnection customers wishing to replace their generation under the same interconnection agreement would send a request and a $60,000 study deposit to MISO. Over the following 180 days, MISO would conduct a generator replacement impact study similar to its existing material modification study, as well as a reliability assessment similar to its current reliability study for generation retirement.

Upon a finding of no adverse impact from the replacement, MISO would give the customer 30 days to decide to proceed with the replacement project. MISO would then have 90 days to conduct an interconnection facility study, if needed. After that, a replacement project proceeds to negotiation of a draft or amended generator interconnection agreement.

If MISO does find adverse impacts from the study, it would require the interconnection customer to "submit all necessary requirements for a new interconnection request" to begin the definitive planning phase anew. Adverse impacts include increases in thermal loading, a degradation in voltage, a degradation in stability performance and increases in short circuit contribution.

Smith said the proposal will benefit existing wind and solar generators, "ensuring they can continue to replace aging generating equipment with more efficient new equipment as technology improves, also without facing such additional upgrade costs."

The proposal "facilitates reuse of existing infrastructure, supports state environmental initiatives and helps keep customer costs low," Smith said, also noting the plant has the support of the American Wind Energy Association and the Clean Grid Alliance.

MISO plans to implement the replacement process by the third quarter of this year. The RTO said the proposal has widespread stakeholder support. ■

MISO News

MISO Requests Storage Compliance Delay into 2021

By Amanda Durish Cook

CARMEL, Ind. — MISO last week said it now plans to have a market participation model for energy storage resources in place by early 2021, having filed a request for delay of FERC's fourth-quarter compliance deadline.

Kevin Vannoy | © *RTO Insider*

Director of Market Design Kevin Vannoy confirmed the proposed *timeline* at a Market Subcommittee meeting Thursday.

MISO announced in April that it would seek at least another year to comply with FERC Order 841, saying the intricacy and expense of incorporating storage into its markets is greater than it originally expected. (See *More Time Needed for Storage Compliance, MISO Says*.) The RTO filed a request for an 18-month delay on May 1 in a 102-page filing that also responded to FERC's questions on MISO's initial proposal (*ER19-465*). (See *More Info Needed on MISO Storage Participation Plan*.) Vannoy said MISO's filing focused more on providing explanation about the proposal instead of altering it.

Vannoy said when considering the "70-odd" requirements in FERC's storage rule, some aspects of MISO's plan make sense to RTO staff, but not third parties reviewing the proposal.

MISO now seeks an order on the storage participation plan by July. The RTO was originally beholden to a Dec. 3 go-live date for compliance with the storage order.

In the filing, MISO said the "complexity and expense" of its storage participation plan would negatively affect its ongoing effort to replace its aging market platform.

Vannoy said not receiving a FERC order on its proposal by April further backlogged "an already stressed schedule," bogged down by the market platform replacement and a higher-than-expected cost to implement the storage plan with a third-party vendor.

MISO's recent filing defined the phrase "very small" electric storage resources as those under 1 MW, answering one of FERC's questions.

The RTO has requested limiting participation of very small storage resources to 50 in the first year of compliance and 150 in the second year. FERC's rule directed that all storage devices 100 kW and larger be allowed the opportunity to participate in RTO markets.

Vannoy said the limit on small storage devices is necessary to limit "administrative processes for the paperwork and modeling that can be somewhat burdensome."

MISO also clarified that market participants will be responsible for maintaining their state of charge and updated an attached agreement on distribution-connected storage to clarify that storage owners will have to make metering arrangements.

At last month's Informational Forum, CEO John Bear said MISO staff are currently studying energy storage case studies, including the *Hornsdale Power Reserve* in Australia, to determine how storage will fit into long-term planning.

Vannoy promised to return to the Market Subcommittee this summer to update stakeholders. ■

MISO to Address Communications System Shortcomings

CARMEL, Ind. — MISO is seeking to improve how owners of load-modifying resources interact with a key communications system that some market participants think hampered the RTO's response to a grid emergency this past winter.

Stakeholders have criticized the nonpublic MISO Communications System (MCS) webpage — where LMR owners update their availability — as being difficult to navigate, with some suggesting it hinders clear communication during grid emergencies. The RTO is in the process of upgrading the system to a more updated format.

Speaking at a Resource Adequacy Subcommittee meeting Wednesday, Customized Energy Solutions' Ted Kuhn said the MCS may have contributed to confusion during the Jan. 30 maximum generation event, for which the RTO issued about $2 million in penalties for LMR underperformance. (See "MISO: $2 Million in Penalties for Jan. 30 LMR Underperformance," *MISO Reliability Subcommittee Briefs: May 2, 2019*.)

"There was a lot of misunderstanding about what was going on. There were people that were getting, in my opinion, poor information from the MCS. … Things are not set up the way they should be," Kuhn said.

In April, Consumers Energy's Jeff Beattie asked if MISO had considered that it was working on improvements to the MCS at the time of the January emergency before it issued penalties. Beattie said some market participants may have misconstrued the timing of the request for LMRs as being across peak hours instead of just during the emergency.

MISO control room | *MISO*

MISO Director of Resource Adequacy Coordination Laura Rauch said the RTO has reached out to LMR owners to talk about how to improve communication protocols. MISO is also creating additional training classes for owners of LMRs.

The RTO foresees a 70% chance of calling on LMRs this summer. (See *MISO Foresees Summer Emergency, LMR Use*.)

— Amanda Durish Cook

NYISO News

Panelists (Mostly) Bullish on New York's 'Green New Deal'

By Michael Kuser

ALBANY, N.Y. — The U.S. is moving toward a low-carbon economy, and it can also achieve significant carbon reductions at an acceptable cost while the power industry addresses day-to-day reliability issues.

So said most economists, consultants and environmental advocates Wednesday sitting on a panel to discuss New York's "Green New Deal" and decarbonization of the electric sector at the 33rd annual Spring Conference of the Independent Power Producers of New York (IPPNY).

New York's Green New Deal refers to Gov. Andrew Cuomo's January proposal to require that the state's electricity generation be 100% carbon-free by 2040, and to increase the state's Clean Energy Standard mandate from 50% to 70% by 2030. (See *New York Boosts Zero-carbon, Renewable Goals*.)


Lisa Dix | © *RTO Insider*

"We can make a difference; we can get to 100% carbon neutral New York by 2040. It's necessary, it's inevitable and it's urgent," said Lisa Dix, senior New York campaign manager for the Sierra Club.

Dix *said* the state is down to 1 million MWh of power produced by coal annually (from about 20 million MWh 10 years ago) and noted new CO_2 emission *regulations* — announced the following day by Cuomo — that will phase out coal generation by next year.

"We have the bones and structure of a New York transition policy. That is a glide path for communities and workers in transition away from coal," Dix said.

Natural gas is also in decline, she said, citing Sierra Club tracking of proposed new natural gas-fired plants since 2017.

"There are so far since that time three gas plants — new gas plants, combined cycle plants — that have been terminated," Dix said, saying there's approximately 1.8 GW in planning.

She noted "huge opposition here in New York" to new gas infrastructure and called for phasing out existing gas-fired power plants. It's "not like we're going to phase out gas tomorrow, for I think the coal story tells a similar situation in which we need to think about how to phase gas out between now and 2030."


Arne Olson | © *RTO Insider*

Arne Olson, senior partner with consultancy Energy+Environmental Economics (E3), said "the day-to-day, hour-to-hour and minute-to-minute reliability issues can be addressed with the help of making renewables dispatchable and adding technologies like energy storage. We don't think that will be a barrier to achieving deep penetration of variable renewable energy resources."

Olson said that rather than the slogan "it takes a village," a more suitable phrase describing the value of flexible dispatch is "it takes a portfolio."

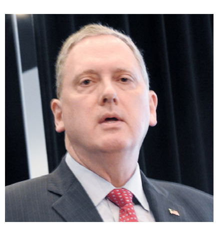
Some form of firm capacity will be needed to ensure reliable electric service on a year-round basis, Olson said, but achieving that last 10% of carbon reduction is tough: "You really have to be careful what that cost curve looks like."

At What Cost?

In 2013, Olson drafted the landmark report "*Investigating a Higher Renewables Portfolio Standard for California*," written for the five largest utilities in the state to outline the challenges in achieving a 50% renewable grid by 2030.

Olson said another E3 *study* showed that an 80% reduction of carbon emissions from 1990 levels was achievable in the Pacific Northwest at an incremental annual cost of $1 billion per year by 2050, translating into about a 6% increase in average electricity rates across the region.

"To me this is an acceptable increase in electric rates to achieve the goal of reducing carbon emissions and helping us solve this global problem," Olson said.


Chuck DeVore | © *RTO Insider*

Chuck DeVore, vice president of national initiatives at the conservative Texas Public Policy Foundation, said that opinion polls show people are concerned about climate change, "but when you start assigning a cost to it that they're willing to pay, the concern very rapidly evaporates."

"Policies that end up destroying the value of existing capital are going to be very counterproductive in the long run and will be politically unsustainable," DeVore said.


Howard Fromer | © *RTO Insider*

Howard Fromer, director of market policy for PSEG Power New York and a former IPPNY chairman, asked the panel to opine on NYISO's effort to price the social cost of carbon into electricity prices.

"There are myriad practical difficulties in implementing a carbon price in a sub-geography, in a single state that operates in a larger national economy and in a larger global economy, within a single electrical system that operates with the context of a multistate interconnection," Olson said.

DeVore said the social cost of carbon was a "malleable number," and that U.N. studies suggest that gasoline would have to be priced at about $50/gallon in a decade to prevent another 1.5-degree Celsius rise in global temperature by 2100.

Fromer said that after two years of New York working on carbon pricing, "I think we've solved the leakage issue in terms of not allowing external resources to capture the benefit of coming to New York with less expensive, but higher-emitting resources."

"I'm kind of shocked to hear you say you believe you've solved the leakage problem when the U.S. Census Bureau says New York has been losing a net of tens of thousands of people every year, with Texas being one of the states they're moving to," DeVore said.

"When you look at Gov. Cuomo himself talking about a $2.3 billion deficit as the result of high-end wage earners leaving the state for greener pastures, you can't keep doing that and hold on to your share of the GDP of the U.S.," Devore said.

New York has the highest electric rates in the continental U.S. outside of California and New England, Devore said, and is now ranked fourth behind Florida in terms of population — and will likely be losing members of Congress in the upcoming census in 2020. ■

NYISO News

NY DEC Kicks off Peaker Emissions Limits Hearings

By Michael Kuser

ALBANY, N.Y. — Two environmental advocates from the Sierra Club were the only commenters May 6 at the first public hearing on New York's proposed restrictions on NOx emissions from peaking power plants.

Administrative Law Judge Molly T. McBride was accepting comments and statements for the state's Department of Environmental Conservation at the first of three hearings planned this month on proposed revisions to the agency's Clean Air Act regulations.

Ona Papageorgiou | *© RTO Insider*

Ona Papageorgiou, an engineer with the DEC Division of Air Resources, said the addition of Subpart *227-3* to Title 6 of the official compilation of state codes and regulations is meant to lower allowable NOx emissions from simple cycle and regenerative combustion turbines (SCCTs) during the ozone season.

The new regulations are proposed to go into effect May 1, 2023, with "initial rate limits of 100 parts per million on a dry volume basis, corrected to 15% oxygen," Papageorgiou said. Generator compliance plans will be due March 2, 2020.

The DEC plans to submit the regulatory text to EPA as a revision to the state's Clean Air Act implementation plan. It worked with NYISO, the New York State Energy Research and Development Authority and the state's Department of Public Service on the proposal, which would apply to resources with a nameplate capacity of 15 MW or greater that bid into NYISO's wholesale energy markets.

Many New York SCCTs have high NOx emission rates, are inefficient and are approaching 50 years of age. It is difficult to install after-market controls on most of these units because of their age and site limitations, DEC said in a regulatory ***impact summary***.

EPA designated the New York metropolitan area (NYMA) as a "marginal" nonattainment area for the 2008 eight-hour ozone National Ambient Air Quality Standard but last year proposed to reclassify the area to "serious" nonattainment.

An 'F' for Air Quality

Roger Downs | *© RTO Insider*

"We would like to take this opportunity to applaud the effort and hope it will lead to the closure of many of these aging, inefficient and polluting electric energy generating facilities," Roger Downs, conservation director of Sierra Club Atlantic Chapter, said at the hearing.

Because the units run to meet electrical loads during periods of peak electricity demand, their operations tend to correspond with hot summer days and associated high ozone levels when heavy use of air conditioning strains the capacity of the grid, Downs said.

"The resulting air quality degradation and increased NOx profoundly affects the health of those living near these peaking plants, exacerbating the asthma, heart attacks and other respiratory ailments that contribute to tens of thousands of hospital visits annually and dozens of deaths in New York's nonattainment regions," he said.

DEC assessed 99 high ozone days between 2011 and 2017 and said if the older sources were replaced with newer sources, total NOx emissions from those older sources on those days would drop from the reported 1,849 tons to between 40 and 60 tons, depending on efficiency.

The resulting 1,800-ton decline in emissions over those days — an average reduction of 18 tons per ozone season day — would represent a more than 10% reduction in metro area NOx emissions from electricity generators and an overall 3.5% reduction from all sources, the agency said. Analysis showed that, on high ozone days, newer SCCTs produced 64% of the electricity generated from SCCTs while emitting only 4% of NOx emissions from these sources.

Gail Pisha | *© RTO Insider*

Gail Pisha, representing the Sierra Club's Lower Hudson Group, said EPA designates Rockland and Westchester counties as nonattainment areas for ozone, and the American Lung Association rates Rockland, Westchester and Hudson counties' air quality with an "F" for ozone pollution.

Alliance Energy Group's 55-MW Hillburn Power Plant in Hillburn, NY, is a two-on-one simple cycle twin pack plant burning kerosene and natural gas, and is in the process of being permitted to burn biodiesel. | *Alliance Energy*

The Sierra Club also "anticipates that this new regulation will facilitate better water management, as many of the ageing peaking plants also use egregious amounts of water for cooling," Downs said. "The billions of gallons of water a day required to cool Ravenswood and Astoria Generating and other facilities drawing from New York waters also contain hundreds of millions of larval fish in eggs that are entrained and entrapped in the industrial intake structures."

Downs said it is also important to ensure the closed plants' generating capacity be replaced by renewable energy, and to that end the Sierra Club remains uncomfortable with some language in the regulations that could allow for more lenient air quality rules if the peaking facility accommodates onsite energy storage.

"Energy storage serviced by the same dirty fuel sources significantly undermines the overall climate and air quality goals of this regulation," Downs said.

DEC held its second hearing Monday at the State University of New York at Stony Brook and a third hearing today at 11 a.m. at the state Department of Transportation in Long Island City.

Requests for information and comments related to the SIP revision may be obtained from Robert D. Bielawa, DEC Division of Air Resources, at 518-402-8396 or air.regs@dec.ny.gov. Written statements may be submitted until May 20. ■

Overheard at IPPNY Spring Conference 2019

City vs. State

ALBANY, N.Y. — With Democrats now in control of both chambers of the state legislature, New York power producers might reasonably expect faster legislative support for Gov. Andrew Cuomo's goals of 70% renewable energy by 2030 and a carbon-neutral grid by 2040.

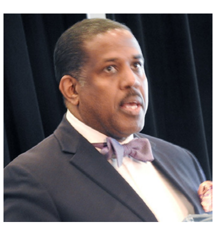

John Reese | © *RTO Insider*

But uncertainty still looms around those efforts, according to John Reese, senior vice president of Eastern Generation and chairman of the Independent Power Producers of New York (IPPNY).

"With all the changes going on, it's hard to assess whether we're going down the right path or a blind alley," Reese said Wednesday at IPPNY's 33rd annual Spring Conference.

A New York City resident, Reese cited a recent move by the mayor and City Council to improve energy efficiency in buildings and to *revive* the Champlain Hudson Power Express *project* to bring 1,000 MW of Canadian hydropower to Manhattan.

"IPPNY has been a long opponent to that project, particularly when it comes to the issue of carbon," Reese said. "If you're moving existing resources from one place to another, you're not saving any carbon; you're playing a shell game. ... Certainly the preference would be to have new New York resources that contribute to the tax base, that contribute to jobs."


Kevin Parker | © *RTO Insider*

The Climate Mobilization Act passed by the City Council on April 18 includes a definition of renewable energy credits that conflicts with the state's Clean Energy Standard regarding the role of hydroelectric resources, said State Sen. Kevin Parker (D), chair of the Energy and Telecommunications Committee.

"The city's language would allow certain large-scale hydro resources, which currently are not eligible [for RECs] under CES due to their evolving empowerments, that are not sources of methane emissions, to be eligible for the city's program, hence the conflict," Parker said.


IPPNY held its 33rd annual Spring Conference in Albany on May 7-8. | © *RTO Insider*

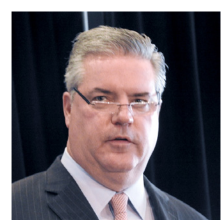
"The conflicting RECs mean that the city's end consumers and taxpayers would need to pay twice, once for the city's REC and then again for the state's REC [for other resources], and that Con Ed would be required to buy under the CES ... which would require extra payment for Con Ed to secure eligible RECs," Parker said.

The city's program to import non-CES-eligible Canadian hydro also sends a negative signal to renewable energy investment in the state, especially for offshore wind, he said.

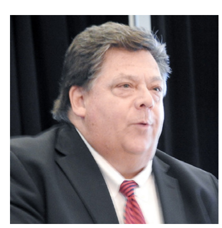

Michael Cusick | © *RTO Insider*

State Assemblymember Michael Cusick (D), chair of the Energy Committee, said he and Parker co-sponsored legislation that would require a feasibility study on achieving the state's clean energy goals, "to support the incredible growth in offshore wind, energy storage and other resources."

"The bill passed out of our committee, and I've spoken with people on getting that language in whatever package we have at the end of the session," Cusick said, adding that he would also be pushing legislation on grid security, particularly cybersecurity.


Gavin Donohue | © *RTO Insider*

IPPNY CEO Gavin Donohue thanked both lawmakers for "leading the charge" in dealing with the New York Power Authority in the competitive marketplace and legislating public procurement procedures through "a combination of practicality and reasonableness."


Robert Fernandez | © *RTO Insider*

NYISO Interim CEO Robert Fernandez touched on the same subject when he said, "The focus today is on buyer-side mitigation.

"At the beginning [of NYISO markets 20 years ago], many people were concerned about suppliers setting artificially high energy prices and improper wealth transfers," Fernandez said. "Instead, today we

NYISO News

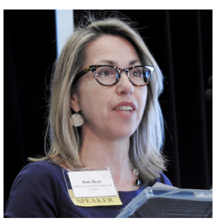
grapple with uneconomic entry, subsidies and price suppression in the capacity market.

"We have mandatory buyer-side mitigation rules, we apply them, and it's the economics of a particular project that will determine whether that will be subject to an offer floor or not," he said. "That's all that's going to determine that. There are no outside influences telling us how to move the meter on buyer-side mitigation testing."

Carbon Pricing and Technology

Fernandez also referred to NYISO's work on pricing carbon into its wholesale energy markets, which has relied heavily on assistance from consulting firm Analysis Group.

"I'm hopeful that with [Analysis Group senior adviser] Sue Tierney's help we can get the state on board and get this concept down to FERC for approval," Fernandez said. "I believe that the chair of our Public Service Commission is genuinely receptive to it and is just asking us to demonstrate better the benefits of carbon pricing over the existing [zero-emission credit] and REC programs." (See *More Details Divulged on New NYISO Carbon Pricing Study*.)



Dale Bryk | © *RTO Insider*

Dale Bryk, the governor's deputy secretary for energy and environment, highlighted energy efficiency as a "huge economic engine" employing thousands of electricians and contractors throughout the state.

Cuomo in January proposed increasing the state's renewable portfolio standard from 50% to 70% by 2030, nearly quadrupling its offshore wind energy goal to 9 GW by 2035, doubling distributed solar generation to 6 GW by 2025 and deploying 3 GW of energy storage by 2030. (See *New York Boosts Zero-carbon, Renewable Goals*.)

Bryk dismissed the idea of the state using carbon offsets as an alternative to reducing pollution as "some kind of get-out-of-jail free card."

"If you look at the experience in New York with Regional Greenhouse Gas Initiative offsets or components, they were never used," Bryk said. "The way the program was designed, that really never made sense.

"If we're talking about decarbonizing every sector, there really isn't any place to get offsets, so the framing is different, but the concept of carbon neutrality and that flexibility is absolutely critical," he said. "It's not always linear, it's not always numeric ... we're all-in for performance metrics, but we want to develop them in a professional way."

Mark Younger | © *RTO Insider*

Mark Younger of Hudson Energy Economics said Bryk had neglected to address carbon pricing. "I don't see how you can do an efficient change without internalizing the externalities ... which all the literature shows lets you put the solar resources in an area where they knock out carbon rather than just happen to get subsidies from the state. So how do you do this without putting a price [on carbon], not just in the electric sector, but in all the sectors?"

"We have carbon pricing with RGGI, but I think of it as a cap on pollution that's going down over time," Bryk replied. "You sell pollution permits, that's your price. The driver is the cap. We want people to have a price signal and see the long-term price signal and declining cap. What I care about is pollution going down ... so you don't only have a price, you don't lead with price. We want to have both the price signal, the cap, and energy efficiency policies, because it's not all about price."

Jacob Worenklein | © *RTO Insider*

Jacob Worenklein, chairman of Ravenswood Power Holdings, which owns the largest power plant in New York City, said the great challenge is technology, "because we can in fact reduce carbon to zero right now, but nobody would do so ... because the cost would be so huge."

"When will we get the technology and when can we expect to begin to test technology that will enable us to do exactly what we're talking about, say, by the 2035 or so time frame?" he asked.

Bryk likened the idea of encouraging new technologies to that of being "proactive with" workforce development — "and not just assume that that's going to happen because the investment is there."

"Just because you have policies ... even with the price signal, that doesn't bring you all of the technological innovation that we may need," Bryk said. "What can the state be doing to help drive that R&D work and the commercialization demo projects?"

— Michael Kuser

PJM News

PJM Advocates: Slow Down on Market Reforms, Except FTRs

By Christen Smith

CAMBRIDGE, Md. — Most of PJM's recent market rule changes — including those still pending before FERC — came and went too quickly for the liking of advocate groups, though their desire for deceleration stops at an overhaul of financial transmission rights.

"Getting oversight is critical," said Ruth Ann Price, Delaware Deputy Public Advocate, during the Public Interest & Environmental Organizations User Group's meeting with the RTO last week. "PJM must decide with some urgency whether it wants to create a department internally [to oversee] FTRs or have this function go outside to a third party."

Restructuring FTR rules remains a paramount stakeholder task after an independent probe identified the shortcomings in PJM's market design and internal culture that allowed a small trading shop, GreenHat Energy, to amass the largest portfolio of FTRs in PJM history without the collateral to back it up. (See *Report: 'Naive' PJM Underestimated GreenHat Risks*.) The 890 million MWh default could wind up costing PJM more than $430 million, former CFO Suzanne Daugherty told stakeholders in January. (See *PJM: FERC Order Could Boost GreenHat Default by $300M*.)

"This is something that is totally out of the realm of consumers, but yet and still, they will pay the burden of this debacle," Price said. "For PJM to continue this market, there need to be cultural changes in PJM that understand the oversight necessary."

Price emphasized the need to fill Daughtery's vacant CFO position and find a qualified chief risk officer — as recommended in the GreenHat report — sooner rather than later, preferably before the August capacity auction. She also encouraged PJM to expand the Independent Market Monitor's authority to include regulation and monitoring of FTRs.

CEO Andy Ott said during his keynote address at PJM's Annual Meeting last week that he continues working hard to implement staffing changes as quickly as possible, though finding qualified candidates to manage the RTO's FTR market rule changes takes time.

Transmission Wave

The Consumer Advocates of PJM States advised the RTO to "follow the money" as it navigates transmission planning and the anticipated wave of new projects in the coming decades.

"We appreciate the commitment to ensuring competition on the market side," said Mike Gahimer of the Indiana Office of Utility Consumer Counselor. "We'd like for that same focus to occur on the transmission side."

Advocates agree that while PJM lacks jurisdiction over supplemental projects — those proposed by transmission owners and identified as not necessary for reliability, operational performance or economic criteria — the growing share of such projects also lacks federal and state oversight.

The transparency of PJM transmission planning has long been a topic of debate among stakeholders, with several expressing concern that the ballooning share of supplementals — $5.7 billion in 2018, according to CAPS — may displace the priority of baseline projects, which only totaled just over $2 billion that same year. PJM is currently in the midst of a special Planning Committee process to revise existing manual language that details the intersection of these projects. (See "RTEP Removal Language Vote Deferred, Again," *PJM MRC/MC Briefs: April 25, 2019*.)

"What PJM is saying is, 'Trust us we got this,'" Gahimer said. "I'm more of a trust-then-verify guy, and I don't think PJM has got this."

PJM Should Prioritize Costs, Too

Advocates want PJM to care about project costs as much as they do, said Erik Heinle of the D.C. Office of the People's Counsel.

"PJM has an obligation to be honest and transparent about the potential costs of any initiative at the beginning and throughout the stakeholder process," he said, noting that inaccurate modeling and a failure to recognize the interplay of markets often leaves consumers paying twice.

The rushing to file market changes — including proposals for fuel cost policy, distributed energy resources, storage and black start resources — leaves some stakeholder groups unable to analyze the true impact of the proposals and provide valuable feedback.

"Adequate stakeholder review is not just a courtesy, but ensures the impacts of changes are fully vetted and lessens the chances of design flaws," he said.

The advocates proposed the formation of a Strategic Planning Committee to meet four or six times a year to better inform the transmission planning process and ensure that costs and market impacts are fully understood. ■

The annual meeting between PJM and the Public Interest & Environmental Organizations User Group | © *RTO Insider*

PJM Members Committee Briefs

PJM's Members Committee convened at the Hyatt Regency Chesapeake Bay Golf Resort, Spa & Marina in Cambridge, Md. | © *RTO Insider*

CAMBRIDGE, Md. — PJM stakeholders gathered for a special Members Committee meeting last week at the Hyatt Regency Chesapeake Bay Golf, Resort & Marina as part of the RTO's Annual Meeting.

After 'Challenging' 2018, PJM Looks Ahead

Andy Ott | © *RTO Insider*

After a "challenging" and "humbling" 2018, PJM CEO Andy Ott said the RTO will better lead stakeholders in 2019 as it works to adapt the grid to emerging state policies and renewable technology.

"It's not enough anymore to just have reliability at the least cost and have open, competitive markets," he said during his keynote address May 7. "We need to listen to that as an entity. But it's not just PJM alone. It's all of us. We're all in it together."

While he admitted the ongoing fallout from the GreenHat Energy default looms large, Ott said PJM is working hard to implement staffing and procedural changes that were recommended as part of an independent probe into the situation. (See *Report: 'Naive' PJM Underestimated GreenHat Risks*.)

He also said PJM will keep an "open mind" as it works to incorporate energy storage and possible carbon pricing into its markets in the coming years and requested clear direction from stakeholders and federal regulators on those issues.

Nothing 'Magical' About RPM

Stu Bresler, PJM's senior vice president of markets and operations, said stakeholders might want to reconsider what market mechanism best accommodates growing generation subsidies as states continue enacting policies to reduce carbon emissions.

"Markets have worked, but we recognize there's nothing magical about the Reliability Pricing Model," he said. "It's one option as far as resource adequacy is concerned. At some point, maybe we ought to talk about whether there are other alternatives we should look at that could better incorporate the policy goals out there that aren't necessarily RPM as we know it today."

The comments came during PJM's "Year in Review Panel," in which leaders from each department discussed the challenges and successes experienced throughout 2018.

"Well, there's no shortage of challenges," said Joe Bowring, PJM's Independent Market Monitor, citing continued regulatory uncertainty that is beginning to affect investments in the grid. "The challenges are simple to say, very difficult to do. How do we maintain competitive markets?"

But it wasn't all doom and gloom from the Monitor, who also praised the implementation of hourly offers and five-minute settlements for setting better price signals, especially with gas-fired generation.

Steve Herling, PJM vice president of planning, noted that increasing stakeholder transparency remains a top priority for staff. "It's critical that stakeholders understand the assumptions, the analyses and the decision-making process," he said. "We've done a lot over the past couple of years to enhance transparency, but we understand there is a lot more that needs to be done."

Likewise, PJM's Vice President of Operations Mike Bryson said that addressing fuel security issues should continue to be top-of-mind for stakeholders. "Each year we get surprised by a different aspect of the evolving fuel mix," he said.

FTR Forfeiture Calculation Change Endorsed

Members endorsed calculation changes for financial transmission rights forfeiture to be incorporated in the Operating Agreement.

PJM and the Monitor agreed the current forfeiture rules should be adjusted because they do not distinguish between on- and off-peak FTRs. (See "First Read on Change to FTR Forfeiture Calculation," *PJM MIC Briefs: March 6, 2019*.)

FTR forfeitures are intended to discourage traders from cross-market manipulation. Holders subject to forfeiture are credited for the hourly cost of the FTR. Under current rules, a $1,500 off-peak FTR for June 2018 would be credited an hourly cost of $2.08, equivalent to $1,500 divided by 720 hours (30 days x 24 hours). Under the endorsed change, the FTR cost would be divided by only 384 off-peak hours, increasing the credit to $3.91.

Incumbent Board Members Re-elected

Three incumbent members of the Board of Managers won re-election bids: Terry Blackwell, O.H. Dean Oskvig and Mark Takahashi will each serve another three-year term. ■

— Christen Smith

PJM News

PJM Carbon Pricing Challenges Surmountable, Panel Says

By Christen Smith

Mike Borgatti, of Gabel Associates, moderates a panel discussing carbon pricing possibilities in PJM. | © *RTO Insider*

CAMBRIDGE, Md. — As PJM considers how to best manage future carbon policies, energy industry experts say the unique challenges the RTO faces can be mitigated with strong coordination between policymakers, stakeholders and grid staff.

"You're not the only ones looking at this," Dirk Forrister, CEO of the International Emissions Trading Association, said during the General Session of PJM's Annual Meeting, at the Hyatt Regency Chesapeake Bay Golf Resort, Spa & Marina, on Wednesday. "It is material, and it seems to be an issue, in terms of public sentiment, that's coming up more and more."

Forrister, who once served as chairman of the White House Climate Change Task Force under President Bill Clinton, said the U.S. remains an "outlier" internationally as other countries embrace carbon pricing, with varied levels of success.

"Come on in, the water's fine," he said. "To get to the levels of climate protection that governments want, it implies a level of reduction that we haven't seen before."

PJM isn't the first RTO to tackle carbon pricing, but its challenge of balancing the markets between participating and nonparticipating states proves unique compared with NYISO and CAISO.

In New York, NYISO is close to voting on a set of rules to price carbon that would include border charges for imported power and credits for exported power — just one way PJM could handle flows among its 13 states and D.C. (See *More Details Divulged on NYISO Carbon Pricing Study*.)

In CAISO, where power also flows to and from regions without carbon-reduction goals, operators prioritize curbing emissions over importing energy from the cheapest resources. It's a focus that Ben Grumbles, Maryland's secretary of the environment, encourages PJM to take as it examines how pricing could work across the grid.

Ben Grumbles | © *RTO Insider*

"A carbon-constrained energy sector is absolutely the future," he said. "Never lose sight of the fact that the goal should be to reduce emissions."

Maryland and Delaware both participate in the Regional Greenhouse Gas Initiative, a coalition of Northeast and Mid-Atlantic states committed to capping carbon emissions from the power sector. Emissions have been cut in half since 2014, and more than $3 billion have been reinvested into cleaner energy and ratepayer reductions, Grumbles said.

"In RGGI, the key is to have the environment secretary for the governor and the energy regulators together so we can we find common ground," he said. "It takes time." He also emphasized the importance of preserving state sovereignty and protecting consumers from "windfall profits."

Anthony Giacomoni, senior market strategist for PJM, said an ongoing internal study is quantifying the market impacts of a systemwide carbon price, versus a regional or sub-regional system.

"We want to enable state policies while preserving economic and competitive dispatch," he said, noting that minimizing "carbon leakage" remains a top priority. "High prices will have very high leakage and, as a result, prevent states from reaching carbon-reduction goals."

Staff are also considering one-way and two-way border adjustments as other tactics to minimize the impact on nonparticipating states and maintain a level playing field for dispatching generation. While not an "exhaustive" study of all the ways PJM could accommodate carbon pricing, Giacomoni said the RTO hopes it will better inform policymakers and stakeholders of the market impacts.

He said staff will provide an update on study results at the May 15 Market Implementation Committee meeting, with a plan to release the full analysis later this summer. ■

PJM's General Session convenes on May 8. | © *RTO Insider*

PJM News

Exelon to Close Three Mile Island

By Michael Brooks

Exelon on Wednesday announced it will permanently shut down the nearly 45-year-old Three Mile Island nuclear plant in Londonderry Township, Pa., by Sept. 30.

The company is making good on its May 2017 promise to close the plant absent the Pennsylvania General Assembly providing it subsidies before June 1 of this year, the deadline for purchasing its fuel. Each house of the legislature has been considering its own bill supporting nuclear generation, but the Senate has adjourned until June 3, and the House of Representatives will only meet three more times before the end of the month.

"Although we see strong support in Harrisburg and throughout Pennsylvania to reduce carbon emissions and maintain the environmental and economic benefits provided by nuclear energy, we don't see a path forward for policy changes before the June 1 fuel purchasing deadline for TMI," Kathleen Barron, Exelon senior vice president, government and regulatory affairs and public policy, said in a *statement*.

"While TMI will close in September as planned, the state has eight other zero-carbon nuclear units that provide around-the-clock clean energy, avoiding millions of tons of carbon emissions every year. We will continue to work with the legislature and all stakeholders to enact policies that will secure a clean energy future for all Pennsylvanians," she said.

But at least one state legislator last week predicted the plant would close regardless of what the General Assembly did. (See *Pa. Lawmaker Contends TMI Rescue Unlikely*.) The bills being considered would create a third tier in the state's Alternative Energy Portfolio Standard program, from which suppliers must buy an additional 50% of their power by 2021.

"Today is a difficult day for our employees, who were hopeful that state policymakers would support valuing carbon-free nuclear energy the same way they value other forms of clean energy in time to save TMI from a premature closure," said Bryan Hanson, Exelon senior vice president and chief nuclear officer. "I want to thank the hundreds of men and women who will continue to safely operate TMI through September."

Nuclear Energy Institute CEO Maria Korsnick *blamed* the plant's closure on "a flawed and distorted energy market that fails to value the attributes of nuclear power."

"The shutdown will lead to the loss of hundreds of Pennsylvania jobs, more than $1 million in taxes annually to the community and more than 7 million MWh of carbon-free energy," she said. "It's in our nation's best interest for lawmakers both in state capitals and Washington to push for market solutions and polices that value all clean energy sources, or face the economic and environmental consequences for generations to come."

The plant is home to two reactors. Exelon has owned Unit 1 since 2000, when the company formed through the merger of Unicom and PECO Energy, the latter of which owned a 50% stake in the unit. The company purchased the other half in 2003 and began *operating* the plant directly in 2009. The same year, the unit was granted a license extension by the Nuclear Regulatory Commission to April 19, 2034.

Unit 1 was shut down for six years after the partial meltdown of Unit 2 in 1979, the worst commercial nuclear power plant accident in U.S. history. In 1985, over fierce opposition from nearby residents and anti-nuclear activists, NRC *voted* 4-1 to restart operations.

Exelon plans to begin transitioning staff within six months of the plant's shutdown, winding down in three phases to 50 full-time employees by 2022. The company will begin to dismantle the plant in 2074. ■

Exelon's Three Mile Island

Energy Market Competitive in Q1, PJM Monitor Says

By Christen Smith

Reduced uplift, plunging energy prices and shrinking net revenues punctuated a competitive first quarter in PJM's energy market, the Independent Market Monitor said Thursday.

Load-weighted, average real-time LMPs declined 39% over the first three months of 2019, averaging $30.16/MWh. The Monitor's *analysis* concludes that lower fuel costs explained 40% of the $19.29/MWh drop, while attributing the rest to decreased load, adjusted dispatch and smaller markups. Units operating near short-run marginal cost set the price in most instances, the Monitor said.

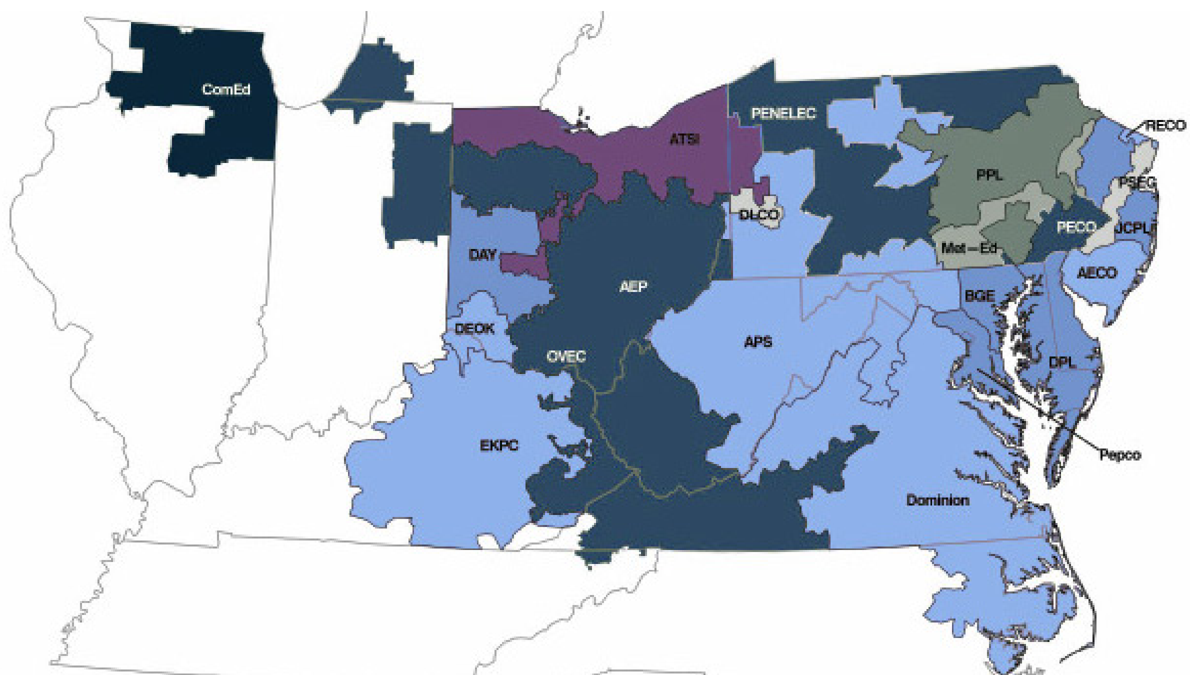
Both energy uplift charges and congestion costs tanked by more than 75%, while net revenues for all new units declined by double digits, including 65% for combustion turbine, 42% for combined cycle, 85% for coal plants, 37% for nuclear and 93% for diesel. Renewables likewise saw declines of 40% in onshore wind, 36% in offshore wind and 22% for solar. The Monitor said net revenue represents a "key" measure of market performance and investor incentive to support more generation.

"Energy net revenues are significantly affected by energy prices and fuel prices," the Monitor said. "Energy prices were lower in the first three months of 2019 than in the first three months of 2018 as a result of lower gas prices in the east. Coal prices were slightly higher."

The analysis determined local market structure was not competitive, however, because of "highly concentrated ownership of supply" that led to a failure of the three-pivotal-supplier test.

The Monitor recommended PJM include end-of-life projects in the FERC Order 1000 competitive process in order to boost market performance. He also encouraged PJM to reject temporary commitment exceptions for generators based on unenforced pipeline tariff terms that include "inferior transportation service procured by the generator."

"The MMU observed instances when generators submit temporary parameter exceptions based on claimed pipeline constraints even though these constraints are based on the nature of the transportation service that the generator procured from the pipeline," the Monitor wrote. "In some instances, generators requested temporary exceptions based on ratable take requirements stated in pipeline tariffs, even though the requirement is not enforced by the pipelines on a routine basis. If a unit were to be dispatched uneconomically using the inflexible parameters, the unit would receive make-whole payments based on these temporary exceptions." ■



Zone	Net Gen Minus Load (GWh)	Zone	Net Gen Minus Load (GWh)	Zone	Net Gen Minus Load (GWh)	Zone	Net Gen Minus Load (GWh)
AECO	(1,020)	DAY	(4,367)	JCPL	(2,960)	PPL	5,412
AEP	6,770	DEOK	(1,135)	Met-Ed	2,088	PSEG	1,116
APS	(1,206)	Dominion	(1,055)	OVEC	3,072	RECO	(327)
ATSI	(7,382)	DPL	(3,728)	PECO	7,324		
BGE	(3,931)	DLCO	1,000	PENELEC	7,273		
ComEd	10,466	EKPC	(1,717)	Pepco	(4,795)		

Map of net real-time generation by zone: January through March 2019 | *Monitoring Analytics*

PJM News

FERC Orders Indemnification Provision for PJM Tariff

By Amanda Durish Cook

| © RTO Insider

FERC last week ordered PJM to revise its Tariff to comply with interconnection procedures that the commission established more than 15 years ago.

The May 10 order was a partial victory for American Electric Power Service Corp. (AEPSC), which in November filed a complaint against PJM on behalf of its transmission owners, arguing the RTO had failed to include an option-to-build indemnification provision in its Tariff, counter to long-established FERC policy (*EL19-18*).

AEPSC's argument rested on FERC Order 2003, which established procedures and agreements for interconnection of new and expanded large generators, including a pro forma large generator interconnection agreement (LGIA) with transmission providers.

The order also set out an option-to-build provision that allowed interconnection customers to build interconnection facilities and stand-alone network upgrades "if the transmission provider notified the interconnection customer that it could not meet the in-service dates established by the interconnection customer." After multiple TOs raised concern about possible reliability issues that could arise from customers upgrades, FERC added an indemnification provision to the wording of the pro forma.

In Order 845 issued last year, FERC determined that interconnection customers could build interconnection facilities "regardless of whether the transmission provider can meet the interconnection customer's proposed in-service dates." The commission this year clarified that the change doesn't affect an LGIA's indemnification and consequential damages provisions. (See *'Boring Good' Rulemaking Seeks to Clean up Order 845*.)

In its complaint, AEPSC argued that PJM's pro forma interconnection service agreement (ISA) and interconnection construction service agreement (ICSA) are unjust and unreasonable because neither included an indemnification provision "established in Order No. 2003 and clarified in Order No. 845."

The RTO crafted the ISA and ICSA in 2002, after FERC's Notice of Proposed Rulemaking on Order 2003, but before the commission issued the final rule that included the indemnification provision.

"In 2004, when PJM submitted its Order No. 2003 compliance filing, PJM failed to amend any option-to-build provisions, leaving the indemnification provision out of the PJM Tariff," AEPSC explained to FERC.

The company contended that the indemnification provision is "one of the safeguards the commission included in the pro forma LGIA to address concerns that interconnection customers' exercising the option to build could adversely affect transmission system safety and reliability."

No Delay in Relief

In its response to the complaint, PJM contended that it already plans to add an "indemnification paragraph" to its *pro forma* ICSA as part of its upcoming Order 845 compliance filing.

Ordering modifications to the pro forma ISA and ICSA would be premature, PJM said, and would serve to undermine its stakeholder process.

"Because Order No. 845 addresses some of the same issues as the complaint, action on the complaint while PJM's Order No. 845 compliance filing is pending is an inefficient use of regulatory resources," the RTO said.

Guernsey Power Station agreed with PJM, saying the complaint is an attempt to "unilaterally rewrite the PJM Tariff without following the stakeholder process, imposing revisions that erect barriers to generator interconnection."

PJM also argued that any deviations from Order 2003 in the pro forma ISA and ICSA "reflect an independent entity variation, vetted through stakeholder processes and accepted by the commission." The RTO also argued that its current rules give TOs "sufficient protection."

However, East Kentucky Power Cooperative, Duke Energy, FirstEnergy and PPL intervened in support of the complaint, arguing that TOs should expect equal treatment both inside and outside of PJM with respect to the indemnification protections.

FERC agreed.

"We find that PJM's lack of an indemnification provision in the pro forma ICSA for facilities constructed under the option to build is inconsistent with the policy established in Order No. 2003 and creates an unjust and unreasonable result for transmission owners that must take title to customer-built facilities," FERC said.

The commission also said relief couldn't wait for PJM's upcoming Order 845 compliance filing.

"Because we find PJM's Tariff unjust and unreasonable, we direct PJM to file revised Tariff records that include an indemnity provision in the pro forma ICSA that complies with Order No. 2003 within 30 days of the date of this order rather than waiting for compliance with Order No. 845."

But FERC declined to order all of AEPSC's proposed revisions, including one that would have granted TOs indemnity on design, engineering and installation in addition to construction of the interconnection facilities constructed under the option-to-build provision. FERC also rejected AEPSC's proposal to remove the limitation on damages of interconnection customer's liability in both the pro forma ISA and ICSA.

However, FERC ordered PJM to add language to the pro forma ICSA giving TOs the right to review and approve a customer's engineering design of an interconnection facility. ■

PJM News

Nuclear Subsidies Still on the Table in Pennsylvania

By Christen Smith

An earnest attempt to save Pennsylvania's Three Mile Island fell apart last week, but that doesn't mean state lawmakers will abandon support for nuclear subsidies altogether.

"We still have eight other nuclear reactors in this state and advocates of the bill who still think it's the best solution moving forward," said Mike Straub, spokesperson for the House Republican Caucus.

Exelon dealt a blow to the state's nuclear fleet last week when it announced TMI will close later this year after the House Consumer Affairs Committee stalled on a proposal to keep it running. (See related story, *Exelon to Close Three Mile Island*.) House Bill 11, as it stands, would create a third tier for nuclear power in the state's Alternative Energy Portfolio Standards (AEPS) program, from which suppliers must buy an additional 50% of their power by 2021. Supporters argue there's no path toward a cleaner, carbon-free Pennsylvania without the industry, while critics faulted the potential stifling impact of subsidies on the wholesale energy market that could spike electricity prices.

After four public hearings and testimony from dozens of experts across the utility sector over the last six weeks, Committee Majority Chairman Brad Roae (R) said the legislature must carefully weigh the complexity of the proposal and lamented that no action they could take would save TMI. (See *Pa. Lawmaker Contends TMI Rescue Unlikely*.)

"Work continues on the bill," Straub said. "Our caucus wasn't able to reach a consensus on it yet, and I think that speaks for itself."

Republicans hold a 109-93 edge in the House of Representatives and 26-22 margin in the Senate — where the Consumer Protection and Professional Licensure Committee considered a very similar bill with a smaller, but still significant, carve-out for nuclear energy. (See *Pa. Lawmakers Introduce 2nd Nuke Subsidy Bill*.)

"We haven't discussed it yet," said Jennifer Kocher, spokesperson for the Senate Republican Caucus. "It might be something members will want to take another look at, but we haven't had those conversations yet."

Straub and Kocher both said it's too soon to know how much the issue will play into upcoming budget negotiations as lawmakers ready a bill ahead of the June 30 deadline. It's typical for prominent policy issues to wind up written into one of the legislature's various code bills passed each year, but Senate Minority Leader Jay Costa (D) doesn't think updating the AEPS to include nuclear will be one of them.

Limerick Nuclear Plant

"While TMI's closure is regrettable, we will continue to fight to keep the other four facilities open and operating," he said. "Without the urgent timeline imposed by TMI, I do not expect this to be a major piece of budget negotiations this year."

Democrats also appear united on expanding renewable subsidies already in the AEPS — via companion proposals like House Bill 1195 and Senate Bill 600 — in exchange for adding a third tier for nuclear energy. (See *Pennsylvania Democrats Back Renewables Subsidy Expansion* and *Pennsylvania Joins US Climate Alliance*.)

"The emerging consensus is that the inclusion of a new tier for nuclear in Pennsylvania's AEPS will also require sharp increases in the required benchmarks for renewable forms of energy," said Bill Patton, House Democratic Caucus spokesperson. "It's evident now that substantial Democratic support is needed to pass any AEPS bill, and Democrats want to see more of the state's overall production coming from renewable sources."

Patton described losing TMI as a "blow" to workers and businesses in the region, but he said the caucus wants to ensure state policy will balance the needs of the remaining nuclear facilities while promoting expansion of renewable energy. FirstEnergy said it will retire its Beaver Valley plant in western Pennsylvania in 2021, well ahead of the expiration of its operating license.

"Any effort to reopen our AEPS should include an increase to our requirements with regard to renewable energy generation resources," Costa said. "We need a comprehensive approach to clean energy." ■

SPP Seams Steering Committee Briefs

SPP, MISO 2019 System Plan Document out for Review

SPP and MISO stakeholders are reviewing an initial draft of the RTOs' 2019 Coordinated System Plan (CSP), which will jointly evaluate identified seams issues and determine the need for any interregional transmission projects.

SPP staff intend to "leverage" coordinated transmission needs identified in the RTOs' transmission planning processes to study whether it makes the most financial sense to develop interregional projects that efficiently address seams needs. The RTOs' have ditched the joint planning model previously used in the first two CSPs, neither of which resulted in an interregional project. (See *MISO, SPP Seek Coordinated Plan in 2019*.)

SPP Interregional Coordinator Adam Bell told the Seams Steering Committee on Wednesday that the RTOs' staff will incorporate the feedback into a final scope document, which will be distributed to the Interregional Planning Stakeholder Advisory Committee.

Stakeholders have until May 17 to send their comments to Bell at *abell@spp.org* or MISO's Ben Stearney at *bstearney@misoenergy.org*.

The RTOs' staff have committed to completing the study by Dec. 31.

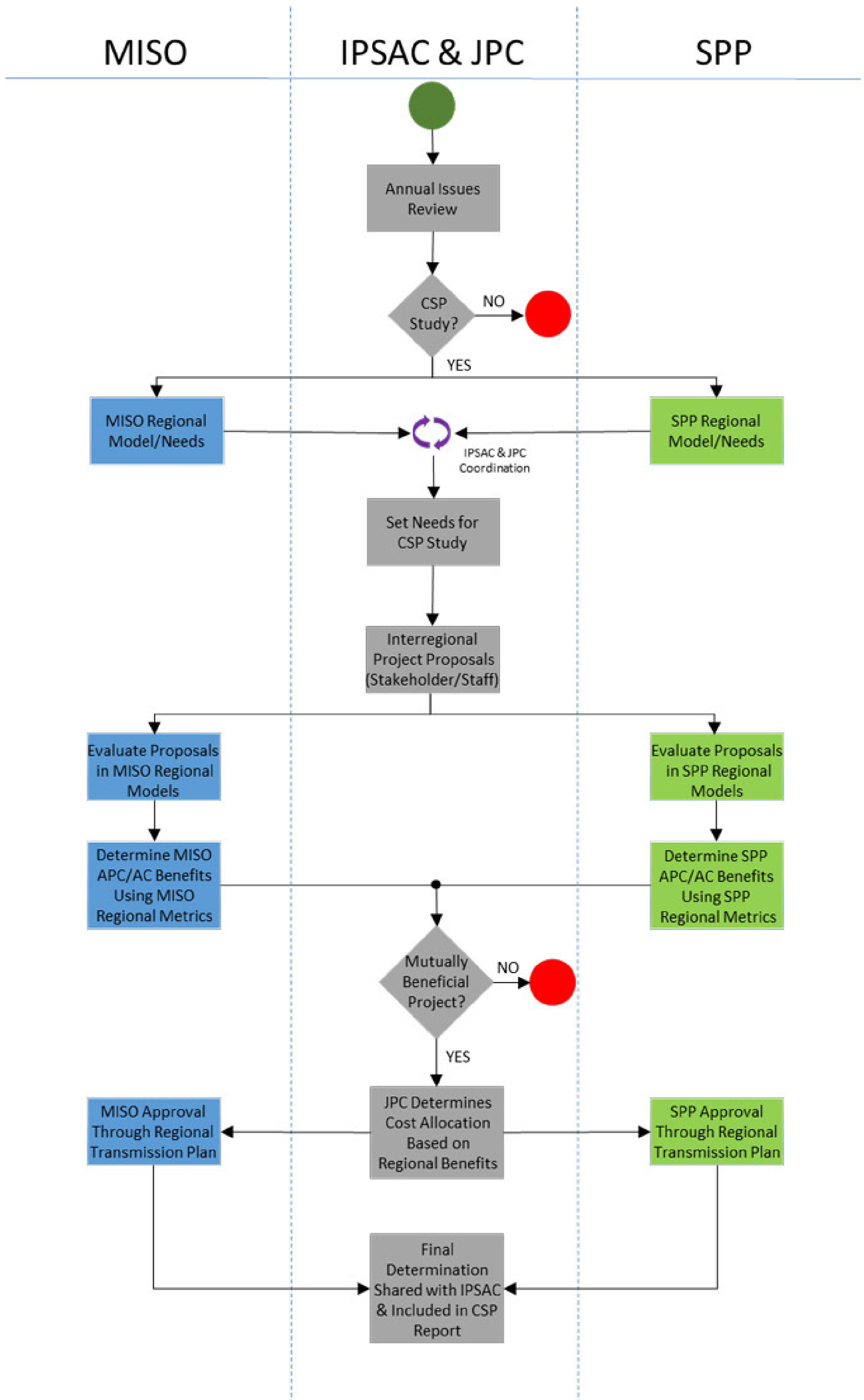
MISO's M2M Tab with SPP Reaches $60M

SPP earned another $2.3 million in market-to-market (M2M) payments from MISO in March, pushing the latter's deficit to $60.8 million, staff told the committee.

It was the 24th month in the last 30 in which M2M distributions have flowed in SPP's direction. The RTOs began the M2M process in March 2015.

Permanent flowgates along the SPP-MISO seam were binding for 141 hours and temporary flowgates were binding for 552 hours, resulting in $958,000 and $1.3 million in payments, respectively. ■

— Tom Kleckner



CSP process | *SPP*

Company Briefs

NE Clean Energy Connect Faces Enviro Challenges

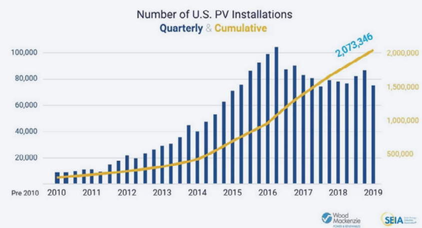
The Maine Senate last week voted 30-4 to approve a bill that would require an independent study of how Central Maine Power's New England Clean Energy Connect transmission project would impact regional greenhouse gas emissions.

Meanwhile, NextEra Energy Resources has challenged the state Public Utilities Commission's approval of a certificate of convenience and necessity for the 145-mile high-voltage line that would carry electricity from Hydro-Quebec to Massachusetts. Representatives of NextEra said the commission should have required CMP to analyze alternatives to the project to mitigate negative environmental effects.

At the same time, EPA has written to the U.S. Army Corps of Engineers, which is reviewing the project, that CMP's application is incomplete and needs a "detailed analysis" of alternatives. "Given the substantial aquatic impacts … it is especially important to conduct a complete alternatives analysis with the goal of avoiding and minimizing project impacts, fully considering alternative border crossing locations, alternative transmission line routes and alternative to aerial installation," EPA wrote.

More: *Portland Press Herald*; *Bangor Daily News*; *Mainebiz*

US Surpasses 2M Solar Installations



The number of solar installations in the U.S. has officially surpassed 2 million, according to the latest data from Wood Mackenzie Power & Renewables and the Solar Energy Industries Association.

The milestone comes just three years after the industry completed its millionth installation, a feat that took 40 years to achieve. Wood Mackenzie analysts expect the U.S. to crack the 3 million mark in 2021 and 4 million in 2023.

It reached the 2 million milestone a year later than analysts initially predicted, largely because of a drop in residential installations stemming from the decline of SolarCity/Tesla. Residential installations dropped 15% between 2016 and 2017, with Tesla's share showing the most extreme decline during that period, dropping from 650 MW to 352 MW.

More: *Greentech Media*

Bloom Losses Increase Despite Boosted Revenue

Bloom Energy posted strong revenue results in its first-quarter 2019 financial report — a revenue story that distinguishes it from the rest of the largely moribund fuel cell pack.

But its first-quarter net losses grew to $84.4 million ($0.76/share) on sales of $200.7 million. Bloom beat analyst estimates on losses, top-line revenue and GAAP earnings per share. Revenue was up 18.5% over the same quarter last year.

Bloom's losses are very much consistent with companies such as Fuel Cell Energy, Plug Power and Ballard Power in the profitless fuel cell industry. According to Greentech Media, no public fuel cell firm in the history of public fuel cell firms has ever posted an annual GAAP profit.

More: *Greentech Media*

Federal Briefs

Industry Group Tied to EPA Air Chief Dissolves

A secretive utility industry coalition formerly represented by a top official at EPA is dissolving amid investigations into whether its members received special treatment from the Trump administration.

The Utility Air Regulatory Group has been under scrutiny from the House Energy and Commerce Committee, which was seeking information on the relationship between power companies, EPA air chief Bill Wehrum and the law firm Hunton Andrews Kurth, which represented the group.

The group released a statement last week saying its "membership has decided to disband the organization following a wind down period." The statement said a committee would be formed to handle "the completion/fulfillment of UARG's existing obligations and support of members as they continue to cooperate with the congressional inquiry."

More: *Politico*

King, Gallagher to Chair Bipartisan Commission to Confront Cyber Threats

Sen. Angus King (I-Maine) and Rep. **Mike Gallagher** (R-Wis.) last week announced the formal launch of the Cyberspace Solarium Commission, a bipartisan effort to review the threats facing the U.S. in cyberspace and provide strategic guidance and policy recommendations on how to defend against cyber threats.

The CSC — made up of 14 commissioners from Congress, federal agencies and the private sector — will work to develop a comprehensive cyber policy, with specific policy recommendations to implement and prioritize, culminating in a public report and briefings before congressional committees.

"As an extremely connected society that values free speech, America is asymmetrically vulnerable to a variety of cyberattacks compared to our most capable adversaries, and yet we are also deeply unprepared to protect ourselves from this growing danger," King said in a statement. "At this moment, we do not have a clear strategy to prevent bad actors from attacking our vital infrastructure, and with each passing moment of inaction, the risks grow graver. I deeply believe that the next crippling attack on our country will be a cyberattack."

More: *Sen. Angus King*

US Working 'Very Hard to Build a Future for Coal,' DOE Official says

The U.S. government is not only working on new technologies to make the proposition of new coal plants more economical in the near term, but also more advanced technologies that may not come to fruition for at least another generation, according to **Steven Winberg**, assistant secretary for fossil energy at the Department of Energy.

Speaking at the Eastern Fuel Buyers Conference in Orlando, Fla., last week, Winberg said there are good reasons to be optimistic about coal under the Trump administration even as many argue for a transition away from coal. "He wants to revive coal, not revile it," Winberg said of President Trump.

The department is working "very hard to build a future for coal" to develop new technologies to make coal a more attractive fuel source, Winberg said. "This administration is putting its money where its mouth is to build the coal plants of the next generation," he said of programs like Coal FIRST, which aims to make coal plants more "flexible, innovative, resilient, small and transformative."

More: *S&P Global Market Intelligence*

State Briefs

MASSACHUSETTS

EFSB Grants Interconnection Permit to Vineyard Wind

The Energy Facilities Siting Board last week granted the developers of the 800-MW Vineyard Wind offshore wind farm a permit to build and operate electric transmission and interconnection facilities for the project.

Vineyard Wind, a 50/50 partnership between Copenhagen Infrastructure Partners and Avangrid Renewables, said onshore construction is still planned to begin later this year.

The project is still in the permitting stages and needs to undergo other federal, state and local approval processes. Its long-term power purchase contracts with the state's electric distribution companies was approved by the Department of Public Utilities in April.

More: *Renewables Now*

MISSOURI

Ameren Announces Plans to Acquire 3rd Wind Farm in State

Ameren said it has reached an agreement to acquire a 300-MW facility in the extreme northwest corner of the state and expects the facility to start operation in 2020, which would make it eligible to receive federal tax credits before they start to phase out the following year. The project still needs approval from state regulators.

It is the third time in the past year Ameren will add a wind farm in the state to its portfolio. Last May the company unveiled plans to build a 400-MW wind farm in Schuyler and Adair counties. Then, last October, Ameren said it would build a separate, 157-MW wind facility in Atchison County. Each of the three projects still need to reach agreements about transmission.

More: *St. Louis Post-Dispatch*

Bill Targeting Grain Belt Express Stalls in Senate

Legislation that could thwart Clean Line Energy Partners' Grain Belt Express project has hit a roadblock in the state Senate.

Senators were unable to come to a vote last week on a bill prohibiting the use of eminent domain to acquire easement rights for the project. Democratic senators who support the project slowed debate on the bill.

The House of Representatives has passed several bills that would bar eminent domain for the project. Those bills will die if senators don't pass them by Friday.

More: *The Associated Press*

NEW YORK

Court of Appeals Affirms State Crackdown on Energy Marketers

The state Court of Appeals confirmed the authority of the Public Service Commission to restrict the ability of independent energy marketers to serve residential customers. The decision caps a three-year legal battle and affirms the PSC's authority to rein in energy marketers who have operated in the state since the retail energy market was deregulated in the late 1990s.

In 2014, the PSC investigated and determined that energy service companies (ESCOs) generally charged residential customers higher prices than utilities. Two years later, the PSC took action to restrict ESCO sales in the "mass market." The commission issued an order requiring ESCOs to stay out of the mass market unless they offered one of two things: electricity that included at least 30% renewable sources; or prices that were at least as low as those offered by utilities, on an annual basis. The court's ruling confirmed the PSC's legal authority to enforce that policy.

More: *The Post-Standard*

NORTH DAKOTA

PSC Approves Aurora Wind Project

The Public Service Commission approved Tradewind Energy's Aurora Wind Project, slated to be operational by the end of 2020 in the western part of the state.

The project will encompass 44,000 acres 5 miles northwest of Tioga. It will consist of up to 121 turbines with a maximum capacity of 300 MW. It is expected to cost $385 million.

More: *Bismarck Tribune*

RHODE ISLAND

Environmental Officials Give Draft Permit to Invenergy Plant

The Department of Environmental Management said the Clear River Energy Center power plant, a $1 billion fossil fuel plant developed by Invenergy, will comply with federal and state air quality standards and they've prepared a draft permit. The department said the permit for the plant is available online for public review and comment.

The department said its decision is separate from an ongoing review by the state Energy Facility Siting Board, which is the licensing and permitting authority. It is that decision that will ultimately determine whether the plant is constructed.

More: *The Associated Press*

VIRGINIA

Coalition Calls on State to Break up Utilities, Deregulate

Nine organizations from across the ideological spectrum have formed an unlikely alliance to call for changes in the way residents get their electricity, including breaking up the state's monopoly utilities and letting customers choose their power providers.

Former state Attorney General Ken Cuccinelli (R), who now does work for the libertarian group FreedomWorks, and others from conservative or libertarian groups stood alongside representatives from left-leaning groups such as the Virginia Poverty Law Center last week to announce the creation of the Virginia Energy Reform Coalition.

The coalition's slogan makes its target clear: "It's Time to Take Back Our Dominion." Its members said the state should allow monopolies only for the network of wires that distributes energy. Power production should be open to competition, they say.

More: *The Washington Post*

WYOMING

Cloud Peak Files for Bankruptcy

Cloud Peak Energy, which operates two coal mines in the state, filed for bankruptcy last week amid mounting debt and declining demand.

The filing follows months of troubling signs for the Powder River Basin operator, which for a time avoided the economic difficulties of its competitors but had of late experienced growing financial challenges as the market for its product diminished.

The company chose not to make a $1.8 million debt payment on March 15 and received additional extensions in April. A new deadline to pay its debt was set for 11:59 p.m. Friday. Instead, the coal firm filed bankruptcy paperwork in federal court in Delaware hours before the deadline was set to expire.

More: *Casper Star-Tribune*