RTO Insider
Your Eyes and Ears on the Organized Electric Markets
CAISO ■ ERCOT ■ ISO-NE ■ MISO ■ NYISO ■ PJM ■ SPP

ISSN 2377-8016 : Volume 2018/Issue 21 May 22, 2018

FERC Narrows GHG Review for Gas Pipelines

LaFleur, Glick Dissent

By Rich Heidorn Jr.

FERC's Republican majority on Friday narrowed the circumstances under which it will estimate greenhouse gas emissions from natural gas pipeline projects, sparking dissents by its two Democratic commissioners.

The commission unanimously rejected a rehearing request by conservation organization Otsego 2000, which contended FERC had not conducted a sufficient environmental review in its 2016 approval of Dominion Energy Transmission's New Market Project. The project includes two new compressor stations and upgrades to three others in upstate New York (CP14-497-001).

But Democrats Cheryl LaFleur and Richard Glick dissented from the commission's declaration that it will no longer prepare upper-bound estimates of GHG emissions when "the upstream production and downstream use of natural gas are not cumulative or indirect impacts of the proposed pipeline project." They instead contended the decision effectively eliminates any consideration of GHG emissions associated with a project.

Republicans Kevin McIntyre, Neil Chatter-

Continued on page 34

PJM Annual Meeting

Retired PJM Board Chairman Howard Schneider addresses annual meeting attendees. | *© RTO Insider*

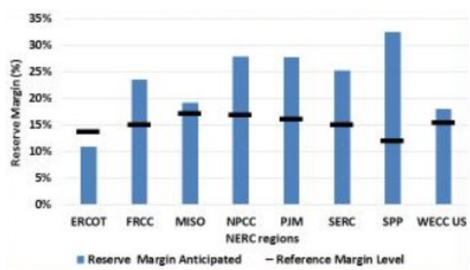
Eye on ERCOT, CAISO as Hot Summer Approaches, FERC Says

By Michael Brooks

WASHINGTON — FERC will be closely monitoring ERCOT and Southern California for reliability issues this summer as most of the country faces the likelihood of above-normal temperatures, staff said at the commission's open meeting Thursday.

Both regions lie in a portion of the Western U.S. expected to be warmer than usual, according to the National Oceanic and Atmospheric Administration. But each faces a unique challenge.

FERC's summer reliability assessment report shows that ERCOT has a 10.92% reserve margin — compared to a 13.75% reference level — in the wake of about 4.5 GW in coal-fired generation retirements last winter and construction delays for about 2.1 GW in new resources. However, the grid operator has assured stakeholders there is no reason for alarm, noting that the current expected reserve margin is up from the 9.3% originally projected in December.



Despite a 10.92% reserve margin compared to a 13.75% reference level, ERCOT is expected maintain reliability through the summer, FERC said. | *NERC*

(See *ERCOT Gains Additional Capacity to Meet Summer Demand*.)

"ERCOT expects to have sufficient opera-

Continued on page 33

More from FERC

FERC Sets PURPA Review; Powelson Targets 1-Mile Rule

By Rich Heidorn Jr.

FERC will review how it enforces the 1978 Public Utility Regulatory Policies Act, with the commission's treatment of the 1-mile rule a likely focus, commissioners said Thursday.

Speaking at FERC's open meeting, Chairman Kevin McIntyre announced FERC would "re-energize" the review it began in 2016 in response to pressure from state regulators and congressional Republicans.

McIntyre noted that the makeup of the commission has changed since its June

Continued on page 35

Also in this issue:

RTO Insider

CAISO ERCOT ISO-NE MISO NYISO PJM SPP

Editorial

Editor-in-Chief / Co-Publisher
Rich Heidorn Jr. 202-577-9221

Deputy Editor / Senior Correspondent
Robert Mullin 503-715-6901

Production Editor
Michael Brooks 301-922-7687

Contributing Editor
Peter Key

CAISO/West Correspondent
Jason Fordney 571-224-8960

ISO-NE/NYISO Correspondent
Michael Kuser 802-681-5581

MISO Correspondent
Amanda Durish Cook 810-288-1847

PJM Correspondent
Rory D. Sweeney 717-679-1638

SPP/ERCOT Correspondent
Tom Kleckner 501-590-4077

Subscriptions and Advertising

Chief Operating Officer / Co-Publisher
Merry Eisner 240-401-7399

Account Executive
Marge Gold 240-750-9423

Marketing Assistant
Ben Gardner

RTO Insider LLC
10837 Deborah Drive
Potomac, MD 20854
(301) 299-0375

Subscription Rates:

Payment Frequency	PDF-Only	PDF & Web
Annually:	$1,350.00	$1,650.00
Quarterly:	380.00	475.00
Monthly:	150.00	175.00

See details and Subscriber Agreement at rtoinsider.com.

IN THIS WEEK'S ISSUE

California Energy Summit

California RA: 'Fear and Loathing' in Redondo Beach

By Jason Fordney

| © RTO Insider

REDONDO BEACH, Calif. — California's grid reliability will be increasingly at risk if the state doesn't soon address its unfocused approach to resource adequacy planning, industry experts said last week.

Panelists at Infocast's California Energy Summit criticized the policy drift leading to an increasing reliance on reliability-must-run contracts for gas-fired units. They called for a more focused effort to address RA needs as the state brings on a growing volume of renewable resources.

The consensus among the panelists: that RA has become extremely complicated, and commenters during the conference several times touched on a recent "greenbook" report issued by the California Public Utilities Commission that warns that the state's fragmented decision-making around capacity risks a return to the conditions preceding the Western energy crisis of 2000/01. (See CPUC Cautions of Return to Bad Old Days.)

Jan Smutny-Jones, CEO of the Independent Energy Producers Association, was blunt in his assessment of the situation, saying he has "some very real concerns about the direction the state is currently headed."

"My job today it to bring you tales of fear and loathing," he said. "I think that we are short of the RA market for a really long time." He added that "I don't think Calpine is responsible for this RA problem," and that the RMRs are a consequence of the state failing to adequately deal with RA.

"This is insurance. This is very boring except when it isn't, and when it isn't, we run into big problems," Smutny-Jones said. He cautioned that while the momentum for decarbonizing the California grid is not going to abate, it must not compromise reliability and affordability.

Last November, CAISO said California's investor-owned utilities were about 2,000 MW short of local RA requirements for 2018. The ISO joined with utilities in asking the CPUC to reform the RA program because the state's resource fleet is quickly shifting to more renewables, which creates a need for RMRs. The ISO acknowledged that the situation is not the fault of companies threatening the retirement of gas-fired units, but rather the result of deficiencies in the RA program. (See California Utilities Short on Local RA Capacity.)

"We are sort of the poster child for the failure of the resource adequacy program," Calpine Director of Market and Regulatory Analysis Matt Barmack said during a panel Wednesday, describing his company's efforts to secure financial support for struggling generating units. The company has about 5,500 MW of gas-fired and other resources, such as the Big Geysers geothermal plant in California.

Calpine's Yuba City, Feather River and Metcalf gas plants, totaling about 700 MW, are contracted under CAISO's RMR program, which provides out-of-market payments to gas units that don't make adequate revenue to stay in operation but are needed to provide reliability. (See FERC Approves CAISO-Calpine RMR Settlements.)

Barmack said Calpine saw the RMRs "as the only vehicle to get the certainty of compensation we needed just to get the maintenance on these three units that was required." The current timeline of the state's RA program finishes late in the year and doesn't provide forward certainty for suppliers, he added.

James Caldwell, an adviser to the Center for Energy Efficiency and Renewable Technologies said that California's current focus is on meeting greenhouse gas goals by a certain year but that urgent RA procurement problems should be addressed. The center is a partnership between environmental groups and renewable energy producers that advocates for the growth of renewables in California and the West.

"Let's get on with it; let's do what we know we need to do, and do it now," Caldwell said. If there are significant reliability problems or blackouts, "everybody in this room will probably lose their job.

"The main thing we have to do is have a sense of urgency," he said, and not wait until there are reliability problems. Gas plants will be needed for a while, but decarbonization of the electricity grid is incompatible with attaining reliability services from fossil fuel plants, he said.

"What it requires are some changes in thinking," he said, including revising tariff structures, contracting and planning assumptions, rather than a focus on generation technologies. More optionality is needed in RA planning and finding a way to eventually attain reliability without gas plants, he said.

Martin Wyspianski, Pacific Gas and Electric's senior director of renewable energy, told the forum that the key issue with RA is recognizing that the market is changing. California has brought on a great deal of renewables very quickly, he said, referring to the infamous "duck curve," which illustrates the impact of solar growth on the state's ramping needs.

"What CAISO was saying a few years ago was 20 years out is actually happening today," Wyspianski said, noting that peak demand has shifted from late afternoon to evening as the transition to more renewables occurs, resulting in high pricing at certain periods.

"We are starting to see some of the effects of that shift," which could signal a worsening situation down the road, he said.

California Energy Summit

CCAs Fight to Thrive in a Landscape They are Changing

By Jason Fordney

REDONDO BEACH, Calif. — The rapid growth of community choice aggregators in California has sparked criticism that they are "boutique" green energy options catering to wealthier communities such as the San Francisco Bay Area.

But **Jessica Tovar**, organizer of the Local Clean Energy Alliance of the Bay Area, told Infocast's California Energy Summit last week she was inspired to pursue a CCA because she grew up in an East Los Angeles neighborhood with fossil fuel generating plants and other industrial facilities that affected the health of herself and family members. Her group sees its role as "addressing climate change, advancing social and racial justice, and building sustainable and resilient communities."

"Our current energy structure is problematic," Tovar said. "We affect the entire world based on our energy choices." Tovar said CCAs allow communities to make the best choices regarding their energy, which she referred to as "energy democracy." Her CCA's goal is to reduce consumption, and integrate local generation and new, cleaner technology.

Through CCAs, "we can win economic and environmental justice in our communities," she said.

Redondo Beach Council Member Christian Horvath said he was seeking lower rates and green power when he ran for office, a campaign based partially on the intent to join or create a CCA. A lot of people aren't familiar with how CCAs work, but "to me it was a path forward for moving into renewables" and local distributed energy, he said.

The council eventually joined Los Angeles Community Choice Energy (now merged into Clean Power Alliance of Southern California), founded in spring of 2017 by the Los Angeles County Board of Supervisors. The initiative required educating the community about the increased choice a CCA offers and overriding a mayoral veto, he said.

"A lot of people down here just aren't familiar with what a CCA is or what that means," Horvath said. "The concerns on the other side didn't make a whole lot of sense to me. To me, it was the responsible thing to do."

The CCA concept largely sat dormant after the legislature approved their creation in 2002, but their growth has spiked dramatically in the last five years. Investor-owned utilities say they could lose up to 85% of their loads to CCAs within a decade. But that expansion doesn't come without growing pains.

"It's a challenge every day," said Ted Bardacke, executive director of the Clean Power Alliance. He said the growing number of CCAs is a comfort, adding that creating a CCA requires building a brand, allowing customers to take a larger role in their consumption and gaining consumers' trust to co-manage their energy usage. It is also vital to build strong management teams with experience in the energy sector, he said.

"One of the things that keeps us going is the business model seems to work," Bardacke said.

CCAs were bolstered by news earlier this month that Moody's assigned a first-time Baa2 issuer rating to Marin Clean Energy, reflecting the strength of the CCA's business model.

"That's a big step, to actually have a CCA in California with a credit rating," which shows the market is maturing, Bardacke said. He noted that some in the industry doubt whether local officials have the expertise needed handle electricity procurement ("We hear that a lot down at the [California Public Utilities Commission]."), but community-owned electricity organizations are nothing new. About 25% of California's load is served by municipal or publicly owned utilities run by elected officials.

"They tend to have very good reliability and pretty darn low rates," Bardacke said. "There is a model out there in California that has worked for over 100 years of municipal utilities and public power."

One issue that could impede CCA growth: Beginning in 2021, state law will mandate that CCAs meet 65% of their renewable requirements through long-term contracts of at least 10 years. The longer terms will require more scrutiny of CCA credit ratings and the transition to a direct customer relationship with power suppliers is a major shift compared with how procurement has been done by traditional utilities.

"I think it's still an ongoing discussion" around CCA credit ratings and finances, said Cathy DeFalco, executive director of Lancaster Choice Energy. "I think both parties have to have a little bit of flexibility" regarding contracts with suppliers, she said, adding that "as CCAs mature … we get more history and people become more comfortable."

The discussion got testy when it turned to the IOUs' request last month that the CPUC restructure the Power Charge Indifference Adjustment (PCIA) for customers departing for CCAs, a mechanism designed to prevent utilities from shouldering all the costs for legacy procurements. The IOUs noted that areas served by CCAs are wealthier than average. (See *California Utilities Propose New CCA Rules*.)

When Marin Clean Energy Director of Power Resources **Greg Brehm** said "there is cooperation in the works" on the indifference adjustment, Independent Energy Producers Association CEO Jan Smutny-Jones repeated a refrain that utilities are holding hundreds of millions of dollars in renewable energy contracts signed years ago when renewables were much more expensive, and that the departure of customers to CCAs have left remaining utility customers with the stranded costs. Smutny-Jones and a representative from Pacific Gas and Electric last summer raised the alarm with the State Legislature over the legacy contracts. (See *California CCAs Spur Worry of Regulatory Crisis*.)

"We expect to receive full payment for those contracts," Smutny-Jones said.

Brehm replied that "there is no expectation that those contracts will be discounted in any way."

"I'll take that to the bank," Smutny-Jones said with a skeptical tone, drawing laughter from attendees.

CAISO NEWS

PG&E Transmission Revenue Complaint Rejected Again

Related Complaint Ordered to Settlement Hearing

By Rory D. Sweeney and Michael Kuser

FERC on Thursday rejected a second attempt by several Pacific Gas and Electric transmission customers to potentially receive a larger-than-normal refund related to a rate increase the utility submitted in 2016 for its 18th transmission owner tariff filing (TO18) (EL17-59).

But in a separate decision (EL17-95), the commission also ruled that a complaint by the same customers about PG&E's TO19 rate filing be subject to hearing and settlement judge procedures and consolidated it with the ongoing proceeding covering the TO18 complaint (ER17-2154).

In EL17-59, the complainants — which include the Transmission Agency of Northern California; the city of Santa Clara; M-S-R Public Power Agency; State Water Contractors; the California Public Utilities Commission; Modesto Irrigation District; and Sacramento Municipal Utility District — had requested a rehearing of FERC's November denial of their initial complaint over TO18.

While the TO18 rate increase is the subject of an ongoing proceeding on tariff revisions PG&E wants approved (ER16-2320), FERC shut down the complaint and an alternative request for consideration of supplemental evidence. It rebuffed the argument that its initial rejection failed to provide the complainants protection to receive the refund that they argued they could proved justifiable if the complaint was accepted.

The complaint stemmed from PG&E's request to increase its wholesale base transmission revenue requirement from $1.319 billion, as set in its previous rate case, to $1.705 billion, and boost its retail base transmission revenue requirement from $1.331 billion to $1.718 billion. The complainants had argued that they could show through discovery that PG&E actually required less revenue than it is already approved to collect, that FERC should allow for refunds below the current $1.319 billion revenue requirement and that their complaint should be consolidated with the rate increase proceeding.

FERC denied the complaint, saying the complainants failed to show that their proposed rate adjustments would result in a revenue requirement below $1.319 billion, leaving the standard refund protection intact. The complainants responded that not providing them the opportunity to prove their case through discovery in the proceeding "arbitrarily and capriciously deprived" them of protections in the Federal Power Act, but FERC said they must show evidence of the problem as part of the complaint, not ask the commission to trust them to prove it later.

FERC also rejected an alternative request, which asked the commission to consider evidence from PG&E's ongoing tariff proceeding.

"The commission's longstanding policy is to not accept additional evidence at the rehearing stage of a proceeding, absent a compelling showing of good cause," it said. "Because other parties are precluded … from filing answers to requests for rehearing, allowing complainants to introduce new evidence at this stage would raise concerns of fairness and due process for other parties to the proceeding."

TO19 Complaint

The commission accepted PG&E's TO19 filing last September but suspended it for five months to become effective on March 1, 2018, subject to refund and the establishment of settlement judge procedures.

In EL17-95, the complainants alleged that PG&E failed to justify the proposed TO19 rate increase, which forecast a retail network transmission revenue requirement of $1.8 billion and a wholesale network transmission revenue requirement of $1.78 billion.

The complainants contended that PG&E overstated its proposed rates with inappropriate expenses, an excessive wholesale network transmission revenue requirement; a return on equity inconsistent with commission precedent; and an excessive composite depreciation rate. They claimed the utility failed to be transparent on expenses and made errors in its capital structure and cost of debt that require adjustment.

They also said that formal discovery should provide for additional adjustments to reduce PG&E's rates below the last clean rate established in the TO17 settlement.

Complainants alleged that reducing PG&E's proposed rates by $511.4 million, based on supporting materials, would bring the final rate below the last clean rate.

In addition, the amended complaint alleged the need to reduce PG&E's federal corporate income tax rate from 35% to 21%, consistent with the recently enacted Tax Cuts and Jobs Act, which it said effectively made PG&E's TO19 rate unjust and unreasonable.

PG&E countered that the complainants should not be allowed to attack the settled TO17 rate, that granting the complaint will make reaching a settlement in future rate cases more difficult and would be contrary to the policy behind the last clean rate doctrine.

Specifically, PG&E said that the last clean rate doctrine "prevents retroactive ratemaking and avoids penalizing a company for filing a rate increase," which would happen if the commission granted the complaint.

PG&E also argued that complainants failed to carry their burden of proof under Section 206 of the FPA.

The commission's May 17 order found "that the complaint raises issues of material fact that cannot be resolved based on the record before us."

"We are unpersuaded by PG&E's arguments that complainants have failed to meet their burden under Section 206 of the FPA, and find that complainants' allegations, as amended, are sufficient to initiate an investigation into PG&E's rates," the commission said.

FERC emphasized "that we are not here making a finding on the merits of complainants' arguments in their amended complaint; rather, we are simply finding that complainants have made a *prima facie* case warranting further investigation by providing sufficient support for their allegation."

Continued on page 6

CAISO NEWS

CAISO Board Approves Forecast Error Measures

Members Briefed on Tight Summer Supply

By Jason Fordney

CAISO's Board of Governors on Wednesday approved new provisions to account for errors in load forecasts by allowing grid operators to manually update the forecasts to deal with changing conditions on the grid.

At its May 16 meeting in Folsom, Calif., the board also heard from CEO Steve Berberich about the tight supply conditions the ISO foresees this summer, as well as what he called "a very serious issue" regarding inverters that caused an 860-MW loss of solar resources on April 20.

The board approved the new "imbalance conformance" rules that allow the ISO to account for errors in renewable energy forecasts or instances when generators deviate from their dispatch orders. The Energy Imbalance Market Governing Body approved the rules last month. (See *EIM Body Approves Imbalance Conformance Rules*.)

The board also approved alterations to the Imbalance Conformance Limiter, an ISO software tool designed to prevent price spikes caused by imbalance conformance adjustments. The limiter keeps the market from trying to dispatch more supply than is available in a particular dispatch interval to account for imprecision in the adjustments.

CAISO Department of Market Monitoring Director Eric Hildebrandt told the board that while the department supports the changes, the magnitude of load adjustments has increased dramatically, doubling between 2016 and 2017. The adjustments should be more random in nature and not used as systematically as they have been, he said.

In his presentation, Hildebrandt said "the ISO appears to use load conformance as means to procure additional imports in the hour-ahead process to ensure more ramping capacity is available in the 15-minute and five-minute markets."

The Monitor recommends the ISO focus on how it can reduce the need for operators to make manual adjustments in real time.

Southern California Edison opposed the changes, saying that the new limiter enhancements should be implemented in addition to the old limiter logic in order to maintain price stability. Powerex also opposed the measures, saying they might suppress scarcity pricing in some situations, according to a presentation from CAISO Vice President of Market Infrastructure Keith Casey. FERC must approve the changes before they take effect.

Warnings of Tight Supply, Inverter Issues

Berberich explained to the board that on April 20, the Mira-Loma-Vincent 500-kV line in the SCE service territory relayed, causing 860 MW of solar to trip off because of voltage fluctuations.

"It's a really exciting event down in the control room when we lose 860 MW," Berberich said during his CEO report.

CAISO has been trying to reprogram inverter settings so they can ride through the relays and is working with NERC to create an appropriate industry-wide standard to address the problem. While the ISO has been able to reprogram some inverters, others cannot be reprogrammed, leading it to rely other resources at certain times.

"We are going to keep a close eye on this issue," Berberich said, adding that the ISO views the new NERC standard as an important goal. He said public calls for demand reductions will be key in managing grid conditions this summer.

"We expect to have very tight conditions this summer," Berberich said, adding that the gas system is operating at a "bare minimum."

An ISO presentation showed that after modeling 2,000 scenarios, it was found there is a 50% probability of a Stage 2 emergency for at least one hour this summer. CAISO declares a Stage 2 emergency when it becomes clear that operating reserves will be less than 5% after dispatching all resources, including demand response. The ISO did not include in its modeling the gas supply limitations from restricted use of Aliso Canyon, which it said could represent further reliability risk. (See *CPUC OKs Temporary Increase in Aliso Canyon Injections*.)

FERC said last week it will closely monitor grid conditions in Southern California this summer as the region faces the likelihood of above-normal temperatures. (See *FERC Keeps an Eye on ERCOT, CAISO as Hot Summer Approaches*.)

PG&E Transmission Revenue Complaint Rejected Again

Continued from page 5

The commission said it was likewise unpersuaded by PG&E's policy arguments.

"Specifically, we find that the complaint does not request that the commission reject the settled TO17 rates, nor does it seek to undo the results of any compromise reflected among the parties to the settlement," it said.

The TO17 rates were in effect from March 1, 2016, through Feb. 28, 2017, when they were superseded by PG&E's proposed TO18 rates, and therefore remain unaffected by this complaint for that period, the commission said.

"Here, complainants are using new data provided by PG&E in its TO19 rate case to allege that PG&E's TO19 rates are overstated to such an extent that the final just and reasonable rates will be below those agreed to in the TO17 rate case," the commission said. "The TO17 rates are thus relevant only to the extent that they establish the last clean rate and the floor below which additional refund protection is necessary."

Based on its review of the record, the commission expects that the presiding judge should be able to render a decision within approximately 12 months of the commencement of hearing procedures, or May 17, 2019.

"Thus, we estimate that, absent settlement, we would be able to issue our decision within approximately 12 months of the filing of briefs on and opposing exceptions, or by July 17, 2020," the commission said.

GCPA Mexico Electric Power Market Conference

Overheard

Market Architect Calls for Increased Transparency

| © RTO Insider

MEXICO CITY — The Gulf Coast Power Association's third conference on the nascent Mexican market drew almost 100 attendees to participate in discussions on market design, retail tariffs, transmission siting and generation financing. The May 16 event was interrupted for about 15 minutes by a seismic alert that required an evacuation, but conference organizers were able to keep the event on schedule.

Little more than a year ago, **Jeff Pavlovic**, managing director of the Bravos Energia generation consulting firm, was managing director of electric industry coordination for the Ministry of Energy (SENER), responsible for standing up the Mexican market. Now, as a member of the private sector, he delivered a painfully honest view of the market.

"When you're not representing the government, you don't have to sugar-coat things," he said.

Pavlovic pointed to a lack of transparency in the market and the continued influence of the country's incumbent monopoly, the Federal Electricity Commission (CFE).

"For a market to work, decisions need to be made by the market participants," he said. "Decisions should be pushed out to people who have money on the line. And for that to happen, there needs to be transparency for people who have real investments at risk and money in the market."

Case in point: Last November, Mexico's Energy Regulatory Commission (CRE) published the market's first basic retail rates.

But then users in Baja California, which is isolated from much of the Mexican mainland, complained to CRE about errors in their higher rates. That led to a change in the key criteria for rates in February that affected all users, he said.

CRE "changed the way [it] assigned load demand among different users and rate classes. This led to big drops, 30 to 40% drops, across all rate classes," he said. "It no longer made any sense. It was completely impossible to reproduce. The CRE spreadsheets that were meant to show the math started 80% through the calculations."

Pavlovic said the original methodology was fundamentally sound and that he hoped CRE would fix the calculations. He said the commission gave up last month and published a new, transitory methodology that appears to phase in rate increases over the rest of 2018.

CRE "seems to be on a trajectory to keep raising rates," he said. "But the level of transparency and logic is even less than before."

Pavlovic said distribution losses, or theft — a serious problem in Mexico — are a looming problem in the rates structure. Costs are currently assigned to paying consumers at the lower voltage levels where the losses occur. To compensate, the rates include a mechanism for the cheapest generation to be assigned to the smallest users.

In addition, he said, CFE continues to combine the accounting for its various subsidiaries, which have yet to be unbundled.

"It continues to lose money as a whole, but we can't tell where they're losing money because they haven't separated their results by companies," Pavlovic said. "They're starting to make a lot of money from fuel sales and 'other income,' which we have no idea what it is.

"CFE is required to publish contracts for energy and fuel," he said. "That would solve problems where market participants suspect there are deals between CFE companies at either too low or too high a price compared to market conditions, but CFE has resisted this. This is an opportunity for SENER to step in and enforce the transparency requirements established in the law."

On the bright side, Pavlovic said the market's capacity auctions have been successful and market participation continues to grow.

"There is a new wave that will come in," he said. "I think the market will continue to get deeper and help us exercise influence over the policy. But we need CFE to show leadership in its own separation of its businesses."

Market Shows Promise in Year 4

Ammper Energia CEO **Juan Guichard** said he has a "more optimistic view" of the market than Pavlovic, reminding attendees that it was only written into the Mexican Constitution in 2014.

"We're starting to see a light on the road. Hopefully, it's not a train," said Guichard, whose company represents generators. "That's a market reality … the prices for the new rate and tariff, are not all complete. This is part of the evolution in the market. … We need to reach a middle point between supplier and end customer. We are not used to having choices, so suddenly there is a market, a complicated market with power. There are risks."

Continued on page 8

GCPA Mexico Electric Power Market Conference

Overheard

Continued from page 7

Guichard said the market's low liquidity limits hedging opportunities, which presents a challenge when meeting customers' demands.

"Some users have said there's less liquidity for the operator to cover peak hours or just at night. We need to provide a new solution to customers. We have agreed with the customers, because they're the first customers going in to a new market," he said.

Patricio Gamboa, energy director for steel manufacturer Deacero, shared Guichard's optimism, but noted that the country's July 1 national election could slow progress. Leftist populist Andres Manuel Lopez Obrador, a two-time mayor of Mexico City, currently has an 18-point lead over the National Action Party's Ricardo Anaya and a 27-point lead over the Industrial Revolutionary Party's Jose Antonio Meade of PRI, whose two parties have ruled Mexico for the past 89 years.

"The election year is a lost year, so we have a lot of years to go," Gamboa said. "When we started this market, we compared it to others. It took them 10 years [to run efficiently], and we are at four years.

"If we compare to other markets, we realize there are many areas of opportunity as far as transparency," he said. "If the concern is collusion, I agree that to not be transparent is a very high risk. The level of information we have from CENACE is less than other markets."

Panel: Regulated Tx Rates Need More Certainty

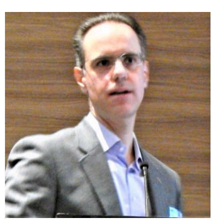
A panel focused on regulated transmission rates warned that the transitory rate scheme for 2018 is not helping matters and said changes must be made. **Gerardo Cervantes**, director of energy marketing for Enel Mexico, said the rate design is inconsistent with the market's public policies and doesn't send accurate price signals.

"They designed a market that claims the policy of public power is the recovery of cost. The basic supplier is not recovering costs and is doing poorly," he said. "When you start implementing [rates] in such a random way, when you put in caps, that means your rate doesn't have anything to do with what's happening in the market."

"We don't even know clearly which is public policy," agreed **Antonio Noyola**, chief development officer for Houston-based energy consultant Avant Energy. "The market is to provide a competitive market, but the design of these supply rates is not real. Reform ... is not happening at the right pace. It should happen right away, so they can make the right decision. We need to acknowledge that at the end of the day, [the supplier is] taking a risk."

"We have to work on providing information to the authorities, so that next January, it's not challenging," Cervantes said. "It's necessary to know the cost of everything, the transmission, the distribution. We need to raise awareness of ... the transparency of regulation. If we don't do it now, or because we are being subsidized, eventually we will have to pay the price — and it's going to be a very high price."

Call for Additional Interconnections with US



Keynote speaker **Severo Lopez Mestre Arana**, a partner with Galo Energy Consulting, suggested the Mexican market will benefit from continued interaction with other markets. Mexico has five DC ties with the U.S. — three across the Texas border with ERCOT and two with CAISO — with a total capacity of 1,086 MW. Another eight interconnections provide an additional 788 MW of capacity of emergency power.

"We believe with minimal adjustments to regulation, we can move forward," Mestre said. "You cannot stop the strengths that are pushing to integrate the markets. The strengths are so strong, the power of efficiency and the power of sustainability. The regulation needs to adjust to the reality."

Veronica Irastorza (left) and Casiopea Ramirez | *© RTO Insider*

He said Mexico is interested in extending its interconnections with the U.S., although it has not yet expressed its official intentions. Three additional interconnections between the two countries are in various stages of development. (See *Regulators Fear Cross-Border Tx Risks ERCOT's FERC Exemption*.)

The key, Mestre said, is completing Mexico's proposed financial transmission rights market. He used CAISO, ERCOT, PJM and international exchanges such as the EU's Joint Allocation Office, Inelfe (a DC link between Spain and France) and Energinet DK (Denmark with Germany) as examples of markets with successful exchange capabilities.

"We found that in many markets, that's a constant that allows for transporting long-term energy or transmission rights," he said. "We need to extend our assumptions. It seems only minimal changes can lead to a more dynamic model of export exchanges. The model is not that far away. That's the trend, in most markets."

Do Low Prices Equate to Successful Auction Prices?

Que Advisors Managing Director Peter Nance, moderating a panel discussion on the market's recent long- and medium-term auctions, noted the long-term energy auction's prices were very low at slightly more than $15/MWh. He asked, "Does this mean the process is working well?"

"The cost for the system should also be one of the [measures] of how successful the process is," said Casiopea Ramirez, regulatory affairs chief for Spain's Gas Natural Fenosa. "We are increasing the system capacity, but this could also trigger a different process, if we continue introducing capacity with a grid that has not been

Continued on page 9

GCPA Mexico Electric Power Market Conference

Overheard

Continued from page 8

extended. Demand is low. Logic would say we don't need additional capacity."

Ramirez reminded her audience that one of market reform's goals "is to obtain cheap energy, and we have attained that."

Veronica Irastorza, an associate director in NERA's Mexico office, cautiously agreed.

"These low prices are due to natural resources, but also, high risks are assumed in the long-term auctions. All these risks are being assumed by the supplier," she said. "I'd prefer to see bilateral contracts and CFE to start shrinking over time. You need to have more transparency.

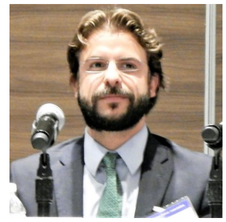
"I do think the auction is really complex and different from other auctions around the world."

Room for Both Commercial, Development Banks in Mexico

During a panel discussion on financing new generation capacity, Acciona Energia CEO **Miguel Angel Alonso** recalled his arrival in Mexico in 2006 and the global financial crash two years later.

"I came from Europe, where private banking was covering all the renewable development, but then there was a crisis," he said, referring to the Lehman Brothers collapse. "It was like watching a love story, and you go … and get some popcorn, and then [return to find] everybody's dead. The butler killed everybody.

"This is a market that is hard to finance," Alonso said. "I don't really see how you can be offering energy at $17. They don't want to finance. They don't need it. The ones on top take the cherry. They go with the commercial bank, and there's no room for the development bank."



Nacional Financiera's **Arturo Gochicoa Acosta** has shown there is still room for development banks. He has helped the government institution finance energy projects with an installed capacity of more than 3.5 GW since 2013.

"We're not trying to finance projects all around Mexico. We're definitely doing our analysis," Gochicoa said. "There's always the risk of how the energy portfolio changes over the years. What will the infrastructure look like in the next 20 years? You have to look at good projects that are possible and that are able to repay in the long term."

– Tom Kleckner

ERCOT News

Soaring Temps Result in Record Demand, $1,500 Prices

Triple-digit temperatures in parts of Texas last week sent energy demand into record territory and electricity prices soaring to nearly $1,500/MWh.

ERCOT, which manages the energy flow for about 90% of the state's electric load, set multiple records for May peak demand. The first came May 16, when the ISO topped out at 61.5 GW between 5 and 6 p.m., after having reached 61.1 GW the hour before. It upped that mark to 63.7 GW the next day, a 7.5% increase over the previous record of 59.3 GW set last May.

Demand on May 18 peaked at 63.1 GW during the 4-5 p.m. hour.

ERCOT had predicted a May peak demand of 59.6 GW. Demand peaked at 47.9 GW in April, 9.9% below expectations.

The ISO has projected a summer peak of 72.8 GW in August, which would break the 2016 record of 71.1 GW. It says it has 78.2 GW of capacity available, with a planning reserve margin of 11%. (See *ERCOT Gains Additional Capacity to Meet Summer Demand*.)

Operating reserves dipped to 3 GW on May 16, just above ERCOT's emergency level of 2.3 GW, but spokesperson Leslie Sopko said the ISO hasn't issued any emergency alerts or had any issues with reserves or reliability.

"While load has been high, we have had sufficient generation to meet the demand," she said. "We expect that will continue through the weekend."

Average prices jumped to $1,488.86/MWh in the interval ending at 4:45 p.m. on May 16. Prices dropped down below $100/MWh by 6 p.m. and did not crack triple digits the rest of the week.

Temperatures approached 100 degrees Fahrenheit in much of the state Friday. They were forecast to drop into the lower 90s and upper 80s over the weekend, before crawling back up to 100 next weekend.

Small Munis File Appeal with Texas PUC

The Small Public Power Group (SPPG) of Texas, comprising eight small municipally owned utilities with peak loads of 1 to 21 MW, filed an appeal on May 14 with the Public Utility Commission over ERCOT's definition of transmission owner.

It's the last resort for the SPPG, which has failed to secure approval through ERCOT's stakeholder process of a revision request that would exempt municipal distribution service providers without transmission or generation facilities from having to procure designated transmission owner (DTO) services from a third-party provider if their annual peak load is less than 25 MW. (See "Small Public Power Group's Appeal Again Meets Defeat," *ERCOT Board of Directors Briefs: April 10, 2018*.)

The PUC has opened a docket in the proceeding (No. 48366) and directed the group, ERCOT, commission staff and market participants to attempt to reach an agreement. The SPPG must file a report on the discussions by July 9.

The group said none of its members have ever been included in the ERCOT load-shed table, and that their load is "so miniscule that it would not materially change anyone else's load relief share." Clark Hill Strasburger's Tom Anson, who represents the SPPG, wrote in the appeal that several members are physically limited in their ability to comply with relevant ERCOT requirements and that the proposed revision "will not, in any way, affect ERCOT's system reliability."

"The commission should recognize that ERCOT's rules do not fit all circumstances, that there is no reliability issue at stake in this special circumstance and that it is appropriate to modify ERCOT's rules in this special instance," Anson said.

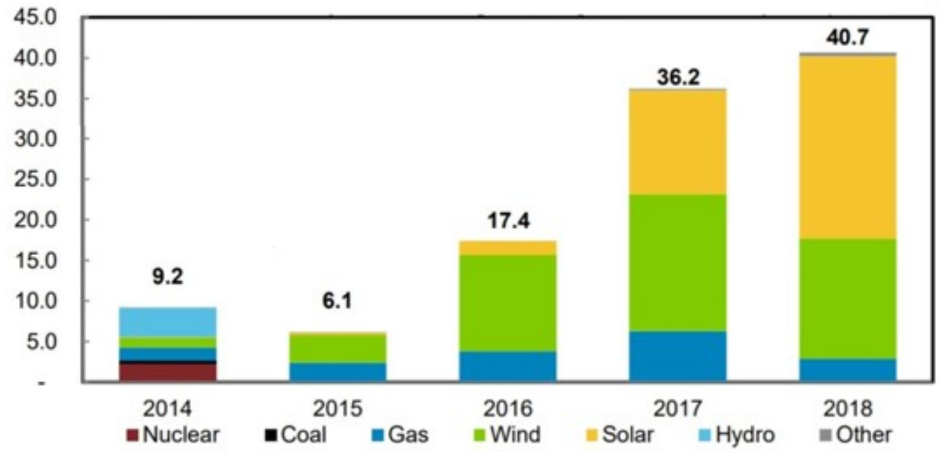
The proposed change was developed in 2015 to settle the noncompliant status of municipally owned utilities as PUC staff began to look into the issue.

— Tom Kleckner

MISO NEWS

MISO Proposal Aims to Speed Up Queue Process

By Amanda Durish Cook



Active and completed projects by definitive planning phase year (GW) | *MISO*

CARMEL, Ind. — MISO is proposing near-term changes designed to speed up its interconnection queue as it confronts its largest-ever influx of potential generation projects.

The RTO plans to reduce the number of project studies occurring in the first phase of the definitive planning phase (DPP) of the queue and require customers to demonstrate ownership, lease interest or land rights on a project's site before entering the queue, stakeholders learned during a May 15 Interconnection Process Task Force (IPTF) meeting.

MISO Director of Interconnection Planning Vikram Godbole said the proposal constituted "a small set of changes that will be very beneficial to the queue" and that the RTO began working on improvements to the queue last year after FERC accepted its redesign proposal. He said MISO and several customers have been meeting for months to discuss ways to expedite the RTO's packed pipeline of potential projects.

Godbole said the changes are designed not to harm any existing interconnection customers. They come a month after FERC declined to order MISO to redesign aspects of its relatively new queue process but reminded the RTO of its duty to make a good faith effort to address a worsening backlog of projects. (See *FERC Sides with MISO in Queue Design Dispute*.)

100% Site Control

MISO is proposing to require interconnection customers to demonstrate 100% site control to the point of interconnection before entering the queue, scrapping the existing option that allows them to submit a $100,000 deposit in lieu of proof of site control. Just 25% of the projects entering the DPP in the April 2018 cycle demonstrated site control, with the rest electing to make the deposit.

The RTO currently requires a customer to demonstrate 75% of site control prior to entering the third — and final — phase of the DPP.

Godbole said the more stringent requirement should prevent unready projects from prematurely entering the first phase of the DPP. It would also prevent customers from submitting multiple, overlapping projects at the same development site, a recurring issue in the current queue, although Godbole declined to identify any specific instances.

"That is just not right, and we need to fix that," Godbole said.

MISO's interconnection queue currently contains 554 projects totaling 92.5 GW, including 239 additions last month representing 40.7 GW.

"With 93 GW, everyone needs to have a very realistic expectation of when these projects are going to be able to connect," Godbole said. "Some of these projects are not going to get built, but how many is anyone's guess. So MISO … needs to find ways to expedite the process."

After looking into other RTOs' practices, MISO found that ERCOT, ISO-NE, NYISO, PJM and SPP require 100% of site control either at entry or before the start of the system impact study, Godbole said.

"We said OK, if interconnection customers in other RTOs are OK with that, they should be OK with that in" MISO's, he said. "We've looked at this from all angles."

Some stakeholders said that state regulatory requirements can sometimes prevent customers from acquiring site control so early in the process. Godbole responded that in those cases customers would have to provide evidence that regulators are obstructing site control.

Godbole proposed a phased-in approach to requiring site control, with projects already in the queue but not yet studied required to secure 100% of site control requirements by the first decision point in the first phase of the DPP. All other projects would be required to demonstrate an increasing percentage of site control based on their progress.

Studies Reduction

To further accelerate the queue process, MISO is also proposing to eliminate its transient-stability, short-circuit and affected-system studies from the first phase of the DPP.

Removing the early, more uncertain iterations of those studies will result in quicker turnaround times for the first phase of DPP analysis, Godbole said.

In response to the concerns of some stakeholders that affected-system and transient-stability analyses were necessary earlier in the queue to determine the viability of a project, Godbole said that customers could hire an external consultant to conduct first versions of the analyses and pointed out that all three studies will still occur in the DPP's second and third

Continued on page 12

MISO Proposal Aims to Speed Up Queue Process

Continued from page 11

phases.

Godbole noted that MISO is currently holding monthly meetings with SPP and PJM to improve the affected-system study process, but he added that by removing the first affected-system study, MISO planners will have more time to devote to the more significant second and third studies.

"It's not SPP, PJM or MISO's fault. What's happening is we have entities with three cycles that are just bombarding our affected systems with analyses," Godbole said. "There are so many studies happening at the same time. If we keep requesting studies, we're never going to finish. It's going to be really tough to get those projects interconnected."

Removing affected-system studies from the first phase of the DPP will reduce the potential for overlap among studies and eliminate at least 10 early affected-system studies in the next 12 months.

MISO said its West region — covering Iowa, Minnesota, part of Wisconsin and the Dakotas — has experienced one to two months of delays alone from conducting phase 1 affected-system studies.

"Look at the West region. It's almost 200 projects alone," Godbole said.

He asked stakeholders to submit feedback about the proposals by May 30, before MISO moves the recommendations to the June 13 Planning Advisory Committee meeting for an additional month of discussion. RTO staff hope to file Tariff changes with FERC by July or August.

While MISO is not seeking consensus to move forward, it will consider comments that could improve the proposal, Godbole said.

"Believe me, my phone does not stop ringing with customers concerned that they won't get [production tax credits] in time. Something has got to give. And these are the … things that we think can have the most impact in a short amount of time. But it's doesn't stop here. We're going to keep working [on the queue]," he said.

He added that future queue changes may entail moving milestone payments to a cash-only system, removing the option for customers provide a letter of credit. While MISO is not ready to propose the change, Godbole said the multimillion dollar companies that enter the queue should have no trouble providing milestone fees in cash. Some stakeholders said that although the monetary risk was the same, it's more difficult going through the process of getting cash.

EDF Renewable Energy, which had petitioned FERC to order MISO to redesign the three-stage queue, said it supported the changes and expected them to help reduce delays, but the company thinks more needs to be done, including increasing milestone payments to deter speculative projects.

2 Projects, 1 POI

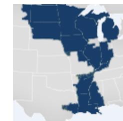
The IPTF is also collecting stakeholder feedback on a possible plan to loosen MISO's one project/one point of interconnection policy in order to allow two projects with separate owners to connect at the same point of interconnection.

MISO manager Arash Ghodsian said the RTO would only move ahead with proposing the change if it doesn't threaten reliability or present new delays in the interconnection queue.

Ghodsian said MISO has recently experienced an uptick in interest from customers wishing to connect multiple projects at a single point of interconnection.

Northern Indiana Public Service Co.'s Brett Furuness said he would appreciate future discussion on the topic because NIPSCO fields multiple interconnection requests at a single substation.

MISO NEWS



MISO Cost Allocation Plan Hits Interregional Differences

By Amanda Durish Cook

CARMEL, Ind. — MISO's proposal to redesign its cost allocation process for market efficiency projects (MEPs) has encountered conflicting stakeholder feedback on how to allocate costs for lower-voltage interregional projects, stakeholders learned Wednesday.

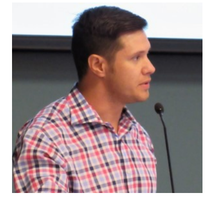
The RTO is proposing to eliminate its footprint-wide postage stamp rate and lower its current 345-kV cost allocation threshold to cover 230-kV MEPs. Staff have said the change would capture a reality in which 230-kV lines are prevalent in the RTO's footprint, especially in MISO South.

The proposal would also make cost sharing available to projects 100 kV and above along the PJM seam, respecting a 2016 FERC order requiring MISO to lower its voltage threshold to 100 kV for interregional projects with its eastern neighbor. (See *Stakeholders Debate MISO Cost Allocation Plan*.)

MISO is currently exploring a new option for MISO-SPP small interregional project cost allocation and plans to finalize the cost allocation proposal at the June Regional Expansion Criteria and Benefits Working Group (RECBWG) meeting.

MISO said stakeholders are split over whether it should extend the 100-kV threshold mandated by FERC for MISO-PJM projects to interregional projects with SPP. MISO had originally proposed that both PJM and SPP interregional projects would both be cost shared down to 100 kV.

When the RTO revealed interregional cost allocation details in March, some stakeholders urged it to adopt a consistent 100-kV threshold for internal and interregional projects.



Davey Lopez | © RTO Insider

MISO Planning Coordinator Davey Lopez told the RECBWG that stakeholder differences over the issue have prompted the RTO to consider applying a local allocation to SPP interregional projects between 100 kV and 230 kV and a regional allocation to shared projects above those levels.

ITC Holdings' Cynthia Crane asked why MISO is proposing two distinct interregional allocations based on RTO.

"Some said, 'Well, the seams are different.' They don't have to have the same allocation rule," Lopez said during a May 16 RECBWG meeting.

Missouri Public Service Commission econo-

Continued on page 14

MISO NEWS

FERC Affirms Rulings in Entergy Bandwidth Dispute

By Amanda Durish Cook

The longstanding disagreement over how Entergy once equalized production costs among its operating companies was at the center of two FERC decisions last week, with the commission upholding opinions from two administrative law judges pertaining to a seven-month period of bandwidth calculations from 2005.

The allocation of production costs from 2005 to 2015 among Entergy's half-dozen operating companies under its multistate system agreement has been a source of disagreement for a decade. Before 2015, the companies functioned as one system, although each had different operating costs. Under the arrangement, Entergy's low-cost operating companies made payments to the highest-cost company in the system using a "bandwidth" remedy that ensured no operating company had production costs more than 11% above or below the system average.

Regulators in each state where Entergy operates have regularly challenged the annual bandwidth filings, with the Louisiana Public Service Commission long contending that the company's bandwidth payment calculation was plagued by inconsistencies. (See *FERC Affirms Ruling Favoring Entergy Bandwidth Calculation*.)

In the first order issued Thursday, FERC affirmed a presiding ALJ's 2016 finding that interest on the 2005 bandwidth period should begin to accrue starting on June 1, 2006, instead of on June 1, 2005, the first day of a test period, as the Louisiana Public Service Commission had argued (EL01-88-015).

The commission also sided with the judge that Entergy Louisiana should exclude most of its net operating loss accumulated deferred income tax (ADIT) from the bandwidth calculation because it stems from a $1.8 billion tax deduction associated with above-market value energy purchases from a long-term contract with the Vidalia hydroelectric power station ending in 2031. The Vidalia tax deduction was properly excluded from the bandwidth formula to "avoid shifting tax burdens and benefits" to other Entergy operating companies, FERC said. The Louisiana PSC had argued that Entergy Louisiana's net operating loss ADIT is not a tax savings and should be included in the bandwidth formula.

FERC also agreed that Entergy did not properly account for three regulatory asset deferrals in the 2005 bandwidth calculation and ordered the company to make corrections by switching the deferrals to bandwidth-eligible accounts. The commission confirmed that Entergy should calculate the impact of those accounting changes and make a new compliance filing within 60 days.

In the second order Thursday, FERC affirmed another ALJ's ruling that Entergy had already addressed the question of how 2005 bandwidth calculations should be handled. The commission said Entergy can use its 2006 compliance filing on bandwidth calculations, which FERC accepted in 2007 (EL01-88-017).

Entergy had questioned whether it could apply its 2006 filing for the bandwidth formula calculation to the seven-month period of bandwidth calculations in 2005 after the Louisiana PSC argued that the 2006 filing was not the properly filed rate for 2005 and could not accommodate a seven-month remedy, as it was designed for an annual calculation. FERC said the Louisiana PSC's argument amounted to a "collateral attack" on its prior rulings in the Entergy bandwidth calculations.

However, FERC disagreed with the judge that the bandwidth formula used for 2005 must "contain all amendments that have been made to the formula in subsequent years."

MISO Cost Allocation Plan Hits Interregional Differences

Continued from page 13

mist Adam McKinnie asked what is significantly different between the PJM and SPP seams.

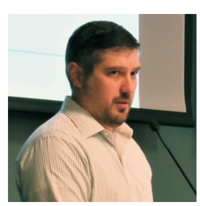
"I'm not sure that we see something inherently different. We're just laying out a different option based on stakeholder feedback," Lopez said.

FERC's order requires MISO to file an allocation plan for cost-shared interregional efficiency projects with PJM down to 100 kV by Oct. 31.

More Metrics

MISO also told the RECBWG that it is still exploring how to incorporate more benefit metrics into its MEP cost allocation.

The RTO currently uses a single metric, adjusted production cost savings, to determine transmission project cost responsibility among its cost allocation zones.



Jesse Moser | © *RTO Insider*

Director of Strategy Jesse Moser said MISO now seeks to include multiple metrics in the calculation, which will be summed and weighed against the RTO's 1.25:1 benefit-to-cost ratio requirement to allocate costs on a proportional basis to allocation zones with net positive benefits.

MISO is currently considering using avoided transmission investments as a new potential benefit metric, after obtaining agreement about avoided projects through a stakeholder review. The RTO will finalize more detailed metrics sometime in August.

New Sub-230-kV Category?

MISO is additionally considering a Tariff change that would create a new category of local economic transmission projects below 230 kV, Moser said. The small projects would have the same 1.25:1 benefit-to-cost ratio and benefit metrics as MEPs, but their costs would be allocated to the local zone. The new category would likely replace MISO's current "Economic Other"

Continued on page 15

MISO NEWS

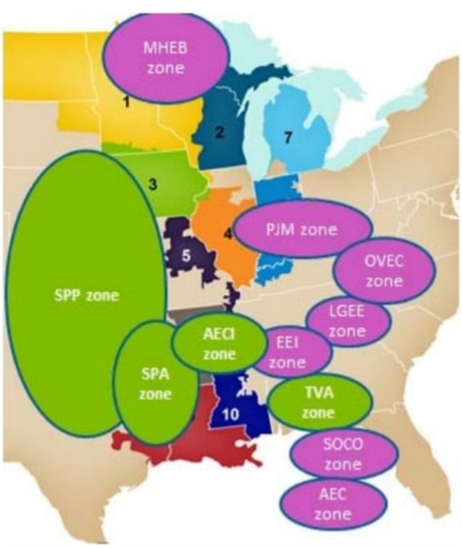
FERC: MISO External Capacity Zone Plan Deficient

By Amanda Durish Cook

MISO's plan to create external resource zones in its annual capacity auction isn't detailed enough on several fronts, FERC told the RTO on Wednesday.

Commission staff issued MISO a deficiency notice explaining the proposal lacks sufficient detail about the reliability concerns that spurred it, the concept of border external resources, and how pseudo-tied resources and coordinating members' resources will factor into the proposal (ER18-1173).

MISO filed the plan in late March after three years of stakeholder meetings in its Resource Adequacy Subcommittee. It would create external resource zones by 2019 for MISO's annual capacity auction, based on existing neighboring balancing authority area boundaries. External zones would not have capacity import limits, planning reserve margin requirements or local clearing requirements.



MISO's neighboring balancing authorities | *MISO*

Resources in BAAs that border either MISO Midwest or South would clear at two different prices based on subregional unconstrained auction clearing prices, while those in BAAs that border both MISO areas — including Tennessee Valley Authority, SPP, Associated Electric Cooperative Inc. and Southwestern Power Administration — would receive a blended price.

In cases of auction price separation, the RTO would distribute historical supply arrangement credits from excess auction revenues as a refund to external resources with long-term and consistently used historical supply agreements. The proposal would also establish new zonal capacity export limits in time for the 2019/20 planning year auction. (See *MISO Closing in on External Capacity Zones*.)

In its deficiency letter, FERC asked MISO, among other questions:

- Why it thinks that its current practice of giving external resources capacity credit in the local resource zone where its firm transmission service crosses into the footprint has the potential to cause reliability concerns;
- How it will reconcile its current Tariff definition of local clearing requirement — defined as the minimum amount of unforced capacity physically located with a local zone — with its proposal to allow certain external resources to contribute to a local resource zone's local clearing requirement;
- If it will count pseudo-tied resources as external resources;
- How it differentiates a "border external resource" — defined in the proposal as resources with direct electrical connections to the RTO but located in another BAA — from all other external resources;
- How border external resources and coordinating owner external resources can be used to alleviate transmission constraints and address other reliability concerns for local resource zones;
- How it plans to model external resources and how coordinating owner and border external resources will impact capacity import and export limits;
- What physical and operational standards a coordinating owner external resource must meet to qualify for capacity credit in a local resource zone. FERC also asked MISO to identify any other coordinating members besides Manitoba Hydro, its sole listed coordinating owner;
- If its proposed historical supply arrangement credits will be distributed to resources offered into the Planning Resource Auction, resources included in a fixed resource adequacy plan or both; and
- How much estimated capacity would qualify for historical supply arrangement credits. FERC also asked MISO to describe scenarios in which the credits might not be fully funded.

FERC also ordered MISO to list all resources that would receive border external resource designation, their unforced capacity values and the local resource zones they border. The RTO previously said it identified about 3.8 GW of capacity from potential border external resources.

Finally, the commission said MISO must compare in writing the operational control it has over Manitoba Hydro's resources versus other external resources, including Exelon's Byron Generating Station, Duke Energy Indiana's Madison Generating Station, WPPI Energy's Nelson Energy Center and any resources with firm transmission service over a direct current line, such as the Grain Belt Express Clean Line.

MISO Cost Allocation Plan Hits Interregional Differences

Continued from page 14

transmission project category, which is not Tariff-defined and does not have a local cost allocation methodology.

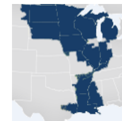
WEC Energy Group's Chris Plante expressed concern that the new project type could elicit FERC complaints if a lower-voltage project can demonstrate regional benefits but only has access to a local cost allocation.

Some stakeholders said MISO's suggestion of the new project type provided further evidence for lowering the RTO's regional MEP voltage threshold to 100 kV.

"This demonstrates that you're willing to do the analysis on [sub-230-kV] projects," LS Power's Pat Hayes said.

Moser said MISO would have to review the project type for unintended consequences.

MISO NEWS



Emerging Tech Taking Center Stage at MISO Market Symposium

MISO last week announced that it will hold its second Market Symposium in downtown Indianapolis on Aug. 15-16.

Indianapolis skyline

This year's theme is "Markets in 3D: Preparing for Digitalization, De-marginalization, and Decentralization," and the two-day event includes industry experts discussing how wholesale market design and technology may change with increasing use of connected devices, distributed energy resources and renewable generation with near-zero marginal costs.

"The MISO team is working to create a forum for industry leaders at the forefront of future market design to explore longer-term challenges and opportunities," MISO CEO John Bear said in a statement. "The symposium will provide a venue to interact with thought-leaders, explore emerging technologies and build relations with decision-makers and innovators who are at the helm of a changing industry."

The symposium will feature FERC Commissioner Richard Glick as special guest speaker, and MISO has again partnered with the Department of Energy's Advanced Research Projects Agency-Energy (ARPA-E) to host the event.

MISO's first symposium was held in 2016, and the sold-out event focused on future low-carbon energy trends. (See *Panelists Envision Low-Carbon Future at MISO Symposium*.)

This year's symposium also includes an emerging technology and market solution showcase. MISO is currently accepting applications for booth exhibits and five-minute presentations on industry innovations on the main stage.

"We know our industry is transforming," said MISO Research and Development Director Jessica Harrison. "We want to foster thought-provoking discussions so that the industry can meet future challenges with innovative solutions that ultimately improve service and value for consumers."

— Amanda Durish Cook

NYISO News

NYISO Floats Carbon Pricing Straw Proposal

By Michael Kuser

NYISO is floating a proposal that would incorporate the cost of carbon into the ISO's wholesale market by debiting each energy supplier a uniform carbon emissions charge as part of its settlement, eschewing an alternative approach that would levy region-specific charges for imports.

"The process we envision is very similar to how we handle invoicing today, where load-serving entities are debited the locational-based marginal price, and now the LBMP will have a carbon price effect," Michael DeSocio, the ISO's senior manager for market design, told New York's Integrating Public Policy Task Force (IPPTF) last week.

The May 14 discussions were part of issue "Track 1" in the group's five-track effort to price carbon emissions, which required development of the straw proposal.

The ISO's proposal relies on a "status quo" carbon pricing approach (referred to as Option 1) that would not consider the specific carbon content in energy trades from out of state. A second option under consideration would've evaluated marginal emissions rates from out-of-state imports.

Both options appeared in a Brattle Group presentation to the task force last month, with Brattle favoring Option 2's more aggressive approach to external transactions. But DeSocio said choosing the second option of "color-coding megawatts" outside New York would be too complicated. (See *NY Carbon Task Force Discusses Seams, 'Leakage'*.)

DeSocio said the ISO is not aware of all supply positions outside the New York Control Area and whether there are offtake positions from one external generator to some external load. That means the energy from a source external to NYISO could be coming from a coal plant in Michigan, for example.

"I don't have the tools to guarantee that what I'm getting is getting the right attributes assigned to it," he said.

Rather than try to develop all those tools, which would cost time and money, the ISO is attempting to keep market participants on an even playing field to avoid making a trade into or out of New York harder, or create a bigger barrier to entry, DeSocio said.

Imports will add the charge to their offers, in effect competing with internal resources on a "status quo basis" with the same relative costs as if no carbon charges applied to anyone. Exports are similar but with a credit.

"We think Option 1 does a nice job of keeping the carbon price self-contained and easy to manage," said DeSocio. "We think it's a reasonable approach that offers a lot of the same benefits without a lot of the complexity."

Allocating Residuals

The straw proposal foresees LSEs being debited the LBMPs, "but then the LSEs would be credited all of the collections that we refer to as the carbon charge residuals from the suppliers that are emitting," said DeSocio. "So, there's a debit, and a credit, but at the end of the day on the invoice there's only one charge, and that is the net of the two. That's the concept."

In allocating carbon charge residuals, the ISO chose to levelize the net impact so that customers across the state would end up paying the same rate, consistent with carbon affecting everyone and also with how other decarbonization policies are applied to rates, he said.

"There is an externality to the wholesale competitive market," said DeSocio. "That

Continued on page 18

NYISO News

NYISO Floats Carbon Pricing Straw Proposal

Continued from page 17

externality has to do with environmental attributes, including the cost of carbon. There's money being spent outside of the competitive market to try to deal with decarbonization. So, the goal of the carbon price would be to incorporate that externality to the maximum extent possible into the competitive market as directly as possible."

Howard Fromer, director of market policy for PSEG Power New York, said that with the increasing number and scale of state solicitations for clean energy, offshore wind and energy storage, state agencies and regulators should make their contract language capable of accommodating a possible carbon charge.

"The numbers are mounting quickly, so if you don't do something soon to avoid double-dipping, you'll run into problems," Fromer said.

Social Cost of Carbon

The straw proposal says the New York Public Service Commission would set the gross social cost of carbon (SCC) in dollars per ton of CO_2 emissions "pursuant to the appropriate regulatory process." (See NY Looks at Social Cost of Carbon, Modeling.)

Representing a coalition of large industrial, commercial and institutional energy customers called the Multiple Intervenors, Couch White attorney Michael Mager said, "If carbon pricing were to be implemented under the straw proposal, one of Multiple Intervenors' concerns would be how the social cost of carbon gets set and updated."

Mager said his clients could not accept the SCC being subject "to update and modification at any time by the PSC in its discretion."

"It's one thing if there's something that's set by schedule or set by certain parameters, like the annual demand curve update where it's a formula, everyone knows it, it's set in advance, and it gets changed in a non-controversial manner," Mager said.

"This is a little bit of public policy and a little bit of wholesale market, which is territory that we haven't dealt with too often," said DeSocio.

DeSocio suggested the ISO's public policy transmission process could offer guidance on how to proceed.

"It will be helpful to have more of an understanding of what any process would look like for setting [SCC], especially if we were to consider moving forward with including the cost of carbon in the wholesale market," said DeSocio.

David Clarke, director of wholesale market policy for Power Supply Long Island, asked what would happen if FERC or the federal government decides a lower cost of carbon is appropriate and asserts authority over the rate used under the Tariff.

"We're kicking around a sixty some-odd dollar per ton number, but what if FERC comes back and says the number's twenty bucks, or FERC comes back and says the number is three dollars?" said Clarke.

"Certainly, if FERC [were] to develop some policy regarding how to value the cost of carbon in a wholesale market, we would need to take a step back and think about that," DeSocio said. "At the moment, we're unaware of any such policy."

He added that in using a state-supported SCC, the ISO wants to make sure its "incorporation is stable and provides robust market signals" for investment decisions.

The task force had its own charter on the agenda but deferred serious discussion of it until the stage of discussing next steps — around July 9, when the path forward should be clearer. The overall study results are scheduled to be presented in September.

NYISO News

NYPSC Reviews Storm Recovery, Summer Grid Prep

'Significant Recovery Effort'

ALBANY, N.Y. — About 194,000 customers in New York were without electric power in the state after a series of thunderstorms hit on May 15, the Public Service Commission heard Thursday.

The outages were mostly in the Lower Hudson Valley, the same area that suffered severe outages in March, said Michael Worden, director of the commission's Office of Electric, Gas and Water.

"We have about 5,550 [full-time equivalents] of line, tree and service crews there providing support to the area," Worden said. "That includes on the order of 1,250 out-of-state, out-of-region crews, and also includes a large contingent of New York crews that have been redeployed from, for example, Western New York. So there's a significant recovery effort going on."

By Saturday, most customers had had their power restored, with only about 13,600 still out, according to PowerOutage.us, which aggregates utility-reported outage data.

The commission is continuing to investigate the various utilities' March outages and storm response efforts, Worden said.

Grid Ready for Summer

| NYISO

New York's bulk electric system is prepared to reliably meet this summer's load forecast, according to the Department of Public Service.

Department staff based its assessment on a review of utility data and meetings with individual utilities and NYISO, Vijay Puran, DPS senior engineer for electric transmission planning, told the commission.

"Utilities will complete all planned major reinforcements, inspections and repairs prior to the start of the summer season, and they have adequate spare equipment on hand to meet unforeseen circumstances," Puran said during a presentation.

The ISO predicts demand will peak at 32,904 MW this summer. With a total resource capability of 42,169 MW on hand, the grid's margin of safety comfortably exceeds the 18.2% required installed reserve margin, Puran said.

Peak demand forecasts have dropped by more than 3,000 MW since 2015, which the ISO "attributes to the positive effects of the state's energy programs and to underlying forecast econometric growth rates," he said.

Puran said hundreds of megawatts of load reduction are available to Consolidated

Continued on page 20

Business Issues Committee Briefs

Distillate Prices Up 32.6%

RENSSELAER, N.Y. — NYISO power prices averaged $35/MWh in April, up from $29.91/MWh in March and $31.06/MWh the same month a year ago, Rana Mukerji, ISO senior vice president for market structures, told the Business Issues Committee on Wednesday.

The ISO's year-to-date monthly energy prices averaged $54.82/MWh in April, a 48% increase from a year earlier. April's average sendout was 390 GWh/day, compared with 413 GWh/day in March and 377 GWh/day a year earlier.

Transco Z6 hub natural gas prices averaged $2.79/MMBtu for the month, down less than 1% compared with last month and the same period last year.

Distillate prices gained 8 to 9% compared to the previous month but were up 32.6% year over year. Jet Kerosene Gulf Coast and Ultra Low Sulfur No. 2 Diesel NY Harbor averaged $14.94/MMBtu and $14.85/MMBtu, respectively.

The ISO's local reliability share was 12 cents/MWh in April, compared with 19 cents/MWh the previous month, while the statewide share fell from -51 cents/MWh to -57 cents/MWh. Total uplift costs were lower than in March.

Broader Regional Markets

Reviewing the Broader Regional Markets report, Mukerji highlighted two items.

The first concerned NYISO's effort to clarify the minimum requirements for delivering external capacity from PJM into the installed capacity (ICAP) market. The ISO will continue to evaluate whether it needs to impose additional performance requirements and obligations for deliverability to the New York Control Area border, and it will work to ensure that external capacity resources provide a comparable reliability value for consumers as internal resources. At a combined Installed Capacity/Market Issues Working Group meeting April 24, the ISO discussed the current Supplemental Resource Evaluation process for external resources, as well as the existing consequences for external ICAP supplier nonperformance.

The second item concerned possible refinements to locality exchange factors (LEFs). At an August 2017 ICAPWG meeting, Atlantic Economics presented an alternative approach for calculating LEFs, prompting the ISO to engage GE Energy Consulting to investigate the viability of potential refinements to its current methodology.

GE presented a review of its assessment of three potential alternative approaches for calculating LEFs at the May 9 ICAPWG/MIWG meeting, developed by GE, the New York Transmission Owners and Consoldiated Edison.

The ISO on Wednesday delivered to the BIC a position statement that it "has become convinced that the stability and transparency of the current [deterministic] approach is preferable to a probabilistic approach and, therefore, recommends that we terminate further evaluation … [and] recommends not spending any additional resources on exploring LEF probabilistic techniques at this time."

Con Ed also delivered a statement that it "has performed a 'proof of concept' of a [probabilistic] LEF that would save customers tens of millions of additional dollars beyond the savings resulting from the use of the [deterministic] LEF."

The utility added that it was "disappointed that the proposal is being rejected and the project terminated without a full vetting of the proposal through the stakeholder process."

The ISO said stakeholders are free to make their own presentations to market participants through the stakeholder process.

Continued on page 21

NYPSC Reviews Storm Recovery, Summer Grid Prep

Continued from page 19

Edison through its demand response programs, and other utilities have similar load-relief measures they can turn to if needed.

DPS staff expect the cost for electricity this summer to be higher than last year but 9 to 12% below the five-year average.

"I hear this as an outlook that is good news for New Yorkers, giving us comfort that we can confidently expect adequate supply and reasonable costs," PSC Chair John B. Rhodes said.

National Grid Utilities Audit

In its consent agenda, the commission ordered a management and operations audit of three National Grid USA subsidiaries: Niagara Mohawk Power, Brooklyn Union Gas and KeySpan Gas East (18-M-0195). The effort will focus on construction program planning and operational efficiency.

"The audit will include an assessment of the utilities' readiness to respond to the Reforming the Energy Vision initiative and closely examines how the utilities plan for and manage information systems projects," Rhodes said in a statement. "The audit will also address issues from previous management audits that require follow-up review, such as organizational structure, project estimating processes and work management processes."

Gov. Andrew Cuomo in 2013 highlighted the importance of management and operations audits of the state's utilities, and introduced — and subsequently signed — legislation that required utilities to file plans for implementing audit recommendations.

This is the fourth comprehensive audit since 2013, and three additional audits are underway, the commission said.

"To date, these audits have recommended numerous productivity enhancements, better risk mitigation strategies, and improved planning processes, as well as other operational improvements at New York's utilities," the commission said. "These process improvements result in savings for customers over time, and those savings are captured in rate cases."

— Michael Kuser

NYISO News

Business Issues Committee Briefs

Continued from page 20

Potomac Economics 2017 State of the Market Report

The BIC on May 16 heard the first of three planned presentations to NYISO stakeholders this month from Potomac Economics, the ISO's Market Monitoring Unit, on its 2017 State of the Market Report, including recommendations to improve performance.

Wednesday's presentation pointed to a notable divergence in energy prices and congestion between NYISO's Central and East, "and of course that's driven by the Central-East Interface, which limits flows from the central part of the state to the capital region," Potomac's Pallas LeeVan-Schaick said. The same interface was highlighted earlier this month in the ISO's 2017 Congestion Assessment and Resource Integration Study (CARIS). (See *NYISO Study Identifies Key Areas of Tx Congestion*.)

The price discrepancies were largely driven by differences in regional natural gas prices, which averaged $2.06/MMBtu on the Millennium Pipeline in the West and $3.39/MWh on the Iroquois Pipeline Zone 2 in the East.

"In 2017 we saw about an average of a $7/MWh price spread between those two regions, and that was driven principally by the large difference in gas prices," LeeVan-Schaick said.

Congestion also exists between the northern and central areas of the state, with an average price spread last year of $6/MWh, he said.

Long Island had the highest energy prices last year (with a $6/MWh price spread between it and the Lower Hudson Valley), in part because of "the higher heat rates of thermal resources there as well as somewhat higher gas prices for the Iroquois Pipeline," LeeVanSchaick said.

He noted that the report carries over several criticisms and recommendations from last year, such as its assertion that the ISO's markets do not provide incentives for efficient transmission investment.

Priority on Market Efficiency

"You may get congestion in New York City or in eastern New York because you're using [phase angle regulators] in the eastern part of the state to manage congestion in the western part, [which is] why it's important to use the market models so it can be done as efficiently as possible," he said.

To address transmission constraints, the MMU recommends compensating merchant investors for the capacity value of transmission upgrades and reforming CARIS to better identify potential economic transmission.

Benefits would include cost savings achieved by lowering barriers to entry, which favor generation and demand response over transmission, and by substantially reducing the need for out-of-market public policy investment, the report said.

"NYISO has made a lot of progress on this issue this year, so I'm crossing my fingers that by the end of the year, the ISO will be modeling these 115-kV constraints, or at least the vast majority of them," LeeVan-Schaick said.

The MMU designates a recommendation as high priority by assessing how much the change would likely enhance market efficiency.

"To the extent we are able to quantify the benefits that would result from the enhancement, we do so by estimating the production cost savings and/or investment cost savings that would result because these represent the accurate measures of economic efficiency," LeeVanSchaick said.

Modeling NYC Local Reserve Requirements

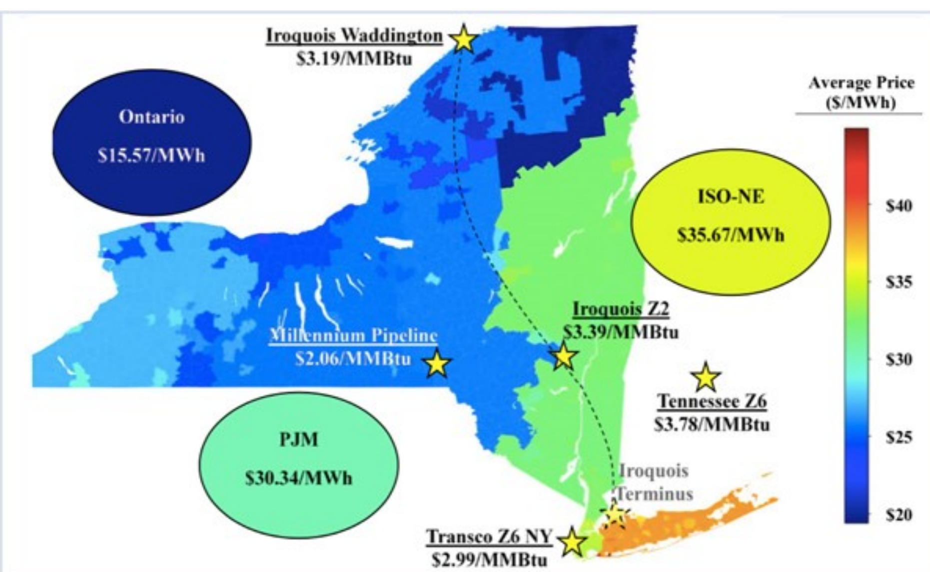
One of the MMU's new performance incentive-related recommendations is for the ISO to model local reserve requirements in New York City load pockets.

The ISO is required to maintain sufficient energy and operating reserves to satisfy N-1-1 local reliability criteria in the city. However, these local requirements are not satisfied through market-based scheduling and pricing, making it necessary to satisfy them with out-of-market commitments in the majority of hours, the report said.

The costs of out-of-market commitments are recouped through make-whole payments, the routine use of which distorts short-term performance incentives, as well as incentives for new investment that can satisfy the local requirements, LeeVan-Schaick said.

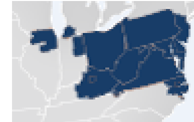
Wednesday's presentation provided just an overview of the MMU report. Capacity results and related recommendations will be presented at the May 23 ICAPWG/MIWG meeting, with energy and ancillary services results and recommendations to be presented May 31.

— Michael Kuser



| *Potomac Economics*

PJM NEWS



PJM Annual Meeting

Retiring PJM Chair Schneider Reflects on 21 Years at the Helm

By Rory D. Sweeney

National Harbor, Md. — If, in the coming years, Howard Schneider feels an inexplicable urge to be at the Chase Center in Wilmington, Del., on Thursdays late in the month, he can be forgiven. PJM's monthly Markets and Reliability/Members committee meetings have been part of his life for the past 21 years.

The first and only nonexecutive chairman of PJM's Board of Managers retired Wednesday, having reached the limit on terms an individual can serve on the board. It's a day for which he has had years to prepare, and yet he's resigned to the fact that he may never be fully ready to let go.

"[It] is going to be a melancholy day," Schneider said during an interview May 15 at PJM's annual meeting at the Gaylord National Resort & Convention Center on the Potomac River outside D.C. He was only half joking.

And why not? Schneider has been on the board since its inception in 1997 when, PJM — formed as a power pool run by Philadelphia Electric Co. and others in 1927 — completed its transition to an independent organization and became the nation's first fully functioning independent system operator. He became the board's first nonexecutive chairman in 2007.

Schneider was there as PJM became the nation's first fully functioning RTO in 2002 and worked through many market changes since then. He has overseen two transitions of the executive team, from Phil Harris to Terry Boston in 2007 and from Boston to Andy Ott, PJM's current president and CEO, in 2015.

"Phil was an innovator, very talented, a futuristic thinker," Schneider said. "Terry was a practical guy who implemented well and had terrific relationships with outside constituencies. I think Andy is a thinker, an innovator also, and I think he tries to find solutions and implement them. I've been very, very pleased with Andy's CEO status. The board was looking for somebody who could carry the PJM flag, and I think Andy

Schneider last Tuesday morning at this year's PJM annual meeting. | © *RTO Insider*

does it exceptionally well."

The More Things Change…

Prior to joining the board, Schneider knew little about the power industry, though he was highly experienced in Wall Street's exchanges for commodities, securities, futures and other markets. He was the general counsel for the Commodity Futures Trading Commission from 1975 to 1977. That understanding of "pure" markets has informed his appreciation for the challenges of PJM's administrative markets.

"We were just starting to put LMP into effect. … Capacity markets came on right around that time. It was all sort of new. I don't really know what it was like before, but you can envision the utilities in effect having vertical dominance over the markets and operating in their own little spheres," Schneider said. "It's incredible because [RTO markets], they're make-believe markets. Every time something goes wrong, there's another bell that [gets added] on, another whistle that goes on. … There's always a revision to an artificial market. … as something develops in a marketplace, they make the change that's necessary to cure that particular thing, which then leads to another change, which leads to another change. So, they're always evolving markets; they're never rigid."

The concept has been evolving since PJM opened its first bid-based energy market in 1997, and Schneider doesn't expect that to change.

"When you have a [Market Monitor] and a senior staff as innovative as they are, I think you're going to see change," he said. "Frankly, I'd like — the stakeholders would like — to see less change so that it stabilizes. … But it's just the way the world it is. It just changes."

But some of the foundational pieces, like the capacity market, are likely to remain constant, Schneider insists.

"The *sine qua non* of PJM has been the capacity market," he said. "It's hard to think about … PJM without a capacity market, and it's served a very useful purpose."

Expansion

Schneider remains particularly proud of PJM's expansion during his tenure, both geographically — in reaching out to Commonwealth Edison's territory in Chicago — and structurally in the size and variety of its markets. The desire for growth has meant challenges, though.

"There was a time when we were talking about merging New England ISO, NYISO and PJM, and that turned out to be a terribly divisive issue," Schneider said. "I advocated for it because I thought it would solidify the same concept of expansion out to the west, to the north. … It divided the board a little bit at the time, and I don't think our friends in New York or New England particularly copped to it, so it was something I think I regret in retrospect."

Still, Schneider believes that PJM has room to grow.

"The only place you can go is basically to the south, and that's always a possibility, but it's nothing that PJM is actively seeking, nor should it. If the opportunity presents itself, it's certainly a discussion item," he said.

On market efficiency, he argued they've become "almost too successful, in that the prices are so low that resources are finding it hard to make sufficient money to be effective."

Schneider said he is strongly opposed to anything that might suffocate the market,

Continued on page 23

PJM News

PJM Annual Meeting

PJM Board Elects New Chair, Welcomes New Member

NATIONAL HARBOR, Md. — The PJM Board of Managers on Wednesday elected Ake Almgren as chairman and new member Neil H. Smith, the former CEO of generation developer InterGen.

Ake Almgren | *PJM*

Neil H. Smith | *PJM*

Re-elected to three-year terms were John McNeely Foster, who joined the board in 2003, and Sarah Rogers, who began in 2012.

Almgren, a Ph.D. engineer, succeeds former Chairman Howard Schneider, who retired after 21 years on the board. Smith will fill the vacancy created by Schneider's retirement. (See *Retiring PJM Chair Schneider Reflects on 21 Years at the Helm*.)

"Howard Schneider has led the PJM board by example, with a focus on integrity and the highest ethical standards," PJM CEO Andy Ott said in a statement. "He has served on the board during a time of tremendous growth for PJM and unprecedented change in the industry."

Almgren, who joined the board in 2003, is the former president of ABB Power T&D, former CEO of Capstone Turbine Corp. and a former member of the Department of Energy's Electricity Advisory Council. He is the owner of Orkas Inc., which provides consulting in electric transmission and distribution, distributed resources, renewable energy and hybrid electric vehicles.

Smith retired as InterGen's CEO in 2016 after 25 years with the company. He also is a former board member for The Wood Group, which provides project, engineering and technical services to energy and industrial clients.

Foster, a certified public accountant, is a former member of the Financial Accounting Standards Board and former vice president, treasurer and principal accounting officer of Compaq.

Rogers, an electrical engineer, served as CEO of the Florida Reliability Coordinating Council from 2007 until 2012. Between 1984 and 2007, she worked in a variety of positions at Progress Energy and its predecessors, including vice president of transmission.

— Rich Heidorn Jr.

Retiring PJM Chair Schneider Reflects on 21 Years at the Helm

Continued from page 22

such as Energy Secretary Rick Perry's efforts to subsidize coal and nuclear generators.

"I personally believe that this whole business with the Department of Energy and the threat that that creates for markets is an existential threat to PJM itself, it's very existence, because if you foul up these markets — which is what I think the DOE proposal would do — then you've in effect taken away what is PJM's great strength and characteristic, which is its ability to have functioning markets that have performed so well," Schneider said. "It's been an unbridled success, and I don't want to see that go away."

He said PJM's current analysis into the grid's resilience should determine which way to go.

"I think you have to look at resilience in a very holistic way, and you have to look at it some years down the road," Schneider said. "Reliability is not a problem. Whether the fuel system is secure five years out, 10 years out, is a question that I think needs to be examined … and we'll see where that leads. It may lead to something that says, 'Things are fine; leave it alone' — although you have a government that's trying to push in a different direction — or one that says maybe we need to tweak this or tweak that and give a value to some resiliency characteristic that we hadn't given a value to before."

The resilience challenge differs from the Capacity Performance changes implemented after the 2014 polar vortex, Schneider argued.

"The point of CP was really to have a system in which outages were very limited to a real inability to perform because of something that was more like an act of god than just because it hadn't been dealt with in a significant way. … It incentivized generator performance," Schneider said. "Now you're in another world of resilience that takes on different characteristics and may lead to something like a significant Capacity Performance-type fix, or it may not."

He found it hard to identify the most difficult issue PJM faced during his tenure.

"Each problem that you tackle has a problem to it. When we put in Capacity Performance, for example, everybody was complaining, 'You're going too fast.' And, on the other hand, if you didn't go fast you'd miss the next year, and the thought of generators [having a] 20% outage [rate] or anything like the polar vortex was just [very bad] so we had to move," Schneider said. "You're not going to satisfy every constituency. Sometimes the way you know you've done something right, is everybody's mad at you."

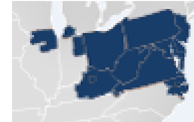
Polar Vortex

Schneider insists he never worried the lights would go out during the 2014 scare.

"We came close to having to pull back and blackout, so it wasn't fun. Everybody was worried about that, but we pulled through," he said of the incident. "I'm never nervous. I have tremendous faith in the management

Continued on page 24

PJM NEWS



PJM Annual Meeting

Advocates Press PJM Board on Transparency

By Rory D. Sweeney

NATIONAL HARBOR, Md. — Consumer, small-business and environmental advocates pressed PJM's Board of Managers on the issue of transparency at their annual meeting last week, calling on the RTO to provide more explanation of its broader plans and goals.

Advocates from several member states took turns outlining their shared perspective on what they see as the largest issues PJM is currently addressing and the obstacles the RTO faces.

Brian Lipman with the New Jersey Division of Rate Counsel set the tone during his discussion of PJM's initiative to reform how energy prices are formed.

"Advocates are supportive of looking at proposals to improve the PJM market, but it needs to be done in the most efficient and effective manner," he said. "So with energy price formation, one of our first questions is: What happened to LMP?"

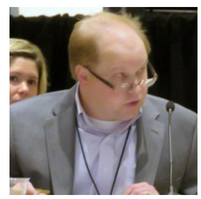
He endorsed PJM's current focus on revising how reserves and shortage pricing are calculated, but added that "it's unclear to us" whether reviewing the LMP calculation will be a "next step."

"We're asking for clear communication on this front," he said. "There's much being juggled by all the stakeholders in PJM, and many problems on the table for consideration. … Each one impacts another, so it's not possible for the consumer advocates or any stakeholder to merely take a look at one piece of the puzzle without thinking about how everything will fit together and what the complete picture is. … We need to know how PJM plans to fit energy price formation into its resilience initiative."

John R. Evans, Pennsylvania's small business advocate, said he stays involved because "many times, if you don't have a seat at the table, you often find yourself on the menu."

Evans is concerned about the potential for his state legislature to subsidize its nuclear fleet, as has happened in Illinois and New York and is on the brink of approval in New Jersey.

"Show us some benefit to small business classholders," he said. "So far, we haven't seen that."



Erik Heinle of the D.C. Office of the People's Counsel discussed advocates' support for increasing PJM's consideration of cost-containment guarantees in staff's analysis of transmission construction bids. Stakeholders will consider several different proposals on the topic at a May 24 Markets and Reliability Committee meeting. Heinle's office joined LS Power in developing a proposal that would require PJM to seek input

Continued on page 25

Retiring PJM Chair Schneider Reflects on 21 Years at the Helm

Continued from page 23

team at PJM. I always have from the very first inception, and you could see they were very talented people who thought things through and came to reasoned conclusions, which I think is all you can ask of people."

Board Stuff

Schneider hedged when asked whether his time on the board matched what he had envisioned, saying it worked out "a little of both" — unexpected and how he had planned. He said he spoke with Ott weekly to determine if anything needed to be reported to the board. "Over 21 years, as you can imagine, there are have been plenty of issues du jour," he said.

He transitioned quickly to praise his colleagues on the board.

"I think it's been a very responsible and responsive board, and I think that has contributed to PJM's success in a great measure. We've been fortunate. There are diverse people who come on that board, and I can't say there's been a clunker among them. That's a very pleasant thing," Schneider said. "We were going to be a true corporate board. We weren't going to be a stakeholder board or any of the other variants that are around in the ISO community. To me, that principle of being a true corporate board was essential to the success of PJM."

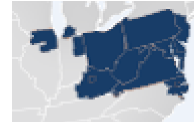
Schneider emphasized PJM's "very good relationships with most of the ISOs" and the board's "deep sense of fiduciary responsibility" to states, the Market Monitor, stakeholders and consumers.

Even with very diverse backgrounds, board members come to consensus, he said. "It is a very, very rare time that we come away with a divided board," he said.

Future Plans

Going forward, Schneider said he'll only attend the monthly MRC meetings as a hired consultant advocating for a client. He has been a senior consultant at Charles River Associates since 2010 but "studiously avoided the energy field" because of potential conflicts of interest. Now that those conflicts no longer exist, he's ready to step into the energy field.

"I loved it," he said of his run. "It's been a great experience with some really extraordinary people. I've been very pleased by it. … I sure as hell enjoyed it. It's been great fun."



PJM Annual Meeting

Advocates Press PJM Board on Transparency

Continued from page 24

from the Independent Market Monitor in comparing cost caps to cost estimates. PJM has developed two other proposals: one would limit cost-containment evaluation to construction costs while the other would give RTO staff authority to consider a wider range of factors at its discretion and require them to perform a feasibility evaluation on any cost commitments.

While Heinle advocated for his proposal, he acknowledged the "thorny issue" of having evaluation criteria developed by one stakeholder sector and called PJM's proposals "a considerable upgrade form the status quo."

He also addressed supplemental and end-of-life transmission projects, arguing that "the current process does not provide adequate transparency related to data and criteria thresholds each transmission owner uses to prioritize assets for replacement."

Jackie Roberts, director of the West Virginia Consumer Advocate Division, questioned PJM's filing in FERC's resilience docket, saying it made her "uncomfortable" that the comments should have "demonstrated how reliable and resilient our system already is."

"I don't think clearing prices are any more artificially low now than they were artificially high several years ago," she said.

The comments "befuddled" her until she realized they reminded her of how the Obama administration's Clean Power Plan was developed, she said. It became clear, she said, that such proposals are developed by "someone who doesn't have the authority to require a market solution."

"PJM asking for more authority about the gas industry … I don't understand that," she said. "I do think there needs to be a gas industry ISO, but PJM is not the entity to do that. That needs to be a parallel, standalone effort.

"I really am not a fan of PJM saying anything that suggests to the public … that we are not resilient and that our fuel mix may not be resilient."

PJM Response

Left to right: PJM CEO Andy Ott; Ed Tatum, AMP; Kristin Munsch, Illinois Citizens Utility Board. | © *RTO Insider*

PJM CEO Andy Ott said legislators have been asking him at what point the grid would become too dependent on one set of infrastructure.

"We have been very clear in our statements about the current situation, even with the current announced retirements, [that] we don't have a fuel security problem and the system is fine," he said. "However, 10 years from now, if we continue to see changes in the fuel mix, we have no criteria to look at fuel dependencies and fuel security. … It's a legitimate question for us to analyze. If you're insinuating that PJM's activities here are trying to change certain resources from retirement … I think that's a misguided suggestion."

Ott and board members agreed on the importance of prioritizing issues based on significance but defended some of staff's decisions to move quickly on topics that some stakeholders have questioned.

"In some cases, 'do nothing' might not be an option because of whatever drivers are out there," Ott said. "Ignoring problems isn't going to make them get any better."

Board member Charles Robinson said PJM sometimes moves quickly specifically to be "responsive to a cost concern."

"Sometimes we move quickly because we are concerned about cost impacts, because we feel the need to correct a perceived deficiency so that we can be responsive to a cost concern," he said.

"The board does take both cost and benefit into consideration," board member Susan Riley said.

IMM Support

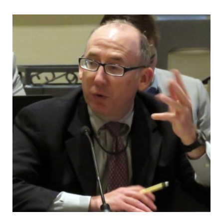
Robinson also questioned a note from the advocates' slides indicating their support for the Monitor.

"From my perspective, I feel as though we also care a great bit about getting an independent view, and I believe we take it into account," he said.

"We think the level of cooperation between PJM and the Market Monitor is at an all-time high, so I'm interested in understanding if that bullet was there just to reaffirm or if there is a perceived issue," Ott added.

Kristin Munsch of the Illinois Citizens Utility Board clarified that it was meant as support for the Monitor going into contract negotiations next year.

"We wanted to go publicly on record that this was important to us," she said. "Don't be surprised when you hear consumer advocates going forward reaffirming, making that point, because we understand the discussions that might be coming to the broader PJM community."



Bill Fields from the Maryland Office of People's Counsel said the Market Monitor provides information and analysis in stakeholder meetings that might not otherwise exist.

"We find a lot of value in the Market Monitor continuing to provide that assistance to

Continued on page 26

PJM NEWS

PJM Annual Meeting

Resilience Leads Discussion at PJM Annual Meeting

By Rory D. Sweeney

NATIONAL HARBOR, Md. — Attendees who didn't pick up on the theme of PJM's annual meeting last week weren't listening. "Resilience" was uttered so many times during the General Session that speakers were sheepishly joking about using the word before launching into their own comments.

What did the audience learn from all of it? That it's complicated. That it requires coordination across multiple organizational levels, and that there's no template. It's also likely very expensive — although so are the consequences of disasters when necessary provisions aren't in place.

Rob Glenn, director of private sector integration for the Federal Emergency Management Agency, urged stakeholders to develop "a culture of preparedness" and run response exercises routinely. Because emergency responders aren't always paid professionals, he said, coordination needs to occur all the way to the community level and begin well before an event occurs.

Pat Hoffman, the Department of Energy's principal deputy assistant secretary for the Office of Electricity Delivery and Energy Reliability, warned of cyberattacks on the industry within the next year from Russian hackers.

"Cybersecurity is one of the most important issues facing this industry today," she said. "We have a huge bullseye on our back. … At this stage of the game, it's not if but when, so how do we make sure we can continue to operate after an attack?"

The industry is focusing on improvements in sensing technology to support outage recovery, asset management and machine learning, she said. She said one of the industry's main strengths is being able to articulate how much damage it has sustained from an event, how secure its network remains, what work needs to be accomplished and the steps necessary to move forward.

Resilience Panel

The meeting included a panel discussion on lessons learned about resilience from recent events. Several of the panelists recounted their experiences helping to rebuild Puerto Rico's electricity grid following Hurricane Maria last year.

Saul Rojas, a vice president of technical compliance for the New York Power Authority, said one of the main takeaways was how tired people were. He said he "never felt so powerless as a manager" when his agency's satellite phones failed, preventing him from communicating instructions to his crews. NYPA is following up with its vendors to figure out the cause of the problem.

Rojas said NYPA had to think "outside the playbook" in mobilizing to an island with unexpectedly rugged terrain. "When I went to Puerto Rico, I was expecting flat lands and beaches," he said.

Because of the mountainous terrain and lack of vegetation management in rural

Continued on page 27

Advocates Press PJM Board on Transparency

Continued from page 25

advocates," he said.

Roberts brought up another concern about PJM attempting to stop Monitor Joe Bowring from filing complaints at FERC.

"Along with PJM, he is the most knowledgeable person about all matters PJM, and we simply don't understand why there is a problem with him filing complaints at FERC," Roberts said. "We think that's an important [thing] you have stifled."

Environmental Concerns

The Sierra Club's Mark Kresowik voiced concerns about what he suggested is a common assumption: that environmentalists seek high energy prices in order to drive efficiency.

"The answer is actually 'no' because, in addition to clean electricity being the single most important way that we're going to reduce carbon pollution from the economy and ultimately combat climate disruption, clean electricity also has to power the rest of the economy … in order to achieve the levels of carbon pollution reductions that we need," he said. "In order for clean electricity to play that role, it has to outcompete gas and oil in those sectors, which means it needs to be affordable for all.

"We are increasingly concerned that many of the decisions that are made by PJM, that are in the process of being recommended by PJM, threaten to raise costs, particularly for states and consumers that are actively choosing and preferring clean energy, often without a clear reliability benefit."

He also expressed interest in a comment made by Robinson that the board requests cost analysis on major decisions sent to FERC, noting that no such analysis was included in PJM's recent filing to revise its capacity construct. (See PJM Capacity Proposals Widely Panned.)

"That's a major concern for us," he said, "and we're seeing similar things going forward."

Mike Jacobs with the Union of Concerned Scientists said the current capacity construct excludes some resources on the grid and he urged PJM to consider allowing resources more flexibility to make capacity offers into annual, summer or winter auctions.

"Optimization is something this organization knows how to do … instead of being stuck with old models and old resources," he said.

PJM Annual Meeting

Resilience Leads Discussion at PJM Annual Meeting

Continued from page 26

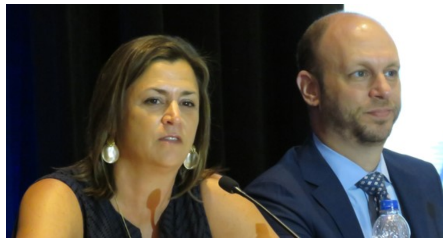
areas, the general rule was it took 30 linemen two weeks to restore power to less than 10 customers, he said. "Does it really make sense for them to be connected to the grid? Perhaps … reimagining the grid" with distributed energy resources makes more sense, he said.

Michael Hyland, American Public Power Association's senior vice president of engineering services, who coordinated with Rojas throughout his time in Puerto Rico, said mobilization was much different than on the U.S. mainland. In contrast with APPA's mobilization of 60,000 workers in response to Hurricane Irma in Florida, he said, "I can't just tell them to start driving down I-95."

He said many utilities don't recognize the value of mutual aid agreements until they've been hit, but that the work in Puerto Rico has been effective. Utilities in Trinidad and Tobago have now joined APPA, he said.

APPA is also developing a variety of drills to simulate potential regional events, such as earthquakes, hurricanes and mudslides. Game theory is also being incorporated to require dynamic responses. "Think [the video game] 'Oregon Trail,'" he said. "You may die."

Don Daigler, Southern California Edison's director of business resilience, recapped his company's response to last year's wildfires, noting that at one point there were five fires within its territory for three weeks. He said much of the state was a "powder keg" because of fuel from unusual amounts of undergrowth combined with the "unprecedented" continuation of the hot, dry, fast Santa Anna winds into December.



Caitlin Durkovich and Scott Aaronson | *© RTO Insider*

The company found issues with incident command, executive engagement, real-time investor relations to mitigate stock-price fluctuations, and ground-level strategies to ensure notification. The company embedded workers with fire and lineman experience to provide useful information to responders.

Caitlin Durkovich, a director at Toffler Associates, the strategic consulting and advisory firm founded by "Future Shock" author Alvin Toffler, said the idea is to think about "critical dependencies" between infrastructure systems, such as electricity and water, and realize there are "no bright lines or boundaries" but rather "concentric circles that move outward." Organizations must be ready to make major changes, said Durkovich, former assistant secretary of infrastructure protection for the U.S. Department of Homeland Security.

Scott Aaronson, Edison Electric Institute's vice president for security and preparedness, told attendees to focus on unity of effort, message and investment to develop preparedness for a spectrum of possible events.

Ott Defends Fuel Security Initiative

PJM CEO Andy Ott wrapped up the discussion by defending the fuel security initiative announced last month and imploring stakeholders, "I need your help" to improve resilience. (See *PJM Seeks to Have Market Value Fuel Security*.)

"I do believe that fuel security is resilience," he said, responding to criticism that the initiative is an effort to funnel money to ailing coal and nuclear plants. "Sometimes folks have been critical of our policies. Sometimes, it's like democracy: It's not perfect, but it's the best game in town."

Schneider Retires

The meeting culminated in an emotional sendoff for Board of Managers Chairman Howard Schneider, who was forced by term limits to retire from the board. He was the last of the original board members from its inception in 1997 and was its first and only nonexecutive chairman, assuming the position when it was developed in 2007. (See related story, *Retiring PJM Chair Schneider Reflects on 21 Years at the Helm*, p.22.)

Continued on page 28

Left to right on the dais at the Members Committee meeting: PJM CEO Andy Ott; Dave Anders, PJM; Mike Borgatti, Gabel Associates; Chuck Dugan, EKPC; Vince Duane, PJM. | *© RTO Insider*

MRC Preview

Below is a summary of the issues scheduled to be brought to a vote at Thursday's PJM Markets and Reliability Committee meeting, which will be held at the PJM Conference and Training Center and not its normal location at the Chase Center in Wilmington, Del. Each item is listed by agenda number, description and projected time of discussion, followed by a summary of the issue and links to prior coverage in *RTO Insider*.

RTO Insider will be in Valley Forge, Pa., covering the discussions and votes. See next Tuesday's newsletter for a full report.

Markets and Reliability Committee

2. PJM Manuals (9:10-9:45)

Members will be asked to endorse the following proposed manual changes:

A. Manual 36: System Restoration. Revisions developed as part of the manual's annual review; includes clarifications regarding synchro-check relays, blocking governors and black start generators.

B. Manual 3: Transmission Operations. Biannual review to update operating procedures. Revisions update remedial action schemes, sectionalizing schemes and definitions for the Cleveland and Eastern interfaces; designates voltage limits for Ohio Valley Electric Corp.'s impending integration; adds language regarding reactive reserve check submittals and clarifies notes on load shed activity.

C. Manual 11: Energy & Ancillary Services Market Operations. Revisions developed to ensure consistency between the manual and Operating Agreement regarding price-based offers of more than $1,000/MWh. The change was necessitated by FERC Order 831, which required RTOs and ISOs to raise their hard caps for verified cost-based incremental energy offers to $2,000/MWh. (See "Offer Cap Resolution," *PJM Market Implementation Committee Briefs: May 2, 2018*.) Also includes conforming changes regarding bidding locations for virtual transactions.

D. Manual 14A: New Services Request Process. Annual review. Revisions developed to introduce the Queue Point software for submitting data for feasibility and system impact studies.

E. Manual 7: Protection Standards. Revisions developed by the Relay Subcommittee to add clarity, update terms and add reliability requirements.

F. Manual 14D: Generator Operational Requirements. Revisions developed to define procedures and notification deadlines for transferring ownership of generation resources. (See "Gens Get Commercial Realities into Gen Transfer Processes," *PJM Operating Committee Briefs: May 1, 2018*.)

3. Cost Containment (9:45-10:25)

Members will be asked to vote on proposals to include consideration of cost-containment commitments in PJM's analysis of transmission construction bids. This is the continuation of a discussion that was tabled for four months as stakeholders attempted to find consensus. PJM has two proposals it plans to offer, but LS Power's proposal will be considered first since a vote on it was deferred at the January MRC. (See *Cost Containment Proposal Survives; Headed to MRC*.)

4. Variable Operations & Maintenance Packages (10:25-10:45)

Members will be asked to vote on proposals to change rules on submitting variable operations and maintenance (VOM) costs for recovery. Two proposals were endorsed at April's Market Implementation Committee meeting:

- The PJM package, which was supported by a 75% vote, would allow only actual maintenance costs directly tied to electric production can be included in a unit's incremental energy offer.
- The default VOM package, which won an 81% endorsement, would allow resources to choose between filing actual costs under the PJM package or a default value no greater than the new build data published by the U.S. Energy Information Administration.

A third package developed by the Independent Market Monitor may also be considered. (See "VOM Proposal," *PJM Market Implementation Committee Briefs: April 4, 2018*.)

5. Operating Agreement Confidentiality Provision (10:45-10:55)

Members will be asked to endorse OA revisions allowing PJM to share member confidential information with the Eastern Interconnect Data Sharing Network (EIDSN) in addition to NERC and other reliability entities. EIDSN was created in 2014 to develop industry tools that NERC has decided it no longer wants to create and maintain.

— Rory D. Sweeney

Resilience Leads Discussion at PJM Annual Meeting

Continued from page 27

Several members of PJM leadership reflected on Schneider's term, including Ott, who said Schneider taught him how to run the RTO "the right way, to run it with inclusiveness, to run it with integrity."

Gabel Associates' Mike Borgatti, chair of the Members Committee, noted that Schneider's "fingerprints are all over PJM."

Ake Almgren, who was later elected to succeed Schneider as chair, praised Schneider for how he "always made the extra effort to engage all board members … making the aggregate board stronger than its individual members." (See related story, *PJM Board Elects New Chair, Welcomes New Member*, p.23.)

In his farewell remarks, Schneider praised his fellow board members.

"I can truly say to you that you have a strong board with a hardworking and knowledgeable person in every slot," he said.

He also extended a final peace offering to the Independent Market Monitor, with which he had clashed in the past, calling it "not technically a part of PJM, yet an integral part of PJM."

"The [Market Monitor] is a good check and balance and has important ideas to convey," he said.

He requested that PJM and its stakeholders protect its markets, keep grid reliability as a priority and value input from the board.

"It usually provides sage advice," he said.

Finally, he said, PJM "has prospered over these 21 years and my wish is may it continue to do so."

Stakeholder Process Reforms

Borgatti teased the launch in June or July of an effort to consider potential changes to the stakeholder process and urged members to become involved in the discussion.

"I think it's incredibly important that we lean in on this one," he said. "Anyone who wants to participate needs to be given an opportunity to weigh in."

SPP NEWS

FERC Rejects NPPD Objection to Tri-State Zonal Placement

FERC last week affirmed an administrative law judge's 2017 decision that SPP's proposed Tariff revisions to incorporate Tri-State Generation and Transmission Cooperative as a new transmission owner in an existing pricing zone are just and reasonable (ER16-204).

Nebraska Public Power District, the dominant TO in the affected zone, objected to SPP's decision to incorporate certain Tri-State transmission facilities and the annual transmission revenue requirement (ATRR) into its zone.

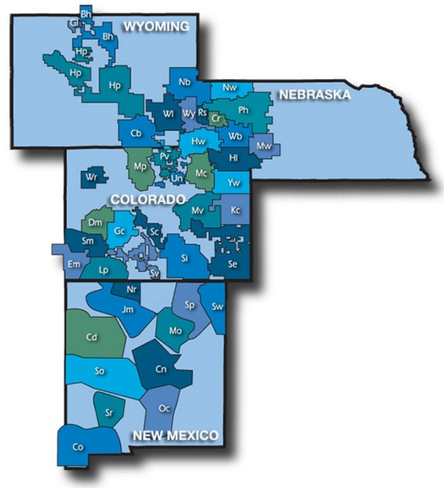
The commission denied NPPD's request to reopen the record, saying it failed to demonstrate the existence of "extraordinary circumstances" and that a change in circumstances was "more than just material."

"NPPD's motion relies on a change in the criteria that SPP applies to determine zonal placements and additional information" regarding another potential SPP member (Western Area Power Administration-Rocky Mountain Region) joining the RTO, the commission said. "Neither of these arguments demonstrate extraordinary circumstances or changes that go to the heart of the case."

When SPP adds a new TO to an existing zone, the TO's ATRR and any of its load not already included in the zonal load are added to the existing zone's totals, resulting in a new total zonal ATRR and a new total load. That leads to new service rates for all transmission customers within the zone.

NPPD argued that the proposed ATRR, including the proposed return on equity, was not just and reasonable. It said that because Tri-State's average per-megawatt cost of serving load was higher than NPPD's average cost of serving its existing load, adding Tri-State would shift more than half of the costs of the co-op's transmission facilities to existing Zone 17 customers and increase the costs to serve them.

The commission accepted SPP's Tariff revisions in December 2015, and established hearing and settlement judge procedures over whether the placement of Tri-State's facilities and ATRR in NPPD's zone was just and reasonable and whether Tri-State owed any refunds.



Tri-State's service territory | *Tri-State Generation and Transmission Cooperative*

ALJ John P. Dring found SPP's proposed Tariff revisions and their placement of Tri-State's transmission facilities in NPPD's zone just and reasonable. He also determined Tri-State owed no refunds in connection with its proposed zonal placement.

FERC agreed that the criteria SPP applied to determine whether Tri-State should be placed in NPPD's zone "are appropriate for determining zonal placement" in this proceeding. It also sided with Dring that "what matters in this proceeding is whether the criteria render just and reasonable results," agreeing that SPP's criteria did so.

"We agree … that shifting cost responsibility for some degree of legacy costs is not *per se* unjust and reasonable, but there may be cases in which a cost shift would be unjust and unreasonable," the commission wrote.

Fifteen SPP members joined NPPD in intervening in the docket, many of whom filed a Section 206 complaint in October alleging that SPP's zonal placement is unjust and unreasonable (EL18-20). FERC rejected the complaint in March, but the TOs have filed a rehearing request. (See *FERC Rejects TO Complaint on SPP Zonal Placements*.)

Colorado-based Tri-State, a nonprofit cooperative that sells wholesale electricity to its member-owner distribution cooperatives and public power districts in Nebraska, New Mexico and Wyoming, joined SPP in January 2016.

Commission Denies Rehearing Requests on SPP's ARR, TCR Rules

The commission denied Xcel Energy's rehearing request of a 2017 order that rejected proposed revisions to SPP's tariff regarding the eligibility of customers with network service subject to redispatch to receive certain financial transmission rights (ER17-1575).

The commission's October 2017 order directed SPP to rewrite its rules on auction revenue rights and long-term congestion rights (LTCRs), saying the RTO's proposed grandfathering provisions would "inappropriately extend practices that the commission finds unjust and unreasonable." (See *FERC Again Rejects SPP Rules on ARRs, LTCRs*.)

FERC affirmed its decision to grandfather ARRs and LTCRs that have already been granted to network customers with service subject to redispatch. It had also said it was not reasonable to extend the grandfathering provisions through July 15, 2017, as SPP had proposed as a transition to new ARR/LTCR eligibility rules.

Xcel argued for a rehearing on behalf of its Southwestern Public Service subsidiary, alleging that FERC's order disregarded SPS' contractual rights, concluded that network service subject to redispatch is not similarly situated to network service not subject to redispatch and determined that the remedy did not have retroactive effect.

The commission responded that Xcel failed to show that SPP's Tariff "provided [SPS] with a contractual right that was abrogated" in its Tariff order. FERC found it was reasonable to distinguish "between rights that customers already had been granted and rights that customers may have expected to be allocated."

"Southwestern is not losing any rights that already have been granted and remains eligible to be allocated ARRs in the future" subject to the limitation in the Tariff order, the commission said.

Continued on page 30

SPP NEWS

FERC Rejects NPPD Objection to Tri-State Zonal Placement

Continued from page 29

FERC issued a related order that also addressed Xcel's claims that the commission had "fundamentally mischaracterized the nature of redispatch service," rejecting Enel Green Power North America and Southern Company Services' rehearing request (EL16-110).

Both companies appealed October orders filed along with ER17-1575 (EL16-110 and EL17-69) that found SPP was not barred by its Tariff from allocating ARRs and LTCRs to network customers subject to redispatch for the amounts and periods subject to redispatch during the 2017-2018 annual allocation process. Enel and Southern filed on behalf of their Buffalo Dunes Wind Project and Alabama Power subsidiaries, respectively.

The commission said both parties failed to show that the Oct. 19, 2017, effective date set in EL16-110 for the Tariff revisions is not appropriate. It said the effective date preserved its ability to order refunds, if appropriate, "back to this date."

FERC said that its decision that SPP's Tariff revisions do not apply to the 2017-18 annual allocation process "was neither 'internally inconsistent' nor erroneous." It pointed out that the annual ARR and LTCR allocations for 2017/18 were made in March and April 2017, prior to the Tariff revisions' effective date.

OMPA Complaint Against OG&E Goes to Settlement

The commission set the Oklahoma Municipal Power Authority's complaint against Oklahoma Gas and Electric for hearing and settlement judge procedures, with a refund effective date of Jan. 26, 2018 (EL18-58).

FERC found OMPA raised "issues of material fact that cannot be resolved based upon the record before us." The state agency filed the complaint in January, alleging that OG&E's ROE is unjust and unreasonable and that its formula rate needs to be revised to reflect the Tax Cuts and Jobs Act.

The commissioners said OMPA's analysis was enough to show OG&E's cost of equity may have declined significantly below its existing 10.6% base ROE. They also said any tax-related changes to OG&E's formula rate should ensure that its rates properly reflect the effects of the tax legislation.

OG&E said its formula rate will automatically reflect the change in the federal corporate income tax rate, but it will not automatically address the effect of the legislation on accumulated deferred income tax balances.

— Tom Kleckner

FERC & Federal News

FERC Pushes NERC Further on GMD Rules

By Rich Heidorn Jr.

FERC took another step Thursday in its efforts to protect the grid from geomagnetic disturbance events (GMDs), proposing to approve a revised reliability standard but directing NERC to also require mitigation of vulnerabilities to localized events (RM18-8).

The commission's Notice of Proposed Rulemaking would approve reliability standard TPL-007-2 (Transmission System Planned Performance During Geomagnetic Disturbances), which revises the definition of GMDs, requires grid operators to collect certain data and imposes deadlines for corrective actions, as the commission directed in Order 830 in 2016. (See *FERC Approves GMD Reliability Standard*.)

GMDs occur when the sun ejects charged particles that cause changes in the earth's magnetic fields, potentially causing geomagnetically induced currents that can cause voltage instability or collapse and damage connected equipment.

The rule would require planning coordinators and transmission planners to conduct supplemental GMD vulnerability and thermal impact assessments that go beyond NERC's original "benchmark" GMD event definition that is based on spatially averaged data.

NERC defined the "supplemental" GMD event using individual station measurements rather than spatially averaged measurements, acknowledging that geomagnetic fields during severe GMD events can be "spatially non-uniform" with localized peaks that could affect reliability.

The supplemental GMD event is defined by a "reference peak geoelectric field amplitude" of 12 V/km versus the 8 V/km used in the original spatially averaged definition. Both are intended to reflect a one-in-100-year occurrence and use scaling factors to account for local geomagnetic latitudes and earth conductivity. They also employ a "locally enhanced reference geomagnetic field time series or waveform" to analyze the impact of the GMD on equipment.

Mitigation Directive

NERC's standard requires mitigation of vulnerabilities to the benchmark event, setting a one-year deadline for the completion of corrective action plans and two- and four-year deadlines to complete mitigation actions involving non-hardware and hardware mitigation, respectively.

But NERC rebuffed FERC's call for mitigation of risks from supplemental events. NERC's proposed standard would only require applicable entities to make "an evaluation of possible actions designed to reduce the likelihood or mitigate the consequences and adverse impacts of the event(s)" if a supplemental GMD event is assessed to result in cascading outages.

NERC told FERC that its standard drafting team determined that requiring corrective action plans in response to supplemental GMD event vulnerabilities was premature because the supplemental definition is based on small number of observed events "that provide only general insight into the geographic size of localized events during severe solar storms." NERC also said current tools are inadequate to realistically model localized events.

But the commission said NERC's position ignored its directives in 2013's Order 779, which were reiterated in Order 830.

"NERC's proposal to modify the benchmark, but then allow applicable entities the discretion to take corrective action based solely on the results of the spatially averaged benchmark analysis while taking under advisement ('an evaluation of possible actions') the results of the supplemental assessment, does not satisfy the clear intent of the commission's directive. …

"We are not persuaded by NERC's reasoning that … existing technical limitations, specifically the limited number of observations used to define the supplemental GMD event and the availability of modeling tools to assist entities in assessing vulnerabilities, make requiring mitigation premature at this time."

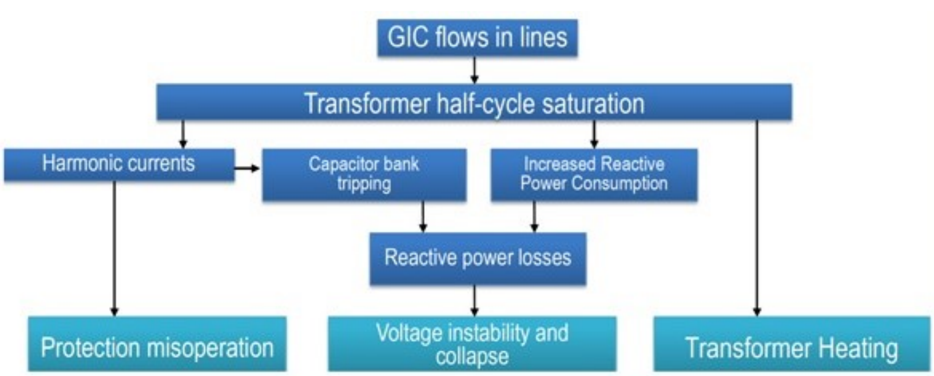
Deadline Extensions

NERC also diverted from Order 830's directive that it consider extensions of the corrective action deadlines on a case-by-case basis.

Instead, NERC would allow entities to unilaterally revise their corrective action plan if events beyond its control — such as delays from regulatory and stakeholder processes, equipment lead times or inability to acquire rights of way — prevent implementation within the original timetable.

"Given the complexities and potential novelty of steps applicable entities may take to mitigate the risks of GMDs, we agree with NERC that there should be a mechanism for allowing extensions of corrective action plan implementation deadlines," FERC said. "However, we would like to avoid unnecessary delay in implementing protection against GMD threats."

The NOPR seeks comment on whether the standard should permit these "self-declared extensions" or be revised to require NERC's case-by-case approval. "Under either option, the commission proposes to direct NERC to submit a report regarding how often and why applicable entities are exceeding corrective action plan deadlines," FERC said.



Potential GMD impacts on the transmission network | *PJM*

FERC & Federal News

Michigan Farm Granted Partial Waiver of QF Filing Requirements

By Amanda Durish Cook

FERC ruled last week that a Michigan soybean farm operating two small biomass plants is not excused from a requirement to file as a qualifying facility under the Public Utility Regulatory Policies Act, but it reduced the consequences of the farm's yearslong failure to do so.

The commission on Thursday said Zeeland Farm Services had a responsibility to file for QF status, even though the company claimed it was unaware of its filing obligation for 10 years. The order partially waived the filing requirement so the two facilities could be largely treated as QFs for the time they operated out-of-compliance (EL17-70, *et al.*).

The farm owns two 1.6-MW landfill gas-fueled facilities located at its soybean processing facility in Zeeland, Mich. Under a FERC rule enacted in 2006, generating facilities larger than 1 MW must file for QF status.

One of Zeeland Farm's biomass facilities began operating in late 2005, with the other following in 2008. The farm had sold the output to Consumers Energy under two, seven-year power purchase agreements.

FERC did not shield Zeeland from Sections 205 and 206 of the Federal Power Act, leaving the farm facing refunds for "the time value of the revenues collected … for the entire period that the rate was collected without commission authorization." The farm has already filed a report approved by FERC earlier this month establishing that over the course of the PPAs, it lost money on fuel expenses and operations and maintenance costs, which totaled about $7.9 million (QF17-935). Zeeland collected a total $7.6 million for energy and capacity sold to Consumers, and the commission agreed a refund report should not be required because the farm was unable to recover some variable costs.

Zeeland Farm Services | *Google*

FERC also said Zeeland will not have to refund the difference between a market-based rate and a cost-justified rate, as the FPA prescribes, because rates were negotiated with Consumers.

Zeeland said it only became aware of the filing requirement in late 2016, and it filed notices of self-certification last May after informing Consumers of the mistake and conducting a review to make sure the biomass plants still fit the QF definition. Zeeland said its failure to timely submit notices of self-certification was the result of a "good-faith, inadvertent error by individuals and companies otherwise not engaged in the power business."

But the commission didn't express sympathy for the oversight. "Zeeland Farm has not justified its failure to comply with a filing requirement that has been present in the commission's regulations since 2006," FERC said. "In similar situations, the commission has not been persuaded by claims that the facility met all other requirements for QF status because that argument improperly minimizes the importance of the filing requirement."

FERC Clarifies CEII Rules, Rejects Rehearing

By Rich Heidorn Jr.

FERC on Thursday rejected the Edison Electric Institute's request for rehearing of its 2016 order on handling of Critical Energy Infrastructure Information but offered clarification on several points.

EEI challenged several aspects of Order 833, which implemented the CEII provisions attached to the 2015 Fixing America's Surface Transportation (FAST) Act. (See *FERC OKs Information Security, FOIA Rules*.) It said the commission failed to adequately specify the criteria it uses to determine whether a member of the public is eligible to obtain CEII.

The commission responded that it has obtained "vast experience" since instituting the CEII process in 2003, noting it "routinely processes CEII requests from, among others, consultants, academics, landowners and public interest groups."

However, it clarified that "public safety benefits" are one criterion that it should consider in balancing "the requester's need for the information against the sensitivity of the information."

EEI also said the commission should revise its CEII nondisclosure agreement "to mitigate against the risk of a CEII recipient involuntarily sharing CEII with a hostile actor."

FERC declined to change the minimum requirements for the NDA but said the commission's CEII coordinator "may consider adding additional provisions to the NDA on a case-by-case basis."

The commission also rejected EEI's contention that it erred in not providing a way for entities to comment on the sharing of commission-generated CEII.

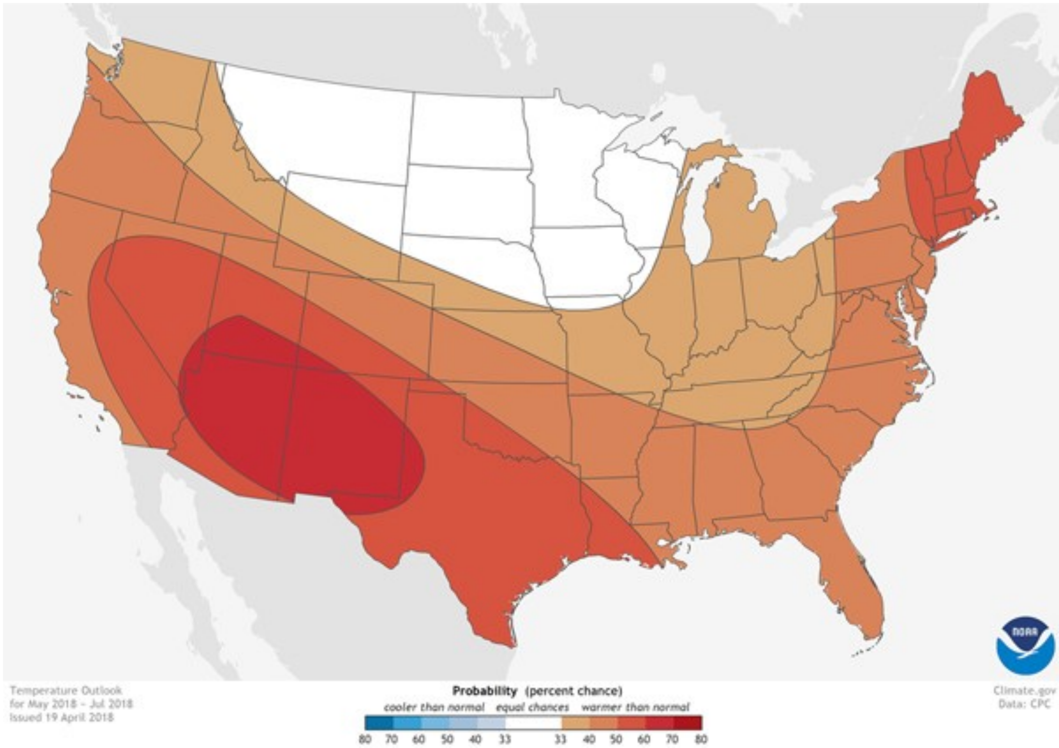
"The FAST Act does not require, and EEI identifies no provision in the FAST Act requiring, the commission to provide notice and opportunity for public comment about the prospective release or sharing of commission-generated CEII. Furthermore, the commission is not persuaded that we should establish a requirement for stakeholder input when the commission combines information not filed as CEII with other information and potentially creates CEII," FERC said.

"We, however, clarify that nothing in the FAST Act or the commission's CEII regulations prevents the CEII coordinator from exercising discretion in an individual situation to solicit comments from a submitter of CEII or other information when evaluating whether to release a commission-generated CEII document."

FERC & FEDERAL NEWS

FERC Keeps Eye on ERCOT, CAISO as Hot Summer Approaches

Continued from page 1



tional tools to manage tight reserves and maintain system reliability," FERC noted. "Those operational tools include deploying ERCOT-contracted load resources and emergency response services, using a previously mothballed unit expected to return to service in May 2018, requesting power across the existing DC ties, calling on generating resources that can switch between the Eastern Interconnection and ERCOT, and block-load transfers with SPP and MISO."

Although FERC does not regulate ERCOT, Chairman Kevin McIntyre said the commission would be watching to see how the grid operator deals with any problems that arise.

Meanwhile, several disruptions to Southern California's natural gas pipeline network mean CAISO will not be able to depend on natural gas generation to make up for a decrease in hydropower because of a lack of snowfall last winter. The state reached just 57% of normal snowpack, according to FERC, and the higher temperatures will reduce the level more quickly than normal.

Operations at the Aliso Canyon gas storage facility outside Los Angeles are still limited. While the California Public Utilities Commission allowed Southern California Gas to temporarily increase injections, it denied a request to increase the facility's allowable capacity. (See *CPUC OKs Temporary Increase in Aliso Canyon Injections*.)

In his comments on the report, FERC Commissioner Robert Powelson said, "I am deeply troubled by California policymakers' refusal to support Aliso Canyon as a reliable storage facility to deal with critical backup storage, not only at the [local distribution company] level, but more towards merchant power resources in the market. … We're getting away from economic dispatch, and we're causing tremendous cost to consumers in the California marketplace."

Further complicating California's situation is the anticipated near-record-breaking demand for gas across the U.S. The Energy Information Administration expects gas burn to average 35.16 Bcfd in June-August, just 0.3 Bcfd less than the record set in 2016 and 3 Bcfd more than last year, FERC said.

"The addition of over 16,000 MW of new capacity to the natural-gas fired generator fleet since the record highs in 2016 and relatively low natural gas prices contribute to expectations for strong natural gas generation this summer," the report said. As of March 23, Henry Hub summer futures prices were $2.76/MMBtu, down 52 cents (16%) compared to last year, according to Intercontinental Exchange.

McIntyre said that "on my personal to-do list is to drill further into" whether there's anything more FERC can do to address California's challenges with gas.

On May 9, CAISO warned that it this summer faces a 50% chance of a Stage 2 emergency, in which customers that have signed up for incentive rates would be required to use less power during peak demand times.

FERC based much of its report on NERC's summer reliability assessment, which hadn't been published as of press time.

FERC & Federal News

FERC Narrows GHG Review for Gas Pipelines

Continued from page 1

jee and Robert Powelson said they were taking the action to "avoid confusion as to the scope of our obligations under [the National Environmental Policy Act] and the factors that we find should be considered" when determining whether a project is in the public convenience and necessity under the Natural Gas Act.

NEPA requires FERC to prepare an environmental impact statement for pipelines that may significantly impact the environment but allows for a less detailed environmental assessment if it determines the project is not likely to have significant adverse effects.

Notice of Inquiry

In separate partial dissents, LaFleur and Glick said they were disappointed that the majority initiated the policy shift just a month after issuing a Notice of Inquiry to reconsider the commission's 1999 policy statement on gas pipeline permitting (PL18-1). (See *FERC Outlines Gas Pipeline Rule Review*.)

LaFleur said the new policy reverses the commission's practice since late 2016 of including more information on upstream and downstream GHG emissions in its pipeline orders. That included "upper-bound" estimates of downstream emissions that assumed all the gas transported by the project would be burned for electric generation, heating and other purposes.

"The commission placed caveats on the information and analysis, stating generally that the downstream impacts do not meet the definition of an indirect impact and are not mandated as part of the commission's NEPA review," LaFleur acknowledged. "The commission nonetheless made a full-burn calculation to determine an upper-bound GHG emissions amount, unless it had specific information to calculate net and gross GHG emissions."

The commission used Department of Energy studies for generic estimates of the impact of projects on upstream natural gas production, including production-related GHG emissions.

LaFleur said the commission's obligations increased under the D.C. Circuit Court of Appeals' August 2017 *Sabal Trail* ruling, which found that the emissions resulting from burning the natural gas transported by a commission-approved project are an indirect impact. (See *FERC Must Consider GHG Impact of Pipelines, DC Circuit Rules*.)

"Today, however, the majority has changed the commission's approach for environmental reviews to do the exact opposite. Rather than taking a broader look at upstream and downstream impacts, the majority has decided as a matter of policy to remove, in most instances, any consideration of upstream or downstream impacts associated with a proposed project," LaFleur wrote. "The majority's reasoning for excluding the information and calculations is generally that it is inherently speculative and does not meaningfully inform the commission's project-specific review. I disagree.

"At a time when we are grappling with increasing concern regarding the climate impacts of pipeline infrastructure projects, the commission should not change its policy on upstream and downstream impacts to provide less information and be less responsive," she added.

'Remarkably Narrow'

Glick criticized the majority for what he called a "remarkably narrow view of its responsibilities under NEPA and the NGA's public interest standard."

"The principal reason that the commission does not have … 'meaningful information' [on GHG impacts] is that the commission does not *ask* for it," Glick said, noting that FERC could require pipeline developers to provide information about the source of the gas to be transported and its end use.

"A simple data request would seem to fall easily within what constitutes the commission's 'best efforts,'" Glick said. "In the absence of any such efforts, the commission should not be able to rely on the lack of 'meaningful information' to satisfy its obligations under NEPA and the NGA to identify the reasonably foreseeable consequences of its actions."

"There will undoubtedly be some cases where those emissions are, in fact, too speculative to be considered 'reasonably foreseeable,'" he continued. "But there may also be others, such as Sabal Trail, where an adequate record would provide sufficient information to make those emissions reasonably foreseeable."

Continued on page 35

FERC & FEDERAL NEWS

FERC Sets PURPA Review; Powelson Targets 1-Mile Rule

Continued from page 1

2016 technical conference on the law, when Democrats held the majority on the panel. (See FERC Conference Debates PURPA Costs, Purchase Obligations.)

Republicans now hold a 3-2 edge with the additions of McIntyre and Commissioners Neil Chatterjee and Robert Powelson.

McIntyre insisted he has "an open mind" on the need for change. He said the "format, scope and timing" of the review are to be determined and that "the process will allow for robust stakeholder input."

Eager to Act

But Chatterjee and Powelson made clear they are eager to act.

Powelson called for an "expedited" review, noting the record the commission compiled in the technical conference and the post-conference comments on the 1-mile rule — the presumption that generators beyond 1 mile of each other are separate facilities.

In its request for comments following the technical conference, FERC asked for input on whether the 1-mile presumption should be made rebuttable and whether the burden of proof should fall on the interconnecting utility or the qualifying facility. It also asked whether it should set minimum contract length or other provisions in PURPA purchase contracts (AD16-16). Despite continued grumbling by Congress and state regulators, the commission made no rule changes following the inquiry.

"There are things we know full well — from the 1-mile rule to QF reform — that we can address rather quickly," said Powelson, who noted his background as a former "impatient" Pennsylvania regulator.

"This is an issue that has been top of mind to me since coming to the commission," Chatterjee said. "Today's energy landscape is profoundly different from that of the late 70s when PURPA was enacted. And because of this, many have rightly voiced their desire for a fresh look at existing policy."

Still Important for Developers

Democratic Commissioner Richard Glick said he was open to the review but insisted the law is still needed, despite the growth in renewable generation.

"PURPA has, and continues to play, an important role in promoting competition within the utility sector in ensuring the qualifying facilities have access to the market," he said. "If we do decide changes to our regulations are in order, we must address the concerns raised not only by industry but also by qualifying facility developers — and there were quite a few concerns that were raised during that 2016 tech conference."

Democrat Cheryl LaFleur, the only commissioner who remains from the beginning of the commission's review, gave no indication of her leaning on the topic, saying only that the review is "very timely."

2005 Amendments, Order 688

The commissioners noted that fundamental changes to the law would require congressional action.

Congress amended PURPA in the 2005 Energy Policy Act, allowing utilities to be relieved of PURPA's mandatory purchase obligation upon FERC's finding that QFs have nondiscriminatory access to transmission and energy and capacity markets.

In response, the commission amended its regulations in Order 688 in 2006. The order found that MISO, PJM, ISO-NE and

Continued on page 36

FERC Narrows GHG Review for Gas Pipelines

Continued from page 34

Glick said he was not suggesting that the commission stop approving new pipeline projects. "What I am arguing is that, as a result of the commission's new policy, we frequently will not know whether the benefits outweigh the costs because the commission is not asking enough questions or doing enough analysis."

Dissents 'Mischaracterize' Shift

The majority said the dissents "mischaracterize" the policy shift as changing the commission's public interest and environmental review.

"Our decision does not in any way indicate that the commission does not consider, or is not cognizant of, the potentially severe consequences of climate change," the majority wrote. "We will continue to analyze upstream and downstream environmental effects when those effects are sufficiently causally connected to and are reasonably foreseeable effects of the proposed action."

They also said the order does not "prejudge or preclude the [commission] from considering the questions on greenhouse gas emissions posed in the Notice of Inquiry."

The Republicans said that even if the commission presumed a causal relationship between the New Market Project and upstream production, "the scope of the impacts from any such production is too speculative and thus not reasonably foreseeable."

"Neither the commission nor the applicant generally has sufficient information to determine the origin of the gas that will be transported onto a pipeline. We disagree with the dissent's assertion that we lack information about specific upstream production or downstream uses simply because we 'did not ask for it.' To be clear, the commission only has jurisdiction over the pipeline applicant, whose sole function is to transport gas from and to the contracted for delivery and receipt points. While the shippers might contract with a specific producer for their gas supply, the shipper would not know the source of the producer's gas, and, for that matter, producers are not required to dedicate supplies to a particular shipper and thus likely will not know in advance the exact source of production. In short, 'just ask[ing] for it' would be an exercise in futility."

FERC & FEDERAL NEWS

FERC Sets PURPA Review; Powelson Targets 1-Mile Rule

Continued from page 35

NYISO provided markets that meet the law's criteria for relief from the purchase obligation. It also established a rebuttable presumption that QFs above 20 MW have nondiscriminatory access to those markets.

In other regions, the commission established a rebuttable presumption that QFs of 20 MW and above have nondiscriminatory access to markets if they are eligible for service under a commission-approved open access transmission tariff.

To prevent gaming of the 20-MW threshold, the commission said it would look beyond the 1-mile rule. "If parties are concerned that a QF has engaged in such gaming with regard to the certification or siting of a particular facility, we encourage those parties to bring their concerns to our attention. In any such proceeding, we will consider all relevant factors, including, but not limited to, ownership, proximity of facilities and whether facilities share a point of interconnection," the commission said.

Since then, the commission has repeatedly relieved utilities of must-purchase obligations from QFs above the 20-MW threshold.

Complaints Continue

But that did not end complaints over the law. In November 2015, Republican congressional leaders called on FERC to hold a technical conference to "identify any potential administrative or legislative reforms that may be necessary," noting the falling prices of natural gas and renewable energy since the 2005 amendments. They cited congressional testimony from Berkshire Hathaway Energy complaining that it was required to sign a PURPA contract at rates that are 43% above market prices, costing customers an extra $1.1 billion over 10 years.

Travis Kavulla, vice chairman of the Montana Public Service Commission, told the technical conference that PURPA issues consume more than one-quarter of his commission's time on electric utility regulation.

Democrats responded to FERC's notice of the technical conference with a letter to the commission saying the act "remains a singular federal backstop to support renewable energy in parts of the country that may otherwise have significant barriers."

In December 2017, the National Association of Regulatory Utility Commissioners called on the commission to "align" its interpretation of the act "with modern realities." NARUC called for new criteria for determining whether a single project has been disaggregated to create multiple QFs under the 20-MW threshold. (See *NARUC Calls for PURPA Reforms, Outlines Proposed Changes*.)

House GOP Seeks Changes to New Source Review

By Michael Brooks

The House Energy and Commerce Committee last week heard testimony on Republican-backed legislation that could allow power plants and industrial boilers to avoid expensive upgrades under EPA's New Source Review (NSR) program.

Facilities are subject to NSR if they make non-routine modifications that increase annual emissions; such plants must use the "best available control technology" to minimize the emissions increase.

Morgan Griffith | *House Energy and Commerce Committee*

The bill, written by Rep. Morgan Griffith (R-Va.), would amend the definition of "modification" under Clean Air Act Section 111a to mean any alteration to a facility that increases its hourly pollutant emission rate.

The modification clause does not specify how a facility's emissions should be measured to determine if a change would result in a pollution increase, which has led to multiple lawsuits since the clause was added in 1970. Under the NSR program, EPA has used a projection of annual emissions based on the modification.

"This type of annual emissions projection approach necessitates the consideration of complex factors such as projecting future demand of the product being produced and the selection of baseline emissions to use as a comparison point," committee Republicans said in a memo ahead of an Environment Subcommittee hearing on the bill Wednesday. "Additionally, in certain instances, this type of emissions projection results in an overestimation of emissions, which is shown by comparing the projected emissions with a source's true emissions after the fact."

The bill would also exempt from NSR any modification that "reduces the amount of any air pollutant emitted by the source per unit of output or is designed to restore, maintain or improve the reliability or safety of the source." Republicans said that NSR has impeded or canceled projects intended to reduce a facility's pollution. The law already exempts routine maintenance or repair from review.

Support

At Wednesday's hearing, Bill Wehrum, assistant administrator of EPA's Office of Air and Radiation, told the subcommittee that the Trump administration does not have an official position on the bill. "Having said that, I strongly support the overall goals of the discussion draft," he said. "The principal focus of the discussion draft on refining the definition of 'modification' in the Clean Air Act would go a long way towards simplifying application of the NSR program."

Wehrum praised the bill's exemption of pollution-reducing additions, noting that, "sometimes, the operation of such equipment, while it results in tremendous emissions reductions for some pollutants, may in some instances actually lead to increases in the emissions of other pollutants." He said EPA had attempted to implement such a provision but was overruled by the D.C. Circuit Court of Appeals.

Kirk Johnson, senior vice president of government relations for the National Rural Electric Cooperative Association, said NSR has "more often served as an impediment, rather than an enhancement, to maintaining and improving efficiency at power plants."

"One significant obstacle of the NSR permitting program is its application to equipment repair and replacement as well as even routine maintenance activities at existing generating units," Johnson said. "Although routine maintenance, repair and replacement are supposedly excluded from being considered as 'major modifications' — and thus not subject to NSR — what qualifies as these NSR exemptions often changes with shifting EPA interpretations. This has led to utilities performing what they thought qualified as routine maintenance, repair and replacement, only to be cited for NSR violations years after the fact."

Opposition

Paul D. Baldauf, assistant commissioner of the New Jersey Department of Environmental Protection, however, said Griffith's bill could increase out-of-state emissions and extend the life of older generators, causing the state to fall out of attainment for the National Ambient Air Quality Standards (NAAQS). Baldauf cited as an example a generator that undergoes changes to increase its efficiency while also increasing the maximum heat input — the amount of fuel burned per hour — to increase electric output.

"This project would decrease the pounds of CO_2 and some other pollutants emitted per megawatt-hour but would increase the megawatts generated," he said. "Without additional controls, such a project would result in both increased hourly and annual emissions of all its pollutants, including CO_2, criteria pollutants and air toxics, resulting from the increased fuel use. These increased emissions could likely result in adverse health impacts despite the increase in efficiency of the unit."

Environmental consultant Bruce C. Buckheit, who served as director of EPA's Air Enforcement Division during the Clinton and George W. Bush administrations, also opposed the bill. "The draft is not needed by the regulated community for any purpose and would not advance one of the fundamental purposes of the Clean Air Act — to eliminate, over time, the disparate treatment of new and existing sources," he said. "It would severely impair the ability of the modification rules to effect this purpose and would exacerbate the current barrier to investment in new manufacturing and electric generating facilities created by the difference in the treatment of new and existing facilities."

Democrats are likely to oppose the bill. "Without a firm requirement that facilities reduce the levels of all the dangerous pollution they emit, they simply will be allowed to pollute more," Rep. Frank Pallone (D-N.J.), ranking member of the full committee, said in a statement. "That's what the language in the bill on 'maximum achievable hourly emission rate' is all about."

National Grid Earnings Up 4% on US Strength

By Michael Kuser

U.K.-based National Grid on Thursday said its yearly earnings to the end of March 2018 increased 4% (constant currency) to $4.73 billion, mainly reflecting the strong performance of the company's U.S. business.

The earnings figure excluded the sale of the company's U.K. gas distribution business and major storms.

"In the U.S., we faced a unique winter, with major storms across all our jurisdictions," CEO John Pettigrew said in an analyst call May 17. "In October, we restored over 530,000 electric customers following one of the most severe storms in recent years. And in March, we were challenged again with three back-to-back nor'easters, which is unprecedented."

New Rates

National Grid USA now has about 80% of its distribution businesses operating under new rates following successful filings for Massachusetts Electric, Keyspan Gas East (KEDLI), Brooklyn Union Gas (KEDNY) and Niagara Mohawk, Pettigrew said.

The Niagara Mohawk agreement approved in March allows a return on equity of 9% and $2.5 billion of capital investment over three years.

"With the KEDNY and KEDLI settlements, that means over the next three years, total investment in New York will be more than $5 billion," Pettigrew said.

The company also has pending rate cases for Massachusetts Gas (10.5% ROE) and Rhode Island Gas & Electricity (10.1% ROE), which it expects to have in place by October, he said. Combined, it's asked for $81 million in additional revenue and $800 million in annual capital allowances.

Pettigrew said both filings are "progressing well," with the Massachusetts hearing due to conclude later this month and the Rhode Island hearings set to begin in June.

"With the completion of these rate filings, we'll have new rates for our entire U.S. distribution business, which will contribute to improvements in performance and allow us to achieve returns as close to the allowed level as possible," he said.

National Grid adjusted the rate filings, as well as that for Niagara Mohawk, to reflect the lower corporate tax rate passed by Congress in late December. Finance Director Andrew Bonfield said the tax cut will be significantly beneficial to consumers and economically neutral to utilities.

Renewables

Pettigrew said the U.S. and U.K. both continue to decarbonize at a fast pace, driving National Grid to increase its engagement in renewable energy.

The economics for solar, wind and storage are becoming increasingly attractive, with further demand for clean energy coming directly from U.S. corporates through power purchase agreements, he said.

"There is no doubt that the ongoing significant growth in large-scale renewables is set to continue into the long term," Pettigrew said. "In addition, utility-scale renewables also offer attractive opportunities." He cited the first offshore wind farm in the U.S. off Block Island and a 6-MW battery the company is installing on Nantucket.

The transition to renewables is likely to be closely followed by the electrification of transportation, with many forecasters now predicting price parity with gasoline and diesel cars by the early to mid-2020s, he said.

The U.S. business has installed more than 150 public charging stations for electric vehicles and has submitted proposals to regulators in each of its operating states for EV investments, Pettigrew said.

Bonfield said the company expects "to invest at least $10 billion over the next three years in our U.S. business."

Quotes courtesy of Seeking Alpha.

Company Briefs

Entergy Gets Go-Ahead For 361-MW Gas Peaker

Entergy Louisiana said May 16 that its plan to buy a 361-MW natural gas-fired peaking unit that a Calpine subsidiary will build for it in Washington Parish was unanimously approved by the Louisiana Public Service Commission.

Entergy will pay $261 million for the Washington Parish Energy Center in a transaction it expects will close in the second quarter of 2021.

Calpine will build the energy center just west of Bogalusa on the site of a never-completed generation project that it stopped work on in 2006.

More: *Entergy Louisiana*

Avista: Colstrip Plant Closure Date Unknown

Avista doesn't know when it and the other owners of the coal-fired Colstrip Power Plant's Units 3 and 4 will shut them down, Senior Vice President of Energy Resources Jason Thackston told the Montana Public Service Commission in a May 17 hearing on the proposed purchase of Avista by Hydro One.

Avista, which owns 15% of the units, agreed in Washington and Idaho proceedings on its sale to Hydro One to put a December 2027 "end of useful life" date on them for depreciation purposes.

The owners of the plant's Units 1 and 2 have agreed to close them within five years. Avista has agreed to pay Colstrip, Mont., $4.5 million to help the town after the plant closes.

More: *Billings Gazette*; *Billings Gazette*

Continued on page 39

COMPANY BRIEFS

Continued from page 38

Duke Selling 5 Small Hydro Plants to Northbrook Energy

Duke Energy Carolinas said May 16 it will sell five small hydroelectric plants in western North Carolina with a combined capacity of 18.7 MW to Northbrook Energy.

Duke has agreed to purchase power from the plants for five years once the sale closes, which is expected to happen early next year. The company didn't reveal the sale price.

More: *Charlotte Business Journal*

Largest Solar-Plus-Storage Facility in Arizona Opens

NextEra Energy Resources and Salt River Project on May 16 opened a 20-MW solar generation facility with a 10-MW lithium-ion battery storage system east of Casa Grande, Ariz.

The companies said the Pinal Central Solar Energy Center is the largest utility-scale solar facility with a storage system in Arizona.

A NextEra subsidiary owns the facility. SRP has agreed to purchase all the energy from it.

More: *Salt River Project*

Electric Storage Association Reveals Board Election Results

The Energy Storage Association said Craig Horne, of Renewable Energy Systems, has ascended from vice chair to chair of its board of directors. Former Chair Praveen Kathpal, of AES Energy Storage, has become immediate past chair.

Additionally, the board elected Troy Miller of GE Power to be vice chair; Audrey Lee of Sunrun to be treasurer; and Charles Post of Pacific Gas and Electric to be secretary. ESA members also elected five new directors.

More: *Energy Storage Association*

SolarWorld Americas CEO Stepping down Ahead of Sale

SolarWorld Americas said May 14 that Jurgen Stein is stepping down as president and CEO.

Stein came from SolarWorld Americas' parent company, SolarWorld AG, in 2017 to replace Mukesh Dulani. Only a few months into his tenure, the company decided to join Suniva in an ultimately successful quest to seek trade protection against imported solar equipment.

SolarWorld has agreed to be bought by SunPower, although the acquisition must be approved by regulators.

More: *pv magazine*

Pilgrim Back to Full Power After Routine Maintenance

Entergy returned the Pilgrim Nuclear Power Station to full power on May 16, following a brief reduction for scheduled maintenance.

An Entergy spokesman said the power was reduced to allow for a thermal backwash that is performed five or six times a year to remove mussel growth from the plant's main condenser.

The reduction came less than two weeks after Entergy returned the plant to full power following its third shutdown this year. Pilgrim was offline for nearly a week in late April and early May so a problem with feedwater regulator valves could be addressed.

More: *The Patriot Ledger*

Itron Deploying Mississippi Power Smart Meter Network

Itron said May 14 it has been selected to deploy and manage 193,000 smart meters in 23 southeast Mississippi counties for Mississippi Power.

Itron will run the network that connects the devices and deliver back-office capabilities through a five-year software-as-a-service contract to help Mississippi Power with its operational and customer engagement transformation efforts.

More: *Itron*

FEDERAL BRIEFS

Pipeline Additions Expected to Boost Gas Takeaway from Northeast

The Energy Information Administration said May 18 that it expects natural gas pipeline additions in the Northeast this year to boost takeaway capacity from the region by 6.3 Bcfd.

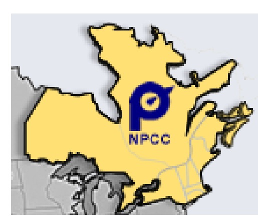
If all projects come online by their scheduled service dates, EIA expects more than 23 billion Bcfd of takeaway capacity will be online out of the region at the end of the year. That is up from 16.7 Bcfd at the end of last year and more than three times the takeaway capacity from the region at the end of 2014.

EIA expects the added capacity will lift constraints on the growth of gas production in the Marcellus and Utica Basins in Pennsylvania, Ohio and West Virginia by enabling producers there to ship natural gas to markets in the Midwest, the Southeast, eastern Canada and the Gulf Coast.

More: *EIA*

NPCC: Power Adequate For Summer Demand

The Northeast Power Coordinating Council said May 15 that the northeastern U.S. and eastern Canada will have enough power to meet demand this summer.



Demand will be slightly lower than last year because of energy efficiency efforts by states and businesses and increased renewable generation, NPCC said. Resources and backup plans are adequate for coping with a prolonged heatwave, it said.

NPCC expects a peak demand of 104,137 MW to occur in July. That's 1% lower than last year's peak demand figure.

More: *State House News Service*

Continued on page 40

Federal Briefs

Continued from page 39

Court Nullifies Key Atlantic Coast Pipeline Permit

Three judges of the 4th Circuit Court of Appeals on May 15 nullified a key permit that the Fish and Wildlife Service had granted the Atlantic Coast Pipeline, saying the agency didn't specifically address potential effects on endangered species.

A spokeswoman for Dominion Energy, which heads the coalition of companies building the 600-mile natural gas pipeline, said the decision only affects certain areas where specific species have been identified.

The case was brought against the Interior Department by the Southern Environmental Law Center on behalf of the Sierra Club, Defenders of Wildlife and the Virginia Wilderness Committee.

More: The Washington Post

Citing Lack of Industry Members, Ross Let Climate Group Die

Commerce Secretary Wilbur Ross allowed the two-year charter for the 15-person Advisory Committee for the Sustained National Climate Assessment to expire in August because of concerns that the group didn't have enough industry representatives, according to documents obtained under the Freedom of Information Act.

In a June 13 email, George Kelly, then the deputy chief of staff at the National Oceanic and Atmospheric Administration, questioned the ideological makeup of the panel, whose members included scientists and representatives from local governments.

"It only has one member from industry, and the process to gain more balance would take a couple of years to accomplish," Kelly said in the email, which was released in response to a lawsuit by the advocacy group Center for Biological Diversity.

More: The Washington Post

Gosar Drafts Bill to Save Navajo Plant


Gosar

U.S. Rep. Paul Gosar (R-Ariz.) has drafted a bill that would make the coal-fired Navajo Generating Station more attractive to potential buyers.

Among other things, the bill would temporarily exempt the plant and the coal mine that serves it from the National Environmental Policy Act after a sale, so long as they are run the same way they are today. The plant's owners, which include Salt River Project, plan to close it in December of next year if they can't sell it.

More: The Republic

State Briefs

CONNECTICUT

State Sued for Using Energy Funds for Other Purposes

The Connecticut Fund for the Environment and 11 other plaintiffs filed a lawsuit in U.S. District Court on May 15 to block the state from taking $165 million from energy funds and using it for other purposes.

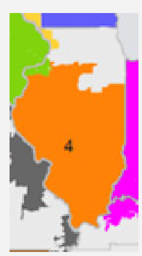
The plaintiffs argue that using the money for anything other than the purpose for which it was originally intended violates the U.S. Constitution's Contract Clause. They say that because much of the money is raised from a small surcharge on electric bills and some electric customers are nonprofits, using it for other purposes makes the surcharge an illegal tax on tax-exempt organization.

Legislators wrote the transfer into the two-year budget passed last year, removing $28 million from the Green Bank, $127 million from the Energy Efficiency Fund and $20 million from the Regional Greenhouse Gas Initiative. They voted to restore $10 million of the Conservation and Load Management fund, but the lawsuit's plaintiffs contend that was insufficient.

More: Connecticut Post

ILLINOIS

No Reliability Problem from Coal Plant Closings, Study Says



Dynegy-Vistra could close its eight coal-fired downstate power plants without causing reliability or resource adequacy problems in MISO Zone 4, according to a study commissioned by the Natural Resources Defense Council and the Sierra Club that was released May 16.

The study looked at two predicted scenarios for conditions from 2018 to 2030, analyzing the most efficient, low-cost ways that power demand could be met in each. In both scenarios, it found that all eight of Dynegy-Vistra's coal plants in MISO Zone 4 would close by 2025 for financial reasons and all the coal plants in the zone would be retired by 2030.

Dynegy, which was bought by Vistra in a deal that closed last month, has sought to have emissions standards eased on its coal plants in the state. (See Environmentalists Push Back on Dynegy-backed Air Standard.)

More: Midwest Energy News

LOUISIANA

City Council Launches Investigation into Use of Actors

The New Orleans City Council on May 18 committed to launching a third-party investigation into the use of paid actors to support a power plant it voted earlier this year to let Entergy New Orleans build.

At-large Councilman Jason Williams said all records uncovered during the investigation would be made available to the public. The council will decide whether to hold another vote on the plant, which is planned for the Michoud section of New Orleans East, after the investigation is complete, Williams said.

On May 16, the council ordered Entergy New Orleans to preserve all documents related to the use of the actors, who appeared at hearings to support the plant. An internal investigation by Entergy New Orleans found one of its contractors, Hawthorn Group, hired a company called Crowds on Demand, which admitted to paying the actors.

More: The Times-Picayune; The Times-Picayune

Continued on page 41

State Briefs

Continued from page 40

MICHIGAN

DTE, Consumers Energy Agree to Boost Renewable Goals

Environmental group Clean Energy, Healthy Michigan dropped its effort to get a referendum on boosting the state's renewable portfolio standard to 30% by 2030 placed on the November ballot after DTE Energy and Consumers Energy agreed to "target a goal of at least 50% clean energy" by then, the organization and companies said May 18.

DTE and Consumers will try to achieve the goal by making investments to ensure that at least 25% of the energy they sell comes from renewable sources by 2030 and through energy efficiency programs.

More: *The Detroit News*

MINNESOTA

Wind Farm Must Show Noise Standard Compliance, ALJ Rules

Public Utilities Commission Administrative Law Judge LauraSue Schlatter ruled May 14 that the Freeborn Wind Farm has failed to demonstrate that its planned operation would meet state noise standards.

Schlatter issued the ruling in a 171-page report that will serve as a recommendation to the PUC, which will decide whether to issue a permit for the proposed 200-MW wind farm.

Invenergy is seeking to do the preconstruction work on the wind farm and sell it to Xcel Energy, which will build, own and run it.

More: *Albert Lea Tribune*

NEW YORK

NYSERDA to Provide up to $10M to Launch Cleantech Accelerator

The New York State Energy Research and Development Authority said May 16 it is seeking proposals from organizations interested in receiving up to $10 million to launch and run a statewide cleantech accelerator.

NYSERDA said the accelerator will make early-stage investments and provide supporting services for developing and validating promising clean-energy technologies that could become platforms for startups.

More: *NYSERDA*

Cuomo Blasts Trash-to-Energy Plant Proposed for Finger Lakes

Gov. Andrew Cuomo on May 16 issued a statement saying that a $365 million trash-to-energy facility that Circular enerG wants to build in Romulus "is not consistent with my administration's goals for protecting our public health, our environment and our thriving agriculture-based economy in the Finger Lakes."

Cuomo issued the statement 45 minutes before advocates, business owners and lawmakers from the Finger Lakes region gathered near the state capitol to call on him to speak out against the plant. Cynthia Nixon, his opponent in the primary election, had also called on him to denounce the project.

More: *Gov. Andrew Cuomo*; *Press & Sun Bulletin*

PENNSYLVANIA

PUC Orders 17 Utilities to Credit Customers with Tax Savings

The Public Utility Commission on May 17 ordered 17 major electric, natural gas, and water and wastewater utilities to provide monthly credits on their customers' bills totaling more than $320 million as a means of passing their savings under the Tax Cut and Jobs Act through to their customers.

The PUC also said it will consider the effects of the act on seven other public utilities in its investigations for rate cases that already have been filed or are expected to be filed by Aug. 1. In those cases, the PUC said it has directed the parties involved to address the impact of any TCJA tax savings realized by the utilities as part of their overall rates.

More: *Pennsylvania Public Utility Commission*

TEXAS

Price Gap Between Competitive, Noncompetitive Areas Closing

Residents who live in retail-choice areas still pay more on average than their counterparts in areas that don't, but by the smallest margin yet, according to a report released May 17.

The analysis, conducted by the Texas Coalition for Affordable Power, found that residential prices in areas where people can choose their suppliers dropped 19.6% from 2007 to 2016, while prices in other areas grew 6.1%.

More: *Dallas News*

WASHINGTON

Columbia Nuclear Plant Went Offline After Transformers Disconnected

Columbia Generating Station went offline at approximately 7 a.m. PT May 18 after its main power transformers automatically disconnected from the grid, Energy Northwest said.

The reactor was safely shut down and the cause of the disconnect is under investigation, according to the consortium of 27 public utility districts and municipalities that operates the 1,207-MW nuclear plant.

More: *Energy Northwest*

Gov. Inslee Supports Carbon Tax Ballot Initiative

Gov. Jay Inslee said May 15 that he backs a proposed ballot initiative to tax carbon emissions.

A coalition of tribes and environmental, labor and other groups are gathering signatures to get Initiative 1631 on the November ballot.

The initiative would impose a tax of $15/ton of carbon emissions starting in 2020. The tax would increase $2 each year until the state meets its carbon reduction goal.

More: *The Associated Press*