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

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SPECIAL REPORT

Doubling Down — with Other People's Money

How Two Traders Linked to 2013 Scandal Left PJM Members Holding the Bag for Millions

By Rory D. Sweeney

Imagine a casino where you could produce $548 million in paper profits — or $100 million in losses — with only $600,000 of collateral. That's essentially what Andrew Kittell and John Bartholomew saw when they began trading financial transmission rights in PJM in 2014, the beginning of a saga that has now spiraled into the largest default in the history of the RTO's financial markets.

After the default of Tower Research Capital's Power Edge hedge fund in 2007, FERC ordered an end to collateral-free trading in Order 741. PJM and other RTOs tightened their credit rules as a result.

GreenHat listed its address as 826 Orange Ave., Suite 565, Coronado, Calif. — a UPS store between a nail salon and a RiteAid. | *© Google*

But the changes weren't enough to protect PJM against Kittell and Bartholomew's GreenHat Energy, which purchased a staggering 890 million MWh of FTRs — the largest FTR portfolio in PJM — before the company defaulted in June.

In hindsight, RTO officials should have been wary of Kittell and Bartholomew, who came to FERC's attention for their roles in J.P. Morgan Ventures Energy Corp.'s (JPMVEC) scheme to manipulate the CAISO and MISO markets between 2010 and 2012.

The GreenHat debacle has led to proposals for additional changes to PJM's credit policy and questions about the competence and vigilance of RTO staff involved. PJM's failure to respond promptly to warnings

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NEPOOL: FERC Can't Change Press, Public Ban

By Rich Heidorn Jr.

FERC can't overturn the New England Power Pool's longstanding ban on public and press access to stakeholder meetings, NEPOOL told the commission Thursday.

In a motion to dismiss *RTO Insider*'s protest seeking to open meetings to the public and press, NEPOOL said FERC lacks jurisdiction to force changes and that *RTO Insider* lacks standing to challenge the rules.

"NEPOOL does not engage in the transmission or sale of electric energy in interstate commerce, nor does it operate any facilities that are used for such purposes," it said. "As such, NEPOOL is not a 'public utility,' and its supposed 'press ban' is not a 'rate, charge or classification' related to the

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FERC Walks Back Salem Harbor Manipulation Case

By Rich Heidorn Jr.

Salem Harbor Power Station | *Tetra Tech*

In a stunning turnaround, FERC's Office of Enforcement on Wednesday urged the commission to withdraw its Order to Show Cause alleging that the operators of the Salem Harbor Power Station misled ISO-NE with supply offers it could not meet because of insufficient fuel.

Enforcement litigation staff made the unusual recommendation based on Footprint Power's Aug. 2 response to the order, which argued that Enforcement had overstated what ISO-NE expected from Salem Harbor Unit 4. (See *Salem Harbor Operator Seeks Dismissal of 'False Offer' Case*.)

The Office of Enforcement's June 18 show cause order said Footprint Power should forfeit more than $2 million in capacity payments Unit 4 received for a period in June

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IN THIS WEEK'S ISSUE

CAISO NEWS

FERC Rejects CAISO Congestion Revenue Scaling Plan

By Hudson Sangree

FERC last week approved CAISO's plan to reduce the capacity available in its congestion revenue rights auctions but rejected a proposal to cut CRR payments that had garnered opposition.

The commission approved CAISO's proposal to reduce transmission system capacity available in the annual CRR allocation and auction processes from 75% to 65%, which was unopposed. But FERC rejected as unjust and unreasonable a plan to eliminate full funding of CRRs and instead scale payouts to align with revenue collected through the day-ahead market and congestion charges (ER18-2034).

The rejection means CAISO may have to seek additional changes to fix a system it says unfairly charges ratepayers around $100 million annually, largely to fund speculators' profits.

CRRs are financial instruments that can be used as a hedge against congestion charges or as an investment to speculate that the congestion rent will be greater than the purchase price. Shortfalls between CRR revenues and payouts resulted in ratepayers making up a difference of approximately $500 million over five years, the ISO has argued.

Under the scaling plan, CAISO would have compared the congestion revenue and revenue from counterflow CRR holders for each constraint to the payments due to prevailing flow CRR holders for that constraint. When it did not collect enough revenue to pay prevailing flow CRRs the full value for an hour, the ISO would reduce the payments proportionally.

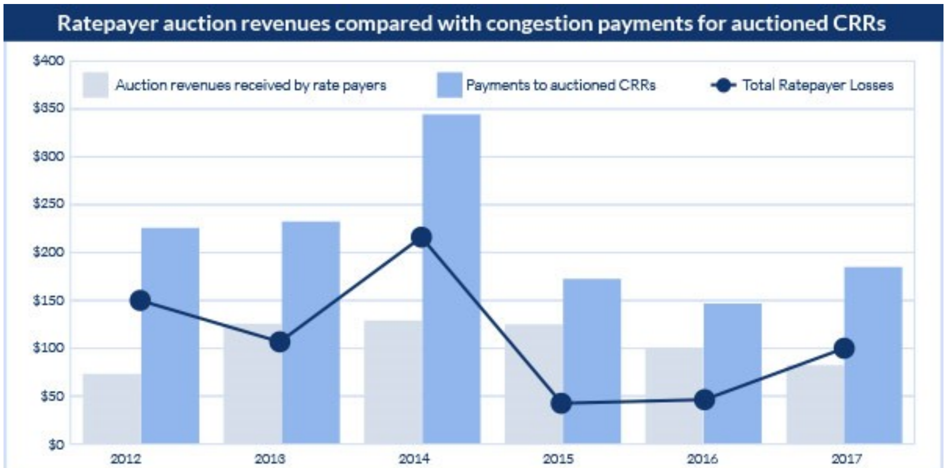
CAISO proposed scaling CRR payments only in the prevailing flow direction, not payments due from counterflow CRR holders on the same constraint. Because counterflow CRRs fund prevailing flow CRRs, CAISO said discounting counterflow CRRs could increase revenue insufficiency.

The scaling plan was opposed by Calpine, the Western Power Trading Forum, the Alliance for Retail Energy Markets and others.

"As protesters note, the commission has long held that counterflow and prevailing flow CRRs should be netted against one another such that the expected net value of two obligation CRRs of equal megawatts from A to B and B to A will be equal to zero," FERC wrote, citing its 2006 ruling on CAISO's Market Redesign and Technology Upgrade (MRTU) and a 2016 order on PJM's financial transmission rights market. (See *FERC Finds PJM ARR/FTR Market Design Flawed; Rejects Proposed Fix*.)

"Consistent with the commission's findings in the MRTU and 2016 PJM FTR orders, we continue to believe that a symmetric approach is just and reasonable, while an asymmetric approach has not been shown to be just and reasonable."

Ratepayer auction revenues compared with congestion payments for auctioned CRRs



| *CAISO Department of Market Monitoring*

The commission added that CAISO's proposal would have the "undesirable" effect of making the CRR product less transparent.

"Market participants could face difficulties valuing a counterflow hedge relative to a prevailing flow hedge, since one would be discounted while the other would not," the commission said. "This lack of transparency could discourage market participants from bidding for counterflow CRRs, which could reduce liquidity and could, in turn, exacerbate the CAISO CRR market's current market efficiency problems," such as the auction revenue shortfalls.

The capacity release reduction proposal will cut the amount of CRRs made available in the annual auction while increasing those available through the monthly auction. In approving the plan, the commission noted that it "shifts the release of CRR capacity from the annual auction to the monthly auction, where CAISO has more information concerning the topology of the transmission system. CAISO's analysis shows that a 10% decrease in available annual capacity would decrease the amount of CRRs that are likely to be infeasible in the day-ahead market and reduce CRR revenue insufficiencies."

CAISO's Board of Governors had approved the CRR rule changes in June. (See *CAISO Board Approves More CRR Auction Changes*.)

The issue has pitted the ISO's Department of Market Monitoring against financial traders, which the department says were the biggest beneficiaries of the current market design.

In the first half of 2016, the Monitor said, financial traders made $22.7 million in profits, more than doubling their investments as they paid 49 cents into the ISO's auctions for every dollar earned. Over the same period, power marketers and generators took in about $3.9 million and $800,000, respectively, paying 82 and 85 cents for every dollar of congestion revenue earned. (See *CAISO Monitor Seeks Congestion Rights Revenue Auction Reform*.)

Thursday's order was the second time this year that FERC has addressed CAISO's

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CAISO NEWS

Does California Need a Catastrophic Fire Fund?

By Hudson Sangree


Simi Valley wildfire | *U.S. Air Force*

Gov. Jerry Brown on Friday signed a legislative plan to help California utilities deal with the massive costs of wildfires sparked by power lines. But that measure's proposal to let utilities sell bonds to pay for fires may not be an adequate solution to the bigger and more destructive blazes that appear to be the state's new normal, some skeptics contend.

Going forward, California may need to establish a catastrophic wildfire fund or similar program to keep utilities solvent while quickly compensating wildfire victims, they said.

"The concept of having a pool of money on the front end that allows for rapid recovery is important," said Jan Smutny-Jones, CEO of the Independent Energy Producers Association and former chairman of CAISO's Board of Governors. "We need something more forward looking, a better approach."

Such ideas were discussed during the planning stages of SB 901 — the bill Brown signed — and at subsequent hearings in August. (See *California Wildfire Bill Goes to Governor*.)

Among the proposals that failed to make it into the bill was a plan to create state-regulated investment accounts that utilities would fund to cover future wildfire costs, said Barry Moline, executive director of the California Municipal Utilities Association.

"We proposed not so much an insurance fund as a savings account," Moline said. "The idea was to create this fund that utilities would pay into a little at a time," with tax breaks as incentives.

The plan proved too complicated to deal with in a limited time frame, but it could come up again next year, he said.

"It was a lot to wrap everybody's head around in a short amount of time," Moline said. "We took a month to work it out, and then there were only two weeks left of session."

Another proposal was to create a program similar to a successful Florida hurricane relief program.

"We should be thinking about solutions like the Florida Hurricane Catastrophe Fund, which uses a modest surcharge on insurance policies to cover catastrophic losses," Tom Long, litigation director for The Utility Reform Network, told lawmakers at an Aug. 9 hearing on SB 901.

That idea gained little traction because, in essence, it would have required those with sufficient homeowners insurance to subsidize those who are uninsured or underinsured, Moline said.

'Big Uncertainty'

Lawmakers passed SB 901 shortly before concluding their two-year session at the end of August. It included some elements of a proposal Brown sent to the State Legislature in July.

Most of the proposals discussed prior to the bill's passage had two goals: to compensate fire victims and to reduce the costs of holding utilities strictly liable for fire damages.

California extensively uses a legal procedure called "inverse condemnation" to make utilities pay for wildfires caused by

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FERC Rejects CAISO Congestion Revenue Scaling Plan

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attempts to upgrade its CRR auctions.

In June, FERC approved a separate set of CRR rule changes, including limiting allowable source-and-sink pairs for CRR transactions to those that align with typical supply delivery paths. (See *FERC OKs Tighter Rules for CAISO CRR Auction*.)

Transactions using non-delivery sources and sinks, such as between two generator locations, represent about 81% of auction shortfalls, the ISO noted in arguing for the change.

CAISO NEWS

Does California Need a Catastrophic Fire Fund?

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electrical equipment, whether or not the utilities were negligent. Because the utilities can use eminent domain to take private property, the thinking goes, they should be liable for all damages to private property.

The result is that utilities often pay damages to fire victims without a long court battle over fault.

Inverse condemnation exists in almost every state, but California has used it far more broadly than any other jurisdiction.

That worked fine for decades, but recent fires have been cataclysmic, perhaps because of climate change. A series of blazes in Northern California's wine country in October 2017, for example, could cost Pacific Gas and Electric more than $15 billion, according to some estimates.

As a result, PG&E's stock has struggled in recent months and its financial solvency has been called into question.

"The possibility of that liability [for the 2017 fires] destabilized the utilities, lowering their bond ratings, which increased the cost of financing, which is ultimately borne by ratepayers since it increases the costs of the utilities," said Kellie Smith, chief consultant to the conference committee that drafted SB 901.

Brown's July proposal would have done away with inverse condemnation and strict liability. Utilities only would have had to pay for fires they'd caused through negligence.

The governor's proposal was widely criticized by insurers, plaintiffs' attorneys and ratepayer advocates, some of whom called it a bailout of PG&E.

A bipartisan panel of State Senators and Assembly members did not deal with inverse condemnation in the final version of SB 901. Instead, they drafted a plan that would allow the utilities to sell bonds to cover wildfire costs. The bond debt would slowly be repaid by additional charges on customers' electric bills.

That didn't make the utilities particularly happy, nor did it appease ratepayer advocates.

PG&E responded to a request for comment for this story by reiterating its general support for the bill but leaving open the possibility of future legislative action.

"While the legislation addresses many urgent needs, we must continue to work together to ensure ongoing investment in climate resiliency and clean energy, and to combat the devastating threat that extreme weather and climate change pose to our state's shared energy future," the company said in a written statement.

IEPA's Smutny-Jones said it's always been assumed that utilities could recover wildfire costs from ratepayers through incremental increases in electric bills. The magnitude of recent wildfires, however, calls that assumption into question, he said.

"That's the big uncertainty," he said.

If the state's investor-owned utilities are destabilized, it could threaten California's ambitious goals of relying largely on renewable energy sources, such as the wind- and solar-power generators that he represents, Smutny-Jones said.

It's likely that how the state pays for wildfires will be an ongoing topic in Sacramento, he said.

"I think the Legislature will continue to be engaged on this issue," he said. "Coming up with some sort of catastrophic wildfire fund or another insurance mechanism, we will continue to see activity in that area."

CAISO News

FERC Tells LEAPS to Get in Line

By Hudson Sangree

FERC on Thursday rejected a request by developers of a proposed $2 billion pumped storage project for a declaratory order entitling it to cost-based rate recovery as a transmission asset in CAISO.

The commission sided with CAISO and the California Public Utilities Commission, which had argued that Nevada Hydro's petition for its Lake Elsinore Advanced Pumped Storage (LEAPS) project was an end run around the ISO's transmission planning process (TPP) (EL18-131).

"We dismiss Nevada Hydro's petition and find that a request to designate LEAPS as a transmission facility is premature at this time," FERC wrote. "LEAPS has not been studied in the CAISO TPP to determine whether it addresses a transmission need identified through that process, and, if such a need were met, how the facility would be operated. Absent such information, the commission cannot make a reasoned decision on whether LEAPS is a transmission project and thus eligible for cost recovery under the [transmission access charge]."

CAISO said FERC should not accept Nevada Hydro's analysis that LEAPS is a cost-effective solution to transmission planning needs, noting that the company's benefits study relied heavily on revenues from market-based services such as energy market sales, regulation, load following, capacity, spinning and ramping. The CPUC said it is unlikely that pumped storage will be the most cost-efficient means of meeting reliability, grid integration or greenhouse gas reduction targets between now and 2030.

Nevada Hydro cited FERC's *Western Grid* ruling and its 2017 policy statement in seeking the project's classification as a transmission asset. (See *Storage Can Earn Cost- and Market-Based Rates, FERC Says*.)

The $2 billion LEAPS project, which entered CAISO's interconnection queue in 2005, has had a long and controversial history, with local governments and many residents opposed to its construction on the natural 3,000-acre Lake Elsinore, adjacent to the Cleveland National Forest in Southern California's Riverside County.

This is the second time Nevada Hydro has failed to obtain FERC approval to advance the project. In the 2008 *Nevada Hydro* case, the commission rejected a request that CAISO assume operational control over the facility and found that the developers failed to show why it should be treated differently from other pumped hydro facilities that had not been granted rolled-in transmission pricing.

In seeking the declaratory order, Nevada Hydro said it, not CAISO, would maintain operational responsibility for LEAPS.

But the commission said that change did not entitle the project to circumvent the ISO's planning process.

"Requiring LEAPS to be reviewed through the CAISO TPP is consistent with the commission's policy that regional transmission planning processes should identify transmission needs and solutions in a coordinated, nondiscriminatory process that is open to all interested stakeholders," the commission said. "We note that CAISO has committed to studying LEAPS as a transmission proposal, both as a means to address reliability needs (if it is submitted in an appropriate request window of CAISO's TPP and if the proposal specifies the CAISO-identified reliability constraints the project could mitigate), and as an economic planning study request."

The project would include 500-MW of pumped storage, the Talega-Escondido/Valley-Serrano 500-kV Interconnect and a 30-mile line to transmission systems owned by Southern California Edison and San Diego Gas & Electric. Its hydroelectric license application is pending before FERC (P-14227-003).

ERCOT NEWS

AEP Announces Closure of Oklaunion Coal Plant

By Tom Kleckner

Oklaunion | *AEP*

Cheap energy from natural gas plants and renewables claimed another coal victim in Texas last week when American Electric Power announced it will close the Oklaunion Power Station near the Oklahoma border.

AEP, the plant's operator and majority owner, said it plans to shut down Oklaunion by October 2020, citing concerns that the plant's production costs are no longer competitive in ERCOT, company spokesman Stan Whiteford said.

The 32-year-old, 650-MW plant is split among four owners in both the ERCOT and SPP grids. AEP Texas owns a 54.69% interest in the plant. The other owners are the Brownsville Public Utilities Board (17.97%) in South Texas, AEP's Public Service Company of Oklahoma subsidiary (15.62%) and the Oklahoma Municipal Power Authority (11.72%).

The plant accounts for 4.4% of ERCOT's summer coal capacity. Its retirement will leave the grid operator with 24 operational coal units.

Two of those units, at CPS Energy's J.T. Deely Power Plant, are currently mothballed and not included in ERCOT's capacity calculations. The units date back to the late 1970s and have a combined capacity of 871 MW.

The San Antonio municipality notified ERCOT in 2013 it was closing Deely permanently by the end of 2018, partly to avoid spending as much as $550 million in environmental retrofits. CPS has said it remains committed to closing the plant, despite the Trump administration's proposal the roll back the Clean Power Plan.

ERCOT spokeswoman Leslie Sopko said the grid operator has yet to receive an official notification of suspension of operations (NSO) regarding either Deely or Oklaunion.

"AEP has advised us of their plans to close the plant," Sopko said, noting the retirement will be reflected in ERCOT's Capacity, Demand and Reserves report when it receives the NSO.

ERCOT lost 4 GW of coal-fired capacity last year when Vistra Energy closed three coal plants. (See *Vistra Energy to Close 2 More Coal Plants*.)

The grid operator still has more than 81 GW of capacity, though its reserve margin slipped to below 11% this year, following last year's retirements. ERCOT survived record heat during July without any generation shortfalls or resorting to emergency measures.

ISO-NE NEWS

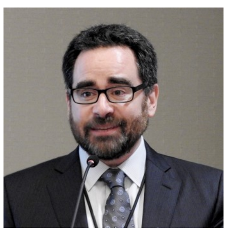
Overheard at ISO-NE Consumer Liaison Group Meeting

Energy Efficiency Still Key to Fighting Climate Change

By Michael Kuser

WINDSOR LOCKS, Conn. — Climate change and the key role of heating and cooling improvements for energy efficiency were the hot topics of discussion among consumer advocates, state regulators and industry professionals attending a meeting of ISO-NE's Consumer Liaison Group on Thursday.

Combined residential, commercial and industrial building heating accounts for about 40% of CO_2 emissions in New England, followed by transportation at about 35% and the electric sector at 23%.


Robert Klee | *© RTO Insider*

"Those are the big three wedges when you want to actually achieve the economy-wide greenhouse gas goals that we now have in statute," said Commissioner Robert Klee of Connecticut's Department of Energy and Environmental Protection.

The state's Global Warming Solutions Act calls for reducing GHG emissions to 10% below 1990 levels by January 2020 and 80% below 2001 levels by 2050, and it was recently amended to reduce emissions to 45% below 2001 levels by 2030.

The state's renewable portfolio standard and the Regional Greenhouse Gas Initiative have driven down emissions, "and Connecticut has just doubled down on that with legislation to make our RPS 40% Class I renewables by 2030," Klee said.

The "new normal" of stronger and more frequent storms is also a challenge for planners and predictors, Klee said. "Those storms would normally happen years or decades apart, but Eversource [Energy] reported in a period of 16 months having four of the company's 10 most devastating storms ever … [which] translates into [affecting] our rates and how much we're all going to be paying for this."

Heating and Cooling


Joseph Rosenthal | *© RTO Insider*

Joseph Rosenthal, principal attorney for Connecticut's Office of Consumer Counsel, moderated a panel on electrification of heating.

From 2013 to 2015, the state was promoting the use of natural gas "to find the right parameters to give consumers choice about whether to stay with oil or switch to natural gas and what kind of subsidization we would offer for that," Rosenthal said.

Now Connecticut is moving into a new phase, talking about electrifying of the heating sector, he said.

DEEP Deputy Commissioner for Energy Mary Sotos said climate change drives the move to electrify heating to reduce GHG emissions, but the use of lower carbon content biofuels also provides opportunities to improve energy efficiency.

"One limitation on reaching the state's GHG emissions target is how we measure biofuel," Sotos said, noting that the advantages of biofuel lie in reduced emissions over the lifecycle, while the EPA tools her state uses only reduce emissions at the point of combustion.

"In the near term, unless we change those methodologies significantly, we wouldn't necessarily get to claim credit for any changes made there," she said.

Sotos' remarks set the table for Chris Herb, president of the Connecticut Energy Marketers Association, a statewide group of fuel oil dealers, who said, "Forget everything you think you know about heating oil."

On July 1, all New England states mandated the use of ultra-low sulfur heating oil, with a maximum sulfur content of 15 ppm, a 97% reduction from the previous standard, he said. The new fuels, mixed with 7% biodiesel on average, mean particulate emissions are reduced by 80%, nitrous oxide by 10% and CO_2 by 2%.

With biodiesel added, heating oil is no longer the fuel that people are used to, Herb said.

"It's cleaner than natural gas," Herb said, showing a slide comparing the 20-year atmospheric lifecycles of natural gas versus ultra-low sulfur heating oil, which his trade group is trying to rebrand as "Bioheat."

Heat Pumps

Ronald Araujo, energy efficiency manager for Eversource, said heat pumps provide excellent benefits, given the right situation.

"Ground source heat pumps are very efficient," Araujo said. "It doesn't generate heat — it moves heat from place to place — but one disadvantage is it needs some

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Left to right: Chris Herb, CEMA; Ron Araujo, Eversource; Emily Lewis O'Brien, Acadia Center; and Mary Sotos, DEEP. | *© RTO Insider*

ISO-NE NEWS

Overheard at ISO-NE Consumer Liaison Group Meeting

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external source to work with."

Ground source heat pumps are more efficient than air source heat pumps because the temperature of the ground is relatively stable (about 50 degrees Fahrenheit), while the air temperature in New England can range from below zero to 100 with high humidity, either of which compromise efficiency.

"The reason heat pumps are so important is that they reduce emissions. They reduce emissions today, and they will also do it as the electricity sector continues to get cleaner," said Emily Lewis O'Brien, Acadia Center senior policy analyst. "This is an important part of the equation ... but you can't do it with heat pumps alone."

O'Brien emphasized that in order to meet renewable energy goals, it would be relatively "simple" to bring all six states in New England, plus New York, into matching best practices in every area, from electric vehicle promotion, to solar development, to heating electrification and energy efficiency.

| *© RTO Insider*

"And it's important to align state incentive programs across the region, to make sure we're all swimming in the same direction," O'Brien said.

Fuel Security

Anne George, ISO-NE vice president for external affairs, highlighted recent developments at the RTO, particularly regarding fuel security and the issue of the difficulty of obtaining natural gas supplies during the region's winter peak.

FERC in July tentatively accepted a cost-of-service agreement between ISO-NE and Exelon for Mystic Generating Station Units 8 and 9, ordering an expedited hearing process on unresolved issues related to cost justification (ER18-1639). The agreement would allow the gas-fired units in Massachusetts an annual fixed revenue requirement of almost $219 million for capacity commitment period 2022/23 and nearly $187 million for 2023/24. (See *FERC Advances Mystic Cost-of-Service Agreement*.)

"They did agree with how we were approaching the fuel security risk analysis, but they did not go along with us doing this outside of our typical Tariff language," George said.

Elizabeth Mahony, of the Massachusetts attorney general's office, spoke for her boss, Deputy Chief of the Energy and Environment Bureau — and CLG Coordinating Committee Chair — Rebecca Tepper, who was busy dealing with issues related to the multiple gas line explosions in the Merrimack Valley near Boston the previous week.

Mahony highlighted the election of a new Coordinating Committee at the next CLG meeting, to be held in Boston on Dec. 6. "Any CLG member who is an electricity end user, or directly represents ratepayers, or is a member of a consumer organization, or is a government consumer or ratepayer advocate is eligible to serve on the Coordinating Committee," she said.

ISO-NE NEWS

ISO-NE Asks FERC to End Clear River CSO

By Michael Kuser


Clear River Energy Center concept art | *Invenergy*

ISO-NE on Thursday asked FERC to terminate the capacity supply obligation of Invenergy's delayed 485-MW Clear River Energy Center Unit 1 combined cycle plant in Burrillville, R.I. (ER18-2457).

The RTO said it was exercising its right to terminate the CSO because the plant will not be operating in time for the beginning of the capacity commitment year beginning June 1, 2019.

Unit 1 obtained the CSO in Forward Capacity Auction 10, held in February 2016, but its commercial operation date is now scheduled later than June 1, 2021. Invenergy has covered the plant's CSO for the capacity commitment periods beginning in 2019 and 2020.

Chicago-based Invenergy has been attempting since 2015 to get a construction permit for the plant from the Rhode Island Energy Facilities Siting Board (Docket No. SB-2015-06), a process delayed by opposition to the plant itself, the environmental sensitivity of the proposed site and the developer's plans to secure extra water for operations.

On Sept. 21, the town of Burrillville asked the siting board to reject the advisory opinion submitted by the state's Public Utilities Commission in favor of the project. Town Manager Michael C. Wood posted news of the RTO's termination filing on the town's website: "No doubt this is a big setback for Invenergy. Burrillville will thoroughly evaluate this action by ISO-NE, but we are not underestimating Invenergy."

Last November, ISO-NE barred Unit 2 from offering into February 2018's FCA 12 because of the permitting delays. (See *ISO-NE Bars Invenergy Plant from FCA 12*.)

If the commission accepts ISO-NE's filing, the RTO said it "will terminate the CSO, draw down the financial assurance that Invenergy provided for Clear River Unit 1's CSO and will remove the resource's qualified capacity, which will render it ineligible to participate in the upcoming FCA 13 to be held in February 2019."

FERC in January accepted an unexecuted large generator interconnection agreement filed by ISO-NE and National Grid for Clear River. (See *FERC Accepts Disputed GIA for Rhode Island Generator*.)

The RTO asked the commission to issue an order within 60 days of its filing, arguing that the grid operator and market participants "need certainty on the status of this resource" prior to FCA 13.

ISO-NE NEWS

FERC Rejects NESCOE Request on Scarcity Rules

By Rich Heidorn Jr.

FERC on Thursday rejected a request by the New England States Committee on Electricity to broaden the commission's February ruling raising ISO-NE's peak energy rent (PER) adjustment. The commission also approved the RTO's compliance filing in the matter (EL16-120, ER17-2153, ER18-1153).

The commission had approved an uncontested settlement that resolved issues it set for hearing in 2017 after finding that the PER mechanism had become unjust and unreasonable because of the interaction between the mechanism and higher reserve constraint penalty factors (RCPF). The settlement covered the period of Sept. 30, 2016 — the date of the initiating complaint by the New England Power Generators Association — through May 31, 2018, the last day of the capacity commitment period for Forward Capacity Auction 8. (See *FERC OKs Settlement on ISO-NE Scarcity Rules*.)

The Feb. 20 order noted the settling parties did not agree on the application of the revised strike price methodology to FCA 9, the capacity commitment period beginning June 1, 2018.

NESCOE supported the adjusted PER strike price but protested continued use of the methodology after May 31. It asked FERC to require ISO-NE to reinstate, effective June 1, 2018, the method it used to calculate the PER strike price before the settlement period.

NESCOE said the settlement order did not address the circumstances when a PER event occurs prior to May 31, 2018. But because of the 12-month rolling average used in the PER calculation, such an event would affect ISO-NE's calculation of the PER credit against the monthly payment that load must make to capacity resources after that date, NESCOE said.

The organization said the new methodology should not apply for FCA 9 because the auction was held in February 2015 — after the RCPFs were increased, which allowed resources to reflect the change in their supply offers.

NEPGA countered that NESCOE's position "would deny capacity suppliers the full extent of the relief granted by the commission."

The commission said NESCOE's request would require Tariff changes under Federal Power Act Section 205 or 206 and was beyond the scope of the proceeding.

"NESCOE's request would, in effect, mean that the PER payments to load (i.e., the credit against the monthly payment that load must make to capacity resources that is associated with PER events) starting on June 1, 2018, would be calculated as if each monthly PER amount for the 12-month averaging process were calculated using the original PER strike price for the Sept. 30, 2016, to May 31, 2018 period."

FERC previously agreed to eliminate the PER adjustment effective with the capacity commitment period beginning June 1, 2019 (ER17-2153, EL16-120). ISO-NE said its Pay-for-Performance program and changes to the day-ahead energy market made the adjustment unnecessary beyond that date.

FCA 8 Challenge Rejected

In another ISO-NE ruling, FERC rejected as untimely a 2015 protest by the Utility Workers Union of America Local 464 (UWUA) over the results of FCA 8, which the union claimed was tainted by Energy Capital Partners' decision to close its Brayton Point generating plant.

In September 2014, the commission split 2-2 over whether it should reject the results from FCA 8 because of unchecked market power, allowing the 2017/18 auction results to become "effective by operation of law" (ER14-1409).

UWUA's protest said the commission should have revisited the issue after it added a fifth commissioner able to break the 2-2 deadlock.

But the commission said protests were required to be filed by April 14, 2014, and that when the union filed its protest, FCA 8 was no longer pending.

FERC noted that it had rejected UWUA's similar challenges to the results of FCA 9 and 10 after a nonpublic investigation that "found credible justifications for the owners' retirement decision." It also noted that its rulings were upheld on appeal in July. (See *D.C. Circuit Dismisses Union Challenges to FCA Results*.)

Brayton Point plant

ISO-NE NEWS

FERC Walks Back Salem Harbor Manipulation Case

Continued from page 1

and July 2013 during which the plant's fuel supply prevented it from operating at its offered capacity. It also sought $4.2 million in civil penalties.

But in its new filing, staff said it was persuaded by new arguments that the commission had failed to consider the 17.5 hours that it took Salem Unit 4 to reach full output from a cold start (IN18-7).

"Although staff disagrees with most of the arguments that Footprint raises, staff finds merit in Footprint's new defense relating to the start-up requirements of [Unit 4]. In consideration of that argument — one which Footprint had not fully raised … staff agrees with Footprint that its conduct during the June 27 through July 17, 2013, portion of the relevant period (i.e., June and July 2013) does not violate the four Tariff provisions and regulations at issue here.

"Staff still believes that Footprint violated those four Tariff provisions and regulations during the remaining portion of the relevant period, when Footprint submitted day-ahead limited energy generator (LEG) offers from July 18 to July 25, because the start-up requirements comprising Footprint's new defense do not apply then."

Enforcement recommended the commission vacate the Order to Show Cause and not assess a penalty or further pursue the matter because the reduced scope of the violations lessened the impact on the market.

"The extent of harm that resulted from Footprint's conduct is uncertain but likely limited. Moreover, Unit 4 was retired in 2014 and has since been demolished. It is being replaced by a new modern gas plant. Consequently, this specific conduct (i.e., misrepresentations about how much fuel is in the tank) will not recur. For all of these reasons, staff does not believe that pursuing the case further is a prudent use of the staff's resources."

Footprint's lead attorney, John N. Estes III of Skadden, Arps, Slate, Meagher & Flom, said his client was "gratified" by FERC's change of heart.

"We trust that the commission will act promptly to follow Enforcement staff's recommendation and finally end this groundless and stale set of allegations," he said.

NEPOOL: FERC Can't Change Press, Public Ban

Continued from page 1

transmission or sale of energy. These provisions of the [Federal Power Act] do not provide any basis for *RTO Insider*'s complaint."

On Aug. 13, NEPOOL asked FERC to approve amendments to its Agreement to codify an unwritten policy of banning news reporters and the public from attending the group's stakeholder meetings (ER18-2208). The group drafted the revisions after *RTO Insider* reporter Michael Kuser applied for membership in NEPOOL's Participants Committee as an End User customer in March.

RTO Insider responded to NEPOOL's filing with a Section 206 complaint Aug. 31 asking the commission to overturn the organization's ban or terminate the group's role and direct ISO-NE to adopt an open stakeholder process like those used by other RTOs (EL18-196). New England is the only one of the seven U.S. regions served by RTOs or ISOs where the press and public are prohibited from attending stakeholder meetings.

NEPOOL's 57-page filing, which it submitted in both dockets, cites the D.C.

Day Pitney attorneys David Doot and Patrick M. Gerity authored NEPOOL's defense of its rules barring the public and press from attending stakeholder meetings. | *Day Pitney*

Circuit Court of Appeals' 2004 order rejecting FERC's attempt to force CAISO to replace its governing board. The D.C. Circuit vacated FERC's action and remanded the case, ruling that "FERC … does not have the authority to reform and regulate the governing body of a public utility under the theory that corporate governance constitutes a 'practice' for ratemaking authority purposes."

NEPOOL also said *RTO Insider*'s request that FERC open the organization's meetings or strip it of its FERC-authorized role as ISO-NE's stakeholder body is a "collateral attack" on prior commission orders giving NEPOOL its role in the RTO. While NEPOOL claimed FERC had no jurisdiction to force it to change its rules, it did not challenge the commission's authority to order ISO-NE, which it noted "is the FERC-jurisdictional public utility," to adopt a new stakeholder body.

Former FERC Chairman Pat Wood III and former Commissioner Nora Mead Brownell have said they were unaware when they approved NEPOOL as ISO-NE's stakeholder body in 2004 that NEPOOL barred the public and press from its meetings. According to former Chairman Jon Wellinghoff, FERC commissioners also were unaware of the ban in 2008 when they approved Order 719, which requires that RTO/ISO processes be inclusive, responsive and represent minority interests. (See *Wood, Brownell: Unaware of Press Ban When OK'd NEPOOL*.)

Seven Intervenors File Comments

NEPOOL was among seven intervenors filing comments in the docket opened by *RTO Insider*. All but one of the others — including consumer, environmental and press freedom advocates — joined in calling for the opening of the meetings.

Also calling on the commission to open the

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NEPOOL: FERC Can't Change Press, Public Ban

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meetings were a dozen members of the House of Representatives. Their Sept. 18 letter said NEPOOL's proposal to codify its unwritten ban on public and press coverage "at best … is misguided; at worst it is an unconscionable restraint on the critical need for transparency in the New England energy and electric markets. … Codifying such a ban is antithetical to principles of good governance and the mission of FERC.

Reps. Fred Upton (R-Mich., left) and Bobby Rush (D-Ill.), leaders of the House Energy and Commerce Committee's Subcommittee on Energy, were among 12 House members who signed a letter opposing NEPOOL's press ban. | *© RTO Insider*

"The current NEPOOL practice of publicly releasing meeting agendas, draft resolutions and background materials prior to meetings, as well as official records and meeting minutes following meetings, is not an adequate substitute for attending and understanding the meeting itself," they continued. "Planning for the electric grid is an inherently governmental function and justifiably must be transparent to the greatest extent possible."

The letter was signed by Rep. Frank Pallone (D-N.J.), the ranking member of the House Energy and Commerce Committee; Rep. Fred Upton (R-Mich.), the chairman of the committee's Subcommittee on Energy; Rep. Bobby Rush (D-Ill.), the ranking member on the subcommittee; seven of nine members from Massachusetts' delegation; and one representative each from Rhode Island and Vermont.

In their filings, NEPOOL member William P. Short III and the Reporters Committee for Freedom of the Press essentially repeated arguments they made opposing the ban in NEPOOL's docket. (See *NEPOOL Alone in Support for Press, Public Ban*.)

'Not Informal Brainstorming Sessions'

But the New Hampshire Consumer Advocate, Public Citizen and a joint submission by environmental groups Earthjustice, the Conservation Law Foundation and the Sustainable FERC Project expanded on their earlier filings.

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The environmental groups noted that FERC previously ordered modifications to the NEPOOL Agreement in a 1997 order directing the organization to eliminate a requirement that members "'be engaged in or propose to engage in the wholesale or retail electric business in New England,' noting that it had prohibited geographic limitations on membership in power pools in a prior order."

New Hampshire Consumer Advocate D. Maurice Kreis said that NEPOOL's "jump ball" rights to submit filings opposing ISO-NE makes it more powerful than other RTO stakeholder bodies. "In legal terms … NEPOOL is as powerful as ISO New England is with respect to the market rules that govern how electricity and related products are traded," he said.

The jump-ball provisions "belie the impression NEPOOL seeks to convey here of serving merely as a kind of debating forum whose decisions rise and fall purely based on their persuasive value," he added. "Meetings of the principal committees of NEPOOL are not informal brainstorming sessions.

"There are also potential First Amendment implications of a commission-approved restriction on the speech and publication activities of NEPOOL meeting attendees. While NEPOOL is not itself an instrumentality of government, 'private speech prohibitions can still implicate the First Amendment when given the imprimatur of state protection through civil or criminal law,'" he said, citing the Supreme Court's landmark 1964 ruling *New York Times Co. v. Sullivan*.

Conflicts of Interest

Tyson Slocum, energy program director for Public Citizen, challenged NEPOOL's contention that an "over-whelming majority" of NEPOOL participants voted to ban journalists. Of the 113 NEPOOL participants who were eligible to vote during the June 26 NEPOOL meeting to consider banning reporters, "more voted to abstain (58) than the number casting votes for (32) and against (23) COMBINED."

Tyson Slocum | © *RTO Insider*

Slocum said some current and former NEPOOL officers that supported the ban "earn outside income selling 'intelligence' about NEPOOL proceedings, creating financial conflicts of interest."

"Twenty of the 32 votes in favor [of the ban] were represented by lobbyists who either serve as NEPOOL officers or were recruited by NEPOOL to serve as an expert witness on behalf of NEPOOL's advocacy to ban journalists. This is an alarming concentration of voting power by lobbyists who have a financial self-interest to maintain a ban on the public and journalists. … NEPOOL's restrictions on public and media access allow those with restricted access to possess valuable information about NEPOOL activities that are nonpublic, which they can then sell for lucrative amounts to interested parties."

Slocum noted that almost 80% of NEPOOL's 2018 budget is generated through membership fees and expenses and that NEPOOL members in the Transmission and Publicly Owned sectors can collect these expenses from ratepayers. "While NEPOOL likes to characterize itself as a 'private, voluntary association,' its reliance on ratepayer money — when combined with FERC-delegated authorities — mean NEPOOL is not entitled to be treated as a normal 'private' association for purposes of admitting the general public and journalists into its policy-related meetings."

Consultant Challenges 'Mischaracterization'

Aside from NEPOOL, the only filing that did not support opening the meetings was one by consultant Erik Abend, who said he was seeking to correct the "mischaracterization" of his business in *RTO Insider*'s complaint.

Abend, the primary NEPOOL committee member for the Small Renewable Generation Group in the Alternative Resources Sector, acknowledged that he provides "high-level explanations, analysis and advice" on issues discussed at stakeholder meetings, both to his clients and to non-NEPOOL members through a weekly summary published to a secure website for the Northeast Energy and Commerce Association (NECA).

Abend said his role does not meet NEPOOL's proposed definition of "press" and that his summaries "do not directly quote or paraphrase any statements made by market participants during any of the NEPOOL committee meetings. … As with the summaries that I provide directly to my NEPOOL member clients, the information contained in these summaries for NECA are drawn directly from materials that are publicly available from the ISO-NE and NEPOOL websites."

Meetings are 'Not Secret'

In its filing, NEPOOL said it was entitled to "discriminate" in allowing consultants to attend meetings while barring the press because the former "do not endanger the tradition of open dialogue in NEPOOL meetings by publicly reporting on the statements of other members."

NEPOOL said *RTO Insider* lacks standing to challenge its rules because it does not participate in New England "either as a market participant or an end-use customer." It also said the company could not contest the organization's refusal to admit its reporter, Michael Kuser, a Vermont resident.

It insisted its meetings are "far from secret. The date, time and location of NEPOOL meetings are posted publicly and are available online … [and] the agendas and materials for each meeting are almost all circulated well in advance."

It noted that its participants include consumer-owned utility systems, public interest groups, state consumer advocates and representatives of end-use consumers, and that state regulators and elected officials can attend in person or through delegates.

The group said it balances "two types of 'transparency' – (i) transparency to the non-stakeholder general public; and (ii) transparency among its meeting attendees."

MISO NEWS

FERC Sides with Minn. City on Tx Project Cost Recovery

By Michael Brooks

FERC on Thursday affirmed an administrative law judge's decision to assign a Minnesota city's portion of the 345-kV Hampton-North Rochester line (H-NR) to Northern States Power's pricing zone, rejecting arguments by NSP parent Xcel Energy (ER14-2154-006, ER15-277-005).

The H-NR line was completed in September 2016 as part of the Hampton-Rochester-La Crosse (HRL) transmission project into Wisconsin. The city of Rochester, Minn., through its Rochester Public Utilities (RPU) municipal utility, owns 14.7% of the line; NSP, Southern Minnesota Municipal Power Agency (SMMPA) and Dairyland Power Cooperative are co-owners, at 49.5%, 23.4% and 12.4%, respectively.

The line was included in MISO's 2008 Transmission Expansion Plan, and the RTO asked FERC in 2014 to add RPU as a transmission owner in NSP's zone, where the line is located, enabling the city to receive its annual transmission revenue requirement (ATRR) for the line from the zone.

MISO's Tariff specifies that within each zone, transmission rates are based on the sum of the revenue requirements for facilities "located within that pricing zone." Xcel argued that the language did not refer to the facilities' physical locations, but rather the zones the facilities' ATRRs are "allocated" to for ratemaking purposes. The company pointed out that the word "physically" does not precede the word "located" in the language. Thus, Xcel argued, the Tariff does not mandate that H-NR should allocated to NSP's zone.

In his initial decision in May 2017, ALJ David H. Coffman found this unpersuasive, pointing to the dictionary definition of "located."

"The plain meanings of the terms 'located' and 'allocated' are not remotely similar," he wrote.

Xcel took exception to the ALJ using dictionary definitions to support his conclusions. But the commission said Coffman was merely using them as evidence of common sense interpretation of the words.

Construction of the HRL transmission project, part of the larger CapX2020 package of projects | *Courtesy of CapX2020*

"We are unpersuaded by arguments seeking to differentiate the use of the word 'located' in different contexts with respect to the interpretation of" the Tariff, FERC said. "Such arguments stray from the ordinary meaning of the word and also introduce additional problems, notably different interpretations of the word 'zones' with respect to the location of load and the location of transmission facilities. …

"Transmission facilities are not ethereal concepts but fixtures that cannot be moved from zone to zone," FERC added. "Accordingly, given this context, interpreting the word 'located' as 'existing in a particular place' is logical."

Xcel also argued that because Dairyland was allowed to allocate its ATRR for both H-NR and HRL to its own zone, where its load is located, RPU's ATRR need not be allocated to NSP's zone. Rather, it could have been allocated to SMMPA's zone, where RPU's transmission facilities and load are located.

The ALJ, however, noted that the MISO Tariff allows an exception if the TOs agree upon a different allocation and FERC approves the agreement, as occurred in February 2017 for HRL. (See *FERC OKs Settlement, Opens Docket in Dispute over Minn.-Wisc. Tx. Project*.) That agreement excluded the ATRR allocation for H-NR, which could not be resolved at the time.

JPZ Agreement Dispute

In a related order, FERC ended its examination of the joint pricing zone (JPZ) agreement among TOs in NSP's zone, after NSP added RPU as a party to the agreement pending the resolution of the ATRR dispute (EL17-44). NSP had balked at adding RPU even after FERC approved it as a MISO TO. The commission had warned in February 2017, when it began its investigation, that revisions to the MISO Tariff or Transmission Owners Agreement (TOA) could be necessary to prevent such exclusions in the future.

Under the TOA, MISO distributes revenue to each JPZ's host TO, which then distributes it among each TO in its zone. The RTO had been distributing revenue to NSP based on RPU's approval as a TO in the zone, but because NSP had not added RPU to the agreement, the company was withholding the city's revenue.

While RPU acknowledged that its situation had been resolved, it told FERC that the TOA gives host TOs "the opportunity to leverage the need for a JPZ agreement against a new, typically smaller, transmission owner seeking to recover some or all of its transmission revenue requirement from that zone."

"This leverage is often coupled with claims of undue cost shifts and various allegations of unjust and unreasonable rate impacts or cost allocations to make it difficult for a smaller transmission owner such as RPU to integrate into MISO," RPU said.

FERC disagreed. "There is neither evidence that such denial, or use of that threat to affect the terms of cost allocation, is widespread, nor evidence that the host transmission owner responsibilities have either precluded new transmission owners from receiving their respective ATRRs that have been accepted by the commission or would have a chilling effect on new transmission owners' interest in joining MISO, as RPU suggests."

The commission, however, reiterated that "a JPZ agreement should reflect commission-accepted transmission rates. … Therefore, any dispute associated with a new transmission owner's ATRR should not delay the filing of a JPZ agreement to include a new transmission owner to the zone."

Chairman Kevin McIntyre recused himself from both orders.

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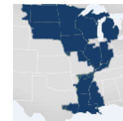


Hearing Set for Louisiana's Entergy Grand Gulf Complaint

By Tom Kleckner

FERC on Thursday established hearing and settlement procedures for a Louisiana Public Service Commission complaint against two Entergy subsidiaries (EL18-152).

The PSC alleged in a Section 206 complaint filed in May that System Energy Resources Inc. (SERI) and Entergy Services violated the filed-rate doctrine and FERC's ratemaking and accounting requirements by billing ratepayers for the costs of the Grand Gulf Nuclear Power Station's sale-leaseback renewals under a unit-power sales agreement between SERI and Entergy's Arkansas, Louisiana, Mississippi and New Orleans operating companies.

FERC found the PSC's complaint "raises issues of material fact that cannot be resolved based upon the record before us" and would be more appropriately addressed in settlement procedures. The commission set a refund date of May 18, 2018.

Louisiana's regulators requested the hearing and asked that unjust and unreasonable costs be removed from billings.

The PSC's complaint stemmed from SERI's renewal of two sale-leaseback agreements in 2015 that dated back to 1988. The regulators said SERI originally sold to private-equity investors an 11.5% interest in Grand Gulf for $500 million and leased it back for 26.5 years. They said the original cost of the lease was $435 million with a net book value of $398 million, claiming SERI included the costs in its formula rate as rents for ratemaking purposes.

The PSC said SERI paid off the $500 million principal balance over the leaseback terms, which ended July 15, 2015, but ratepayers paid all of the costs except for an $11 million net-of-tax gain credited in rates pursuant to a 1991 settlement. SERI recovered $489 million plus interest paid to the lessor through its formula rate expense, more than the $398 million book value, the regulators said.

The PSC further argued that SERI double recovered the sale-leaseback costs by making capital additions to the 11.5% interest and separately charged ratepayers a return. SERI's fair market value lease renewal cost of $17.2 million/year, which SERI has included in rates as rents since 1995, "constitutes double collection of the capital addition costs," the PSC said. It asked FERC to exclude the lease payments from rates and to order refunds from the time of the sale-leaseback renewal or order another ratemaking adjustment.

The Louisiana regulators also asked the commission to investigate and ensure that consumers receive the entire benefit of a litigation payment SERI received for the Department of Energy's failure to dispose of Grand Gulf's spent nuclear fuel.

SERI, a wholly owned subsidiary of New Orleans-based Entergy, generates and sells nuclear power, primarily through its 90% ownership and leasehold interest in Grand Gulf. Entergy Services is a service subsidiary that provides accounting, legal, regulatory and other services to Entergy's operating companies.

FERC Rejects Rehearing in MISO-PJM Export Issue

By Tom Kleckner

FERC last week denied a rehearing request but clarified an underlying order addressing MISO's multi-value transmission projects (MVPs) (ER10-1791).

PJM, American Municipal Power and PJM transmission owners appealed the 2016 ruling, which came in response to the 7th U.S. Circuit Court of Appeals' 2013 remand of a previous FERC order. The commission's ensuing order determined that a limitation on MISO's export pricing to PJM for MVPs was no longer justified, clearing the way for MISO to recover costs for those projects benefiting PJM customers by charging a fee on exports to PJM. (See *MISO to Begin Charging Tx Fees on PJM Exports*.)

In the order on remand, FERC said that given the growth of wind energy, as well as the need for PJM entities to access the resources and for MISO to deliver those resources to PJM, it was "appropriate to allow MISO to assess the MVP usage charge for transmission service used to export to PJM."

MISO created the MVP category in 2010 for projects that address more than one reliability or economic need across multiple transmission zones. It originally intended to allocate project costs to all of its load and exports, but FERC excluded the export charge because of concerns over rate pancaking.

The commission rejected claims that it used the same evidence to justify the MVP charges' application in the order on remand as it did to previously reject them. FERC said it reconsidered its previous determinations on this issue, including, but not limited to, findings made in previous decisions on the rate pancaking issue.

The commission said it centered its original decision on FERC Order 2000's factors for determining appropriate RTO configuration, but it did not consider how the market-to-market (M2M) process affects those issues. In the order on remand, FERC found that the M2M process allows the RTOs to more efficiently address the inefficiencies and other issues arising along the MISO-PJM seam, and noted that the grid operators added many "general improvements to coordination" between them since 2016.

FERC rejected PJM's request to clarify that MISO must use the RTOs' joint operating agreement process to review any MVP whose costs would be assessed on exports to PJM through the MVP usage rate, saying it was "based on a false premise." The MVP usage rate is assessed only to customers voluntarily taking transmission service under the MISO Tariff and does not allocate the cost of every MVP to PJM.

The commission granted PJM's clarification request regarding potential double recovery of the cost of certain MVPs, saying that when an MVP is selected in both RTOs' regional transmission plans as an interregional transmission project, only the portion of an MVP's cost allocated to MISO may be recovered in the MISO MVP usage rate.

MISO NEWS

Advisory Committee Divided on MISO Outage Authority

By Amanda Durish Cook

| © RTO Insider

ST. PAUL, Minn. — MISO's Advisory Committee appeared split last week over whether the RTO should assume greater authority in granting planned outages, with many members offering alternative and complementary ideas to increased outage control.

Following a tradition established three years ago, the Sept. 19 Advisory Committee "hot topic" discussion began with a theme song.

"I couldn't find a song with 'maximum generation alert,'" MISO Director of Resource Adequacy Coordination Laura Rauch said to laughter.

She eventually settled on Stealers Wheel's "Stuck in the Middle with You" to capture the situation.

"We have a generally aging generation fleet, and that's increasing outages and worsening coordination of those outages," Rauch said.

According to its Business Practices Manual, MISO can only "recommend [an outage] schedule that maintains system security and minimizes adverse impacts." But in its 2016 State of the Market report, the Independent Market Monitor raised the need for MISO to have a bigger say in outage scheduling, kicking off an off-and-on discussion ever since. (See "Generation Outages," *MISO in Harmony with IMM State of the Market Report*.)

Discussion moderator Julia Johnson, president of regulatory advising firm Net Communications, took a more optimistic approach, playing "The Power" by Snap!

"We've got to figure out who is 'the lyrical Jesse James,'" Johnson said, urging stakeholders to offer their best ideas to minimize outage impacts.

Some Advisory Committee members said the situation has become such that MISO members cannot effectively coordinate outages to avoid emergency conditions.

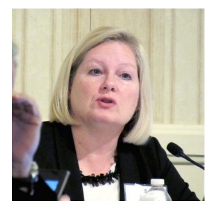
But Minnesota Public Utilities Commissioner Matt Schuerger said the Organization of MISO States does not support giving MISO expanded authority in approving outages, with the group saying that the RTO should "articulate a compelling need before any new authority is considered." OMS maintains that MISO already is allowed to analyze generator outage requests and recommend outage scheduling changes as needed.

Kevin Murray, representing the Coalition of Midwest Transmission Customers and MISO's Eligible End-User Customers sector, said he understood regulators' hesitancy to "turn over the keys to the car." But he said in his 27 years in the business, he had never seen MISO call a NERC Level 2 emergency like the one seen during the previous week. (See *MISO in Conservative Ops After Emergency Declaration*.)

"We shouldn't be having these events on a Saturday. We need to do some soul searching," Murray said. He also pointed to FERC and NERC's recently announced inquiry into the January cold snap that resulted in generation outages and loads that approached summertime levels in MISO South. (See *FERC, NERC to Probe January Outages in MISO South*.)

"The writing is on the wall. … Either we do something, or they do something," he said.

Several stakeholders said MISO should act to better coordinate outages before winter arrives, saying solutions from its comprehensive Resource Availability and Need project will arrive too late to avoid another outage-related emergency.



Beth Soholt | © RTO Insider

Clean Grid Alliance Executive Director Beth Soholt, of the Environmental sector, said MISO should study the cost of outages on the system. Robert Mork, of the Indiana Office of Utility Consumer Counselor, reminded executives of a mission statement that includes cost consciousness.

Murray said MISO might consider obtaining dispatch control of smart thermostats and electric vehicle charging stations to lower load when needed. "I would encourage people not to think about this one-dimensionally," he said.

North Dakota Public Service Commissioner Julie Fedorchak suggested MISO begin collecting aggregate load and generation availability estimates from utilities for both the month and week ahead.

Wisconsin Public Service's Chris Plante, of the Transmission-Dependent Utilities sector, pointed out that in some weeks, MISO's maintenance margin is a negative number, indicating that generation operators have already taken too many outages. The RTO's maintenance margin shows the amount of generation that can be taken out of service for a given time period without

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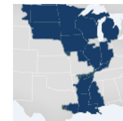

New Direction for MISO's Energy Storage Task Force

By Amanda Durish Cook

ST. PAUL, Minn. — Having fulfilled its original mandate, MISO's Energy Storage Task Force (ESTF) will get a new lease on life: as an expert advisory panel on increasingly sophisticated storage issues.

The move means the task force will begin developing white papers on technical storage issues and approaching other stakeholder committees about recommended agenda items.

MISO's Steering Committee last week endorsed the change to help resolve an identity crisis that arose this spring after the task force wrapped up its key mission of identifying discussion topics on FERC Order 841 compliance to be assigned to larger stakeholder committees.

The committee approved a revised ESTF charter last month that allows the group to evaluate energy storage issues rather than simply identifying them for committee assignment. It can also make recommendations directly to MISO and stakeholders, without first approaching the committee. (See *MISO Grants Storage Task Force More Authority*.)

But stakeholders and ESTF members began asking if the task force should stop reporting directly to the Steering Committee and perhaps report to another committee actively discussing electric storage. Under MISO's Stakeholder Governance Guide, the Steering Committee is tasked with assigning new grid issues to stakeholder committees.

Although the ESTF will not change its reporting relationship, the changes mean ESTF leadership can now reach out to larger stakeholder entities like the Resources Adequacy Subcommittee and the Market Subcommittee to discuss possible storage agenda items and updates ahead of meetings, as suggested by Xcel Energy's Carolyn Wetterlin during a Sept. 19 Steering Committee meeting.

Wetterlin pointed out that many storage issues naturally overlap stakeholder committees despite MISO's redesign that discourages duplicate discussions among committees.

The ESTF, at the Steering Committee's direction, will also explore the possibility of creating white papers on technical storage issues that went largely undiscussed while the group dealt with Order 841.

Committee Chair Tia Elliott said after FERC first issued the order, MISO was working quickly to identify various storage issues and place them into the most appropriate

Tia Elliott | © *RTO Insider*

Audrey Penner | © *RTO Insider*

stakeholder committee. She said that immediate need may have overshadowed the potential for the ESTF to discuss storage participation models and innovation beyond Order 841. She suggested the ESTF could now take on those periphery issues and work with MISO to create white papers.

"I want to make sure that stakeholders are not being stymied by the process, and bureaucracy is not holding up the ESTF's work. I've heard offline discussion that red tape is getting in the way, and that was never the intent of the stakeholder redesign," Steering Committee Vice Chair Audrey Penner said.

Entergy's Yarrow Etheredge said white papers would be helpful to explore technical details, such as how exactly storage

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Advisory Committee Divided on MISO Outage Authority

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risking resource adequacy.

Representing the TDU sector, Madison Gas and Electric's Megan Wisersky said it also believes MISO shouldn't be handed control over outage scheduling.

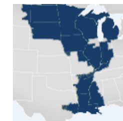
"You want your unit on to make money from it. Generators tend to be very unique beasts, and you may only get consultants and specialists on your site at a specific time," Wisersky said. "When MISO asks a unit to come off an outage, the unit is sometimes in pieces on the turbine floor. We're not capricious in this … they're not casual decisions."

Murray said MISO's new capacity advisory warning is a good step to help mitigate the effects of outages because units, if ready, will want to re-enter the market to scoop up the better prices available in a capacity shortage.

Multiple stakeholders said they would like MISO to attach economic signals to outage timing. Murray said the RTO could add to its markets an additional economic demand response product, which identifies a price to incent some load to get off the system. He also encouraged discussing an economic consequence if generation resources are unavailable during peak times. He brought up PJM's Capacity Performance rules, though he said he wasn't advocating use of a similar penalty in MISO.

Plante said MISO should revisit its proposal to create a seasonal capacity market to get a better idea of resource availability. He said MISO's current capacity accreditation based on the summertime peak might not be the best route for resources such as wind facilities, which have their most productive months outside of summer.

Michael Curran, chair of the MISO Board of Directors, urged the RTO and stakeholders to "get everything on the table," suggesting that the solution to poor outage coordination will be multifaceted, with more entities assuming more outage authority.



MISO NEWS

Recent Emergency, Calm Summer Top Talk at MISO Board Week

By Amanda Durish Cook

ST. PAUL, Minn. — A systemwide emergency, market innovations and the relatively calm summer conditions on the grid topped executive discussions at MISO's Board of Directors meetings last week.

A Sept. 18 meeting of the Markets Committee of the Board of Directors began with an initial look into MISO's Sept. 15 declaration of emergency conditions, issued just one a day after the RTO released a forecast showing a 19% chance of such an occurrence at least once this fall. (See *MISO in Conservative Ops After Emergency Declaration*.)

"Our fall outlook noted the potential for tight conditions, and that has indeed ... been the case since Saturday," MISO Executive Director of Market Operations Shawn McFarlane began.

Shawn McFarlane | *© RTO Insider*

At the time of the meeting, MISO was still under conservative operations, which remained in effect until Sept. 19.

McFarlane said the emergency was the result of high temperatures and the ramping up of planned fall outages, and noted that MISO lost a "significantly large" unit on Sept. 14, followed by the loss of smaller units the next day. As a rule, MISO does not reveal which companies experience unplanned outages, although Entergy reported that its Grand Gulf Nuclear Station on the Mississippi-Louisiana border went offline Friday because of feedwater system issues.

The MISO Markets Committee of the Board of Directors meets. | *© RTO Insider*

MISO made about 600 MW of emergency energy purchases during the event and for about 15 minutes exceeded its 3,000-MW north-to-south subregional contract limit on the SPP line linking its North and South regions.

However, McFarlane stressed that MISO coordinated with SPP and other parties to the contract ahead of the high flows.

"We will emphasize that we communicated with SPP and others ahead of time," he said.

MISO Executive Director of Energy Rob Benbow said the RTO made emergency purchases from both SPP and Southern Co. He said that although communications regarding the purchases were effective, some Southern operators were confused about MISO's process and that the RTO will reach out to company staff to better clarify processes.

Benbow also said MISO brought in extra staff ahead of the event to oversee the system.

In his chairman's report at the Sept. 20 Board of Directors meeting, Director Michael Curran praised SPP, Southern and the Tennessee Valley Authority for assisting MISO South during the emergency.

"It was a lot of good things at the seams. We have very good neighbors," Curran said.

He also added a warning about thin reserves and increasing outages: "It's not going to be just a weather pattern. ... This is going to be the new normal."

'Missed' Forecast

McFarlane said the determining factor in

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New Direction for MISO's Energy Storage Task Force

Continued from page 18

can function as transmission. "I think there's a role for the storage task force there, but unfortunately, they'd have to discuss issues already assigned to another committee," she said.

Northern Indiana Public Service Co.'s Bill SeDoris said it would be helpful if the task force wasn't required to go before the Steering Committee every time it wants to raise a possible issue for another stakeholder committee to discuss.

Elliott said the committee will examine whether the practice of obtaining its approval before moving issues to other committees is working as intended. In the meantime, she urged ESTF Chair John Fernandes to come forward with storage issue assignments as needed and said the committee could hold special conference calls to assign new issues.

Fernandes said he didn't mind if the task force continued to report to the Steering Committee; however, he said bureaucratic limitations should not stifle discussion in committee meetings.

"Even as a storage guy, I wouldn't predict what's going to happen with storage two years out. It's moving that quickly. ... Flexibility is key," Fernandes said. "I think everybody appreciates that this is a little tricky right now."

Fernandes said the ESTF's next meeting will tackle ideas on how storage will be charged for transmission reservations and discuss how hybrid storage setups might interact with the MISO system.

MISO News

Recent Emergency, Calm Summer Top Talk at MISO Board Week

Continued from page 19

the emergency conditions was a MISO forecast that missed the mark by about 7% of actual conditions.

"A lot of others had difficulty forecasting the heat. It's not an excuse, but many underestimated the high loads. … I would put this in our top three or four forecast misses. It was a significant miss since we began forecasting in 2005," McFarlane said.

"This is one of seven forecasts where we missed it by 5% or more," said MISO President Clair Moeller, adding that most of the midcontinent failed to accurately predict the heat.

Because the forecast became inaccurate so quickly, many units with long lead times could not respond in time, Moeller noted. CEO John Bear added that more fast-start resources will be needed as the generation fleet evolves.

McFarlane also said demand response was difficult to access during the event because of rapid heating and the fact that load-modifying resources aren't obligated to offer beyond the summer months.

"This is an advertisement for Resource Availability and Need," McFarlane said, referring to MISO's initiative to change load-modifying resource and outage coordination rules. (See MISO Moving to Combat Shifting Resource Availability.)

Richard Doying (left) and David Patton | © RTO Insider

Moeller said MISO is also examining how it plans for system conditions in light of the emergency.

"We're doing something you shouldn't do. We're using historic performance to predict future performance. The question is how to adjust our math," Moeller said. "The worst thing you can do to a gas pipeline is not give notice and take gas, and that's what we love to do, not give notice and take gas."

WPPI Energy's Valy Goepfrich took the microphone at the board meeting to urge MISO leadership to "R-E-L-A-X." She said that MISO's supply has exceeded load for years, and that the RTO and utilities are only experiencing bumps in learning how to effectively balance a more equalized supply-to-load ratio.

Market Innovation

Richard Doying, executive vice president of market development strategy, said MISO is currently researching new distributed resource integration models and how it can use historical data to better compute and manage transmission constraints. The RTO is also continuing ongoing research into how renewable penetration changes the operations and economics of the grid, he said. (See MISO Renewable Study Predicts Later Peak, Narrower LOLE Risk.)

Doying said in order to truly develop MISO's market, RTO staff need to contemplate rebuilding the current system from scratch. He said if MISO were able to revisit 2004 knowing what it knows now, the markets system would have looked very different.

"We probably would have built a very different set of operating procedures," he said.

MISO is also expanding its overall use of market improvement pilots and simulations, where it can test a full-scale change without impacting the grid, Doying said.

Director Thomas Rainwater urged leadership not to get stuck in a single line of thinking in market innovation, reminding the room that Betamax was once cutting-edge.

Doying said MISO's ongoing market platform replacement will be flexible enough to accommodate a wide range of future market styles. He said the RTO will release a revised market strategy document in 2019.

However, Independent Market Monitor David Patton said market development should be an "evolution, not revolution," and told RTO leadership to focus more on the efficient pricing of energy.

Solid Summer Performance

Despite last week's emergency conditions, MISO said it was able to manage a relatively calm summer.

"There were a few operational challenges and overall — very benign. Nothing like the last few days," McFarlane said.

"High level summary: It was hot," he joked.

MISO's system peaked in late June at 121.6 GW, about a month ahead the usual summer peak, McFarlane said. The RTO had predicted a 125-GW peak. Load averaged 86.6 GW, compared to 82.7 GW during last summer.

Patton said the heat caused a jump in energy prices over last summer, with prices averaging $31.12/MWh over the season, up 8.1% from 2017.

The loss of a 500-kV line in MISO South over June 3-4 highlighted the need to develop a 30-minute reserve product, according to Patton. The line trip caused transmission violations that were priced at $4,000/MW of flow, causing the Louisiana hub price to jump to $2,500/MWh for about an hour-and-a-half late on June 3, he said.

MISO also experienced its lowest wind output in the footprint ever on July 29: 1 MW out of about 18 GW of total wind capacity in the footprint. McFarlane said the RTO and the media often call attention to maximum wind output and wind records but don't often highlight low wind generation and wind output volatility.

"What are the lessons then?" Rainwater asked.

"We have to be prepared for almost anything. If anyone has a better answer, let me know," McFarlane said.

MISO NEWS

MISO Recommending $3B MTEP 18 Draft Plan

By Amanda Durish Cook

ST. PAUL, Minn. — MISO last week unveiled an annual transmission plan consisting of 434 transmission projects valued at $3 billion.

This year's proposal so far contains 85 more projects and about $100 million more in investment than the 2017 MISO Transmission Expansion Plan, which in its final form consisted of 349 projects at $2.9 billion.

MTEP 18 includes 85 baseline reliability projects at $607 million, 16 generator interconnection projects at $88 million and two transmission delivery service projects at about $290,000. But like last year's plan, most projects fall under MISO's "other" designation: those decided on by transmission owners that are not eligible for cost allocation and represent replacement of aging infrastructure, construction because of further reliability needs and modifications made for environmental purposes. The RTO this year is recommending 340 other projects at slightly more than $2.3 billion.

In-service dates for the projects range from 2018 to 2027. Almost half are transmission line upgrades while 39% are substation projects. New transmission line projects represent just 6% of the projects.

Foxconn and Mackinaw

Among the priciest projects on the MTEP 18 list is the $140 million interconnection to plug Foxconn's $10 billion plant into We Energies' network in southeastern Wisconsin. MISO expedited its review of the project in February at the request of developer American Transmission Co. (See MISO Fast-Tracks ATC Foxconn Project Review.)

MISO is setting aside more time to discuss an equally costly project: ATC's proposal to replace a 138-kV circuit connecting Michigan's Upper and Lower peninsulas after two submarine cables were damaged in April, most likely by a passing vessel. ATC said one of the cables was rendered permanently inoperable. (See ATC Restores Tx Link Between Michigan Peninsulas.)

MISO Executive Director of System Planning Aubrey Johnson said further stakeholder discussion is needed to explore alternate proposals to the project.

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The MISO System Planning Committee of the Board of Directors meets. | © RTO Insider

MISO NEWS

MISO Recommending $3B MTEP 18 Draft Plan

Continued from page 21

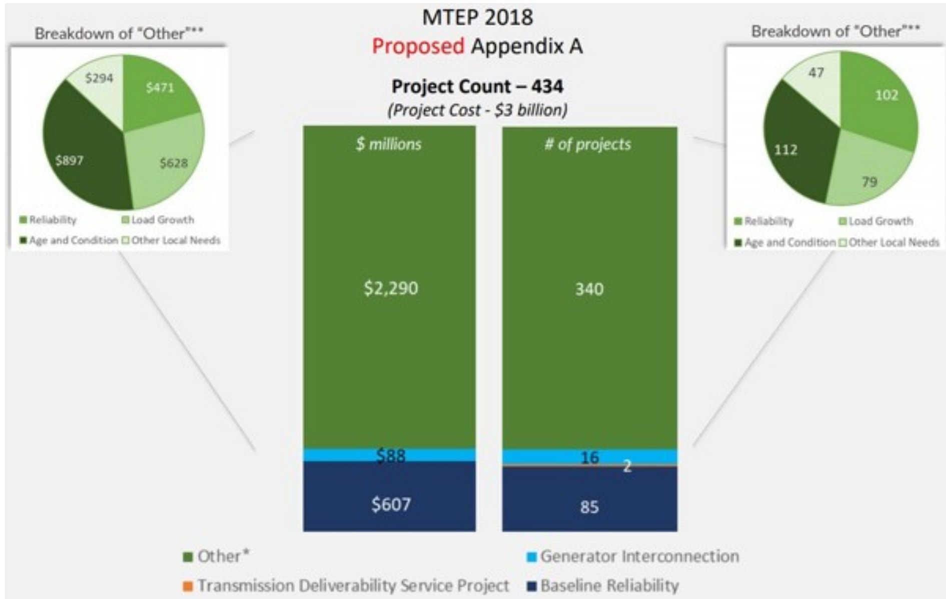
"We expect to have a recommendation prior to December," Johnson told the System Planning Committee of the Board of Directors during a Sept. 18 meeting.

TMEPs on the Way?

MISO executives said their final MTEP recommendation could contain targeted market efficiency projects (TMEPs), a smaller interregional project category MISO and PJM created in 2017. The RTOs are currently conducting a TMEP study and plan to submit project recommendations for approval by their respective boards in October. (See *MISO, PJM Plan 2 Studies for Seams Projects*.)

Market Congestion Planning Study

This year's market congestion planning study identified three projects for possible MTEP inclusion: the $11 million rebuild of a 161-kV line in southern Minnesota; a $2 million, 138-kV reactor project in eastern Wisconsin; and a $16 million upgrade to a 161-kV line in southwestern Indiana. None of the projects passed MISO's 345-kV threshold to qualify as a cost-shared market efficiency project, so if they proceed, all three will be considered "economic other" projects that don't qualify for regional cost allocation, meaning costs are assigned locally.



| *MISO*

At the meeting, some MISO directors asked why the range of projects resembles past MTEPs when the RTO is paying so much attention to portfolio evolution. They asked whether MISO should be presenting MTEPs that contain a different mix of transmission projects to support a changing generation mix.

MISO Vice President of System Planning Jennifer Curran said the RTO only recommends economic transmission with reasoned business cases that show benefits across multiple future scenarios. She added that MISO's 2011 slate of multi-value transmission projects was designed with future needs in mind and is still reaping benefits. (See *MISO Triennial Review Shows Multi-Value Project Benefits*.)

Director Todd Raba asked if MISO is still justified in using its "limited fleet change" MTEP future, the 15-year scenario used to gauge project value in a hypothetical footprint where the RTO's coal use remains strong and renewable generation remains a minority. The limited change fleet future is one of four futures MISO currently uses.

"We seem to have moved beyond that now," Raba observed.

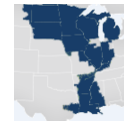
"Limited fleet change is not what we're seeing right now," Curran acknowledged, adding that MISO has most likely shifted to its continued fleet change future by now.

"We've got a lot of resource shift in front of us," she added, pointing out that MISO's 90-GW generation interconnection queue is dominated by renewable generation.

A final version of MTEP 18 will go before the board for approval in early December. MISO will hold a Nov. 13 conference call of the board's SPC to discuss a more complete MTEP 18 and stakeholder reactions to the portfolio.

Rank	Project Name	Cost (Millions)
1	Mount Pleasant Tech Interconnection 345kV	$140
2	Mackinac – Mc Gulpin 138kV	$140
3	East ALP Project: Lake Peigneur – Celelia 230kV	$72
4	Oden Area Support 69kV	$66
5	Timberland 230kV	$53
6	Bayport – Pioneer Rebuild 138kV	$52
7	Natchez SES – Red Gum Rebuild 115kV	$50
8	Raccoon Trail Substation 345kV	$50
9	Plymouth – Area Power Upgrade 115kV	$42
10	Riggsville – Vanderbilt 138kV Rebuild	$42

Most expensive MTEP 18 projects | *MISO*



MISO NEWS

Board of Directors Briefs

1 New Candidate, 2 Incumbents in MISO Board Election

Michael Curran and Phyllis Currie | © RTO Insider

CARMEL, Ind. — MISO will next week begin conducting the election for three open seats on its Board of Directors.

The RTO's Nominating Committee has settled on incumbents Phyllis Currie and Mark Johnson along with Minnesota Public Utilities Commission Chair Nancy Lange. If Lange earns enough of the vote, she will replace outgoing Chairman Michael Curran, who has reached the three-term limit.

Before being formally selected by MISO's Nominating Committee, Currie was elected as chair for 2019. (See *MISO Board Selects Currie as New Chair*.)

Madison Gas and Electric's Megan Wisersky, who holds one of two stakeholder seats on the Nominating Committee, said the committee narrowed a pool of about 30 candidates to two candidates for each of the three open seats, including those held by Currie and Johnson. MISO turned to management firm Russell Reynolds for help assembling a candidate pool.

Nancy Lange | © RTO Insider

"The quality of the candidates was exceptional," Nominating Committee member and Director Baljit Dail said.

"We look forward to another newbie," Curran added.

MISO Senior Vice President and Secretary Stephen Kozey said polls will be open Sept. 27 to Nov. 2, with a quorum representing 25% of MISO voting members (at least 35 members). Candidates must receive a majority of member support after quorum to be placed on the board. For each candidate listed on the ballot, MISO members can vote "for," "against" or "withhold."

"Should a member fail to collect a majority of the voting, the Nominating Committee process would begin all over again," Kozey said.

MISO membership will also vote during that time on whether to increase the board's compensation beginning in 2019. The board, after consulting with Russell Reynolds, voted to give itself a $7,000 raise for all directors, raising the current base retainer from $89,000 to $96,000 per year. Currently, directors are paid $116,000, committee chairs get $124,000 and the board chair gets $131,000. The last director pay increase took place in 2016. (See *Board OKs Pay Hike, Change to Independence Rules*.) The board also voted to increase the chairman's stipend from $15,000 to $20,000 in 2019.

Curran said increases to director compensation would be frozen for two years should the increase take effect.

Kozey said under MISO's Transmission Owners Agreement and bylaws, it would take at least two-thirds of the quorum of voting RTO members to reject the compensation increase.

Board election and compensation results will be announced at the Dec. 6 board meeting in Carmel, Ind.

MISO Spending Closely Tracks 2018 Limit; RTO Ups 2019 Budget

After earlier forecasts of a small year-end overage, MISO is now on track to be $1.2 million under its $265 million expected budget in December.

MISO Chief Financial Officer Melissa Brown said the savings are primarily attributed to delays in planned investments.

The RTO is likewise expected to come in under its capital expense budget, likely spending $28.8 million of the allotted $29.6 million. The decrease comes from deferring some vendor work on its market platform replacement and reclassifying other capital expenses as operating expenses.

MISO staff are proposing a $269.6 million operating budget for 2019, a $4.7 million increase over last year. The RTO, however, is planning for a smaller capital budget, at $27.2 million.

The 2019 budgets include $81.2 million in both operating and capital spending on technology.

The total 2019 budget includes $20.5 million of spending on MISO's market platform replacement project, broken down into $10.7 million in capital expenses, $4.2 million in operating expenses and $5.6 million dedicated to the salaries and benefits of staff working on the project.

MISO leadership said it will reveal in late 2019 its chosen vendor to construct the new platform. In June, the RTO said preliminary vendor General Electric was months behind schedule on developing the platform, especially on the complex software needed to clear the day-ahead market. (See *MISO Platform Replacement Risks Delay, Budget Overrun*.)

Curran asked that MISO provide the board updates on its preferred vendor and reasoning before releasing the information next year.

MISO Reviewing FTR Process

After PJM experienced a major default in its financial transmission rights market, MISO is ramping up an ongoing review of its own FTR market. (See related story, *Doubling Down — with Other People's Money*, p.1.)

Officials said they began the review in 2017 and will continue to look for any weaknesses in its process. The evaluation is expected to extend into next year, and MISO said it plans to bring results of the evaluation to stakeholders.

Brown said staff are looking at other RTOs'

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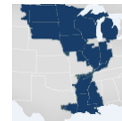
MISO NEWS



Board of Directors Briefs

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practices to identify the best combination of procedures.

FERC filings indicate PJM's financial fallout from the incident that began with GreenHat Energy's $1.2 million FTR default might become as high as $110 million. (See PJM Reeling from Major FTR Default.)

But MISO last week said its FTR market differs from PJM's in one key way that may protect it against a significant default: MISO does not net auction bid prices with estimated congestion credit value. MISO said the netting difference results in a conservative credit calculation and higher collateral, preventing "thinly capitalized" parties from buying large portfolios.

"We believe this is a key component for minimizing the magnitude of a default," MISO said.

Barbara Krumsiek | © *RTO Insider*

Brown said bid prices in MISO are required to be collateralized.

"So you've got to bring the cash to play the game," she told the board.

MISO also said it limits FTR terms to one year, while PJM allows rights for up to four years. It additionally pointed out that it estimates the value of transmission congestion more frequently than PJM, updating congestion estimates monthly rather than once per year.

In response to a question from Director Barbara Krumsiek about whether GreenHat could resurface to apply to operate in MISO, Brown said the screening process for credit worthiness would most likely exclude it early in the process.

Directors asked if there was a downside to being more conservative in its FTR market requirements.

Brown said MISO's collateral requirment protects the membership class, not MISO, because the costs of a default would be passed on to members.

"I'm on the conservative side, just so we're clear," Director Currie said.

Director Thomas Rainwater said it appeared that MISO's credit policy hasn't diminished "robust" FTR market activity.

— Amanda Durish Cook

NYISO NEWS

NY Study: Minimal Price Impact from Carbon Charge

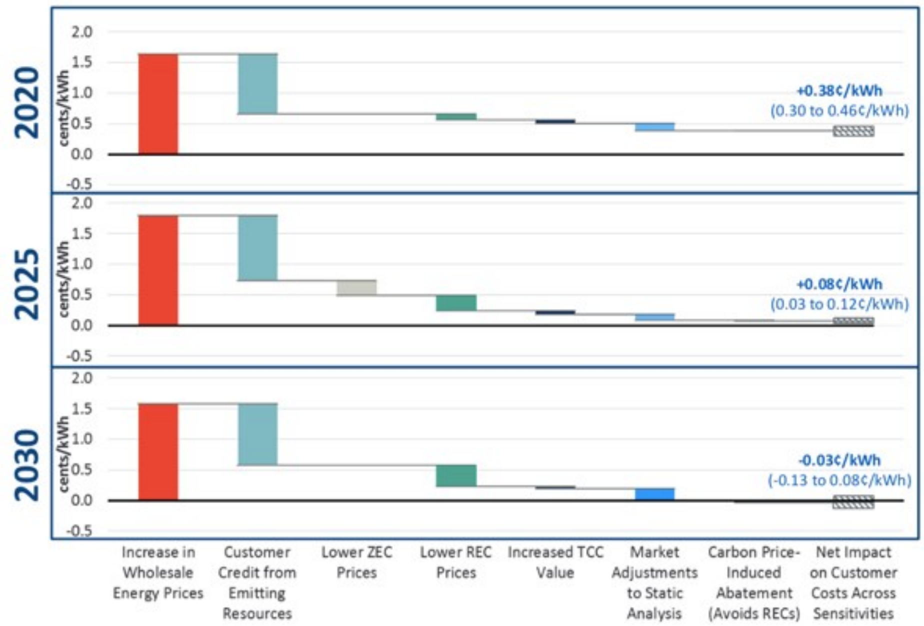
By Michael Kuser

RENSSELAER, N.Y. — A carbon charge would only slightly impact New York's wholesale energy prices over the coming decade, with any increase offset by benefits, a new report commissioned by NYISO says.

"If you add a carbon charge, [locational-based marginal prices] are going to increase, and they do," said Sam Newell of the Brattle Group, who on Sept. 17 presented a draft study of carbon pricing impacts to the state's Integrating Public Policy Task Force (IPPTF). The analysis is based on the ISO's straw proposal issued in May.

"The effect of higher LBMPs on customer costs, however, is partially or fully offset by several factors," Newell said. "Customer credits from emitting resources offset about 60% of the price increase, then you've got other potential benefits such as lower prices for renewable energy credits (RECs) and zero-emission credits (ZECs), increased value of transmission congestion contracts, a shift of renewable resources to regions with higher CO_2 emissions to displace and other changes to the supply mix."

The Sept. 17 discussions were part of issue "Track 5" in the group's five-track effort to price carbon emissions. Brattle will present the final version of its customer impact analysis to the IPPTF on Oct. 15.



This chart shows the broad framework for analyzing the effect of a CO_2 charge on the wholesale energy market. | *The Brattle Group*

Key Assumptions

The study's base case scenarios cover 2020, 2025 and 2030, and the study projects the carbon charge will spur the highest cost early on: a 2.2% increase in 2020, followed by a 0.04% increase in 2025 and a 0.01% decline at the end of the next decade.

The base cases reflect "most likely" conditions, supply and demand conditions and existing policies, including the Clean Energy Standard and Regional Greenhouse Gas Initiative, Newell said.

The conclusions are similar to those of the first Brattle report, released in August 2017, on pricing carbon into generation offers and reflecting it in energy clearing prices. The main difference between the two reports is that now Brattle has studied three years (2020, 2025 and 2030) and has used GE-MAPS to model the effects of carbon charges on unit commitment, dispatch, prices, settlement and emissions, Newell said.

Several stakeholders wanted to know more about the assumptions used in the report and asked if the ISO would make a more technical report available.

"Nothing is secret," Newell said.

IPPTF Chair Nicole Bouchez, the ISO's principal economist, confirmed all data, methodologies and key assumptions would be made available to stakeholders as soon as possible, with an expected availability date around the beginning of October.

Andrew Antinori, senior director of the New York Power Authority's Market Issues Group, said it did not make sense to focus on the higher price increase listed for 2020 ($0.38/kWh) because NYISO recently concluded carbon pricing would not be implemented any earlier than the second quarter of 2021.

Antinori asked if the price would be lower if the study started with 2022, the first full year, but Newell would only say the price increase for that year would fall between those of 2020 and 2025.

NYPA Concerns

Mark Reeder, representing the Alliance for Clean Energy New York, said NYPA sales should be accounted for in the study because many of its customers pay a low non-market price. Therefore, an increase in NYISO market price doesn't translate into a one-for-one increase in the prices paid by NYPA's end users.

Warren Myers, DPS director of market and regulatory economics, said, "Whenever we first saw a waterfall chart, NYPA was so complicated, one of our first concerns was we wanted to see a consistent set of analyses of non-NYPA customers."

The study assumes all customers are fully exposed to the LBMP, so it overstates customer costs to the extent NYPA does

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NYISO NEWS

NY Study: Minimal Price Impact from Carbon Charge

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not, Newell said. "We didn't include [NYPA] because it would have been quite messy to try to account for it."

Mark Younger of Hudson Energy Economics said, "NYPA also does market-based sales for a certain amount of energy, and doing this creates a windfall for a state agency, which presumably goes to New York state residents," possibly to be used for their benefit.

"Our analysis did not consider any special effects on NYPA," Newell said.

Couch White attorney Michael Mager, who represents Multiple Intervenors, a coalition of large industrial, commercial and institutional energy customers, said profits on market-rate sales would likely incent more such sales, not more low-cost contracts for industrial customers.

Antinori said, "It's not fair to say 'windfall' when discussing NYPA revenues as if no other generator gets such a benefit from a carbon charge."

Mager said the study might be overstating savings on REC prices: "You identified this in your original report, that it's not one-to-one price savings."

Newell said, "There are a number of ways to structure this so there's no risk on suppliers and you get one-on-one benefits to renewables ... We're using load forecasts that decline by 6 TWh every five years."

Environment and Reliability

Tariq Niazi, ISO senior manager and Consumer Interest Liaison, was scheduled to present an analysis of consumer impacts from a carbon charge but got bumped from the lineup due to the length of time spent on the Brattle study.

According to the report, to be presented at next week's IPPTF meeting, adding a carbon charge would reduce CO_2 emissions approximately 3% by 2030 and cause only limited fuel switching; most emission reductions would result from dynamic effects such as renewable shifts, nuclear retention and price-responsive load.

The report also says pricing carbon would spur investment in renewables, supporting reliability, and the ISO intends to develop a calculation using marginal units to estimate the LBMP carbon impact.

Bouchez informed stakeholders of a revised task force schedule, which foresees the presentation of a carbon pricing proposal and recommendations on Dec. 17.

PJM NEWS

FERC to Examine PJM's Pseudo-tie Eligibility Rules

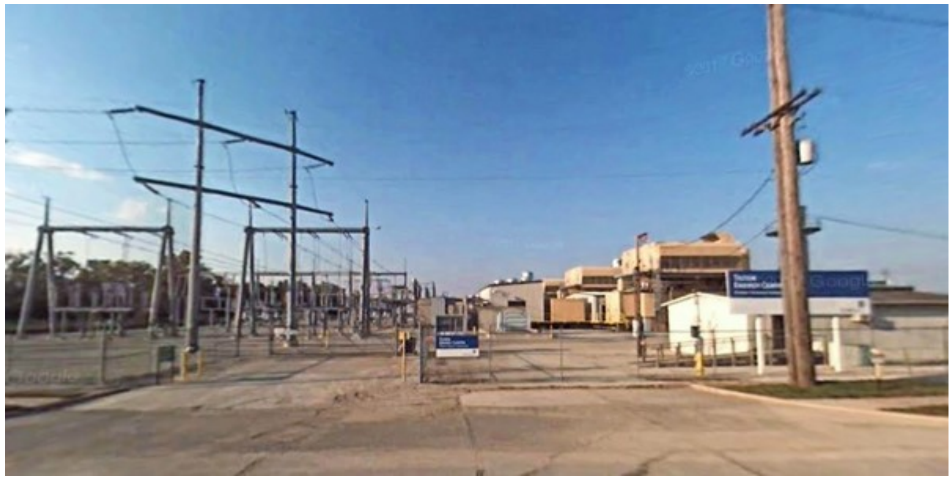
By Rory D. Sweeney

FERC last week established a paper hearing to settle a dispute between PJM and an external resource on whether it should be allowed to pseudo-tie into the RTO even if doing so might raise congestion costs for members (EL18-145).

The order gives PJM 45 days to explain how it determined that Tilton Energy's gas-fired facility failed the RTO's market-to-market flowgate test, one part of its analysis of units outside of its territory that are attempting to become PJM capacity resources. The 176-MW facility located in Tilton, Ill., has been pseudo-tied into PJM for about two years and has cleared in each of the last two Base Residual Auctions. However, it cleared as part of a transition into stricter pseudo-tie rules that Tilton must pass by May 2019 in order to be eligible to offer into the BRA for the 2022/23 delivery year.

In preparation for that, PJM analyzed the unit's pseudo-tie and told Tilton in December that it's not eligible for a pseudo-tie after the 2021/22 delivery year because 44 flowgates failed the RTO's test. Although none of the flowgates is coordinated, they would all become eligible for coordination between PJM and MISO as a result of the Tilton pseudo-tie.

The test is intended to ensure that PJM assumes responsibility for coordinating a new flowgate to facilitate a pseudo-tie only if at least one internal generation resource also has a 1.5% flow impact on that flowgate, which PJM considers "appropriate." The test focuses on internal resources because PJM may use one to alleviate the impact on congestion caused by the external pseudo-tied resource.



Tilton Energy Center | *Google*

Results

PJM found that the pseudo-tie affects 231 flowgates, of which 65 already were coordinated and 166 would newly become eligible for coordination. Of those 166 newly eligible flowgates, 44 did not meet the 1.5% threshold.

PJM is concerned that although MISO has not yet invoked its coordination rights to require PJM to take responsibility for Tilton's effects on those flowgates, that doesn't mean it won't. PJM says it wants to ensure the pseudo-tie wouldn't alter its customers' exposure to coordination costs in the event that MISO does so in the future.

Tilton argues that once a resource's pseudo-tie passes the test, any subsequent changes to the system should not adversely affect the pseudo-tie, so the potential for flowgates to need to be coordinated in the future shouldn't affect Tilton's eligibility. American Municipal Power and Brookfield Energy Marketing filed answers in support of Tilton, agreeing that the test should only apply to flowgates that PJM and MISO have already designated as coordinated.

Brookfield argued that PJM's interpretation of "each eligible coordinated flowgate" in its Tariff to mean any flowgate is "grammatically nonsensical, as 'eligible' clearly does not modify 'coordinated' but instead refers to the subgroup of coordinated flowgates."

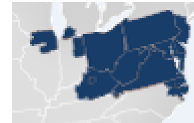
Hearing

Instead of hashing out the grammar, FERC set the matter for a paper hearing. The commission ordered PJM to explain four things:

- How it determines a flowgate is impacted by a pseudo-tie under the terms of its joint operating agreement with MISO and how it identifies an "eligible coordinated flowgate" resulting from a pseudo-tie from MISO. That includes "a step-by-step description of the process and an explanation of its basis for doing so" and identifying any related processes that might depart from the JOA.
- Whether it applies the 5% shift factor threshold in the JOA to determine "eligible coordinated flowgates" or, if not, why it does not, and whether the shift factor threshold, other specific thresholds set forth in the JOA, or some other screen would be a reasonable means of identifying flowgates for which coordination could be required.
- How the flowgate test was applied to Tilton's pseudo-tie, including an explanation of how PJM identified the "eligible coordinated flowgates" associated with the pseudo-tie and how PJM implemented each step of the test.
- Whether PJM intends to request, or whether PJM expects MISO to request, coordination for any of the "eligible coordinated flowgates" identified for Tilton, and why or why not.

Tilton will then have 30 days to respond with testimony or evidence. The commission set the refund date for May 11, 2018, when Tilton filed the complaint.

PJM NEWS



Zero-emission Backers Propose PJM Capacity Principles

By Rory D. Sweeney

A coalition consisting of environmental advocates, zero-emission generators and Illinois' consumer advocate has developed a set of principles they say will "protect the cost-effective achievement of state policy goals to the extent possible" under FERC's ordered redesign of PJM's capacity market.

While the document doesn't address applicability of PJM's minimum offer price rule (MOPR), which sets floors for subsidized units' capacity offers consistently above clearing prices, it does argue that any unit subject to the MOPR should be eligible for the resource-specific fixed resource requirement (FRR-RS) FERC suggested in its order.

The principles also call for the FRR-RS to indicate as clearly and as early as possible whether state programs would be subject to the MOPR, along with providing a transition period so states can enact any laws they deem necessary. However, the document reiterated demands the FRR-RS also preserve states' abilities to achieve clean energy policy goals.

The Natural Resources Defense Council's Miles Farmer said that "part of it is to push PJM in this direction as well," pointing out PJM's proposal has progressively moved toward the principles, and "to make sure that FERC follows through on FRR-RS."

The signatories "were all talking to each other around these PJM meetings, and we realized it makes sense to develop these shared principles," he said, though he declined to offer specifics about who approached whom first.

Several stakeholder groups have proposed market redesigns, which stakeholders have been examining as part of special sessions of the Markets and Reliability Committee on the issue. (See PJM Unveils Capacity Proposal.) While the coalition is not advocating for any specific proposal along with the principles, many of the signatories support a proposal being represented at the meetings by consultants Rob Gramlich of Grid Strategies and James Wilson of Wilson Energy Economics.

An Exelon representative confirmed the proposal is endorsed by "a large coalition of odd bedfellows," including the NRDC, Citizens Utility Board of Illinois, Sierra Club, D.C. Office of the People's Counsel, American Council on Renewable Energy, Exelon, Mid-Atlantic Renewable Energy Coalition, Talen Energy and Public Service Enterprise Group. All but PSEG are signatories of the principles document, which also includes the American Wind Energy Association.

Farmer said the principles have just been published and are expected to gather wider support as they become better known, adding that no conclusions should be drawn from anyone who hasn't signed on yet.

The proponents are all interested in PJM giving states capacity credit for units they subsidize to achieve state policy goals, such as procuring renewable and zero-emission resources, and declare as a principle that the credits should be applicable on a one-for-one basis.

For a unit to be eligible for FRR-RS election, it would need to be removed from the auction with a corresponding amount of load. The principle calls for making that election at least four months prior to a Base Residual Auction and would need to be confirmed by a load-serving entity or state power authority at least 30 days before the auction.

Owners could also elect portions of units to be FRR-RS, and there would be no minimum length of time the unit would need to remain elected. Those units would continue to be Capacity Performance resources subject to PJM's performance requirements and financial consequences.

"I take FERC at its word that it's going to implement FRR-RS, but it still needs to do so in a way that's workable so all the FRR-RS capacity is actually credited because setting this all up is not trivial and needs to be done with care," Farmer said.

FERC Ties up Loose Ends in NJ Merchant Tx Saga

FERC on Thursday confirmed its denial of requests to change two merchant transmission facilities' interconnection agreements, rejecting requests to rehear the orders (ER17-2073, ER17-2267).

But the commission's procedural rulings were moot because it granted Hudson Transmission Partners and Linden VFT the substantive relief they sought nearly a year ago.

Hudson and Linden had sought to amend their facilities' interconnection service agreements (ISAs) to downgrade their combined 1,003 MW of firm transmission withdrawal rights, which include the right to schedule energy and capacity withdrawals from the PJM system, into non-firm transmission withdrawal rights that only include the right to schedule energy.

Citing transmission owner Public Service Electric and Gas' opposition to the changes, FERC rejected them, saying PJM's Tariff doesn't allow it to alter agreements without approval of all the signatories. But the commission also initiated a Section 206 investigation of the Tariff language that required it to deny the requests. (See *Rejecting PJM 'Wheel'-related Requests, FERC Sets Inquiry*.)

That investigation led the commission to rule last December that the Tariff language was unjust and unreasonable and that the facilities should have the ability to unilaterally change from firm to non-firm rights. (See NJ Merchant Tx Operators Win Relief on Upgrade Costs.)

In the interim, Linden and Hudson had filed for rehearing. In Thursday's ruling, FERC stuck with its original reasoning rejecting arguments that the revisions were "a non-substantive change ... akin to other ministerial amendments PJM regularly files unexecuted."

There was no doubt that the switch to non-firm service was substantive, as they determined whether Hudson and Linden would be on the hook for the roughly $653 million in costs PJM allocated to them for upgrades to PSE&G's transmission system.

— Rory D. Sweeney

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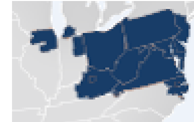

PJM Monitor Holding Firm on Opportunity Cost Calculator

By Rory D. Sweeney

PJM's Independent Market Monitor has declined to budge from its position that the RTO allow market participants to use its opportunity cost calculator, arguing that it would be consistent with other RTO verification processes.

The Monitor suggested that PJM has two options. The first is to maintain the status quo in which stakeholders are required to choose their own values using PJM's calculators and risk being referred for disciplinary action at FERC — the situation that brought the issue to a boil in August

The Monitor's preferred process would require market participants come to agreement with it on an opportunity cost that it verifies is competitive before submitting it for PJM approval. All parties retain the right to petition FERC if they don't agree with the final result. That would result in a practice consistent with the process PJM already uses for verifying cost-based offers, the Monitor said.

"The IMM requests that PJM clarify its preferred review process for opportunity cost calculations," the Monitor wrote. "The IMM recognizes that PJM can impose the first option. The IMM recommends the second option. ... The IMM routinely informs market participants that if its use of the PJM calculator results in an opportunity cost greater than that calculated by the IMM that the IMM is required by the Tariff to raise the issue with FERC."

The two parties' yearlong standoff was brought to a head at the Aug. 23 meeting of the Markets and Reliability and Members committees, where stakeholders threatened to advance Tariff revisions that would require PJM to accept the Monitor's calculator. PJM had announced earlier in the month that it would only accept opportunity cost calculations using its calculator after staff realized that in "the latter part of 2016" results between the two calculators, which had produced consistent results since 2010, began to diverge substantially. (See *Stakeholder Proposal Aimed at Ending PJM-IMM Dispute*.)

PJM responded Aug. 29 with a letter outlining its requirements for accepting the IMM's calculator. (See *PJM Sets Terms for Using IMM's Cost Calculator*.)

In its Sept. 16 response, the Monitor said that divergences likely began in 2011 when it "enhanced" its calculator with an "optimization solver ... to correctly model rolling constraints." The Monitor says it outlined the differences between the calculators in meetings with PJM and as part of special sessions of the Market Implementation Committee.

The Monitor's response included its oft repeated criticism of PJM's calculator.

"PJM's opportunity cost calculator demonstrably does not produce accurate results over the entire range of possible scenarios faced by real units. ... The IMM has discovered that market participants have made mistakes related to input assumptions that significantly affected the outcomes. ... PJM does not review the inputs to its calculator used by participants," the Monitor wrote. "PJM does not approve the results of its own calculator. Yet PJM states that PJM's calculator is the standard for evaluating opportunity costs."

The Monitor said it holds "detailed discussions" with market participants about opportunity cost calculation inputs and results and that it has modified its view of specific calculations considering details provided by participants.

"The IMM has made mistakes. The IMM does not claim that the IMM model is perfect," the Monitor acknowledged. "While it is important to have a complete and accurate model, opportunity cost calculations require case-by-case analysis and are not a simple matter of just running a model."

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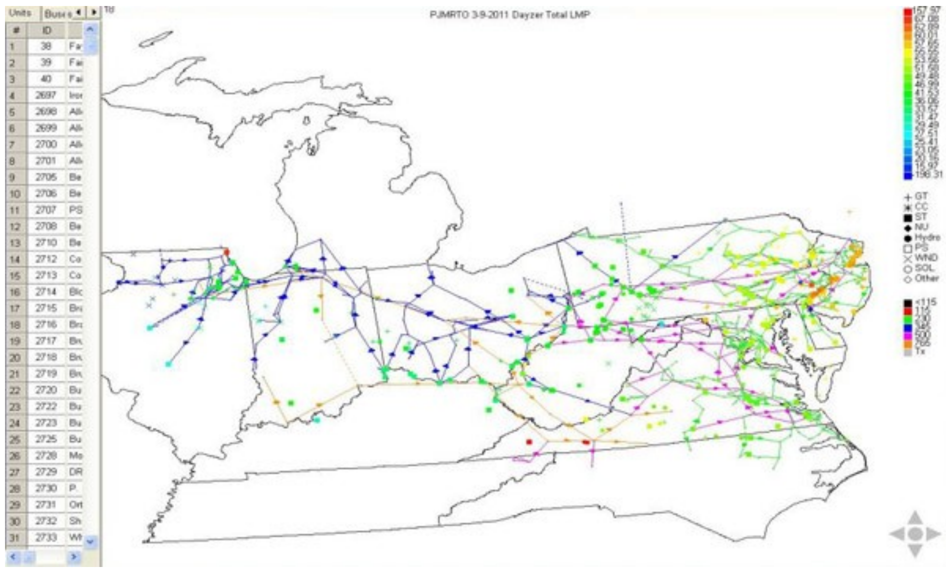
from other FTR traders allowed GreenHat's $10 million loss in 2017 to grow — leaving other market participants on the hook for as much as $145 million.

Here, based on interviews, PJM records and FERC filings, is how it happened, a cautionary tale of inadequate safeguards, opportunistic traders, foot dragging to patch loopholes and, finally, a botched effort to obtain more collateral that may have netted the RTO nothing. GreenHat's principals did not respond to requests for comments sent to their attorneys, David Gerger of Houston and John N. Estes III of D.C.



Screenshot from Cambridge Energy Solutions' Day-Ahead Locational Market Clearing Prices Analyzer (DAYZER). PJM has approved about 1,900 sources and sinks for FTR trading, which produce about 6,800 potential FTR paths. | *Cambridge Energy Solutions*

Aggressive Purchases

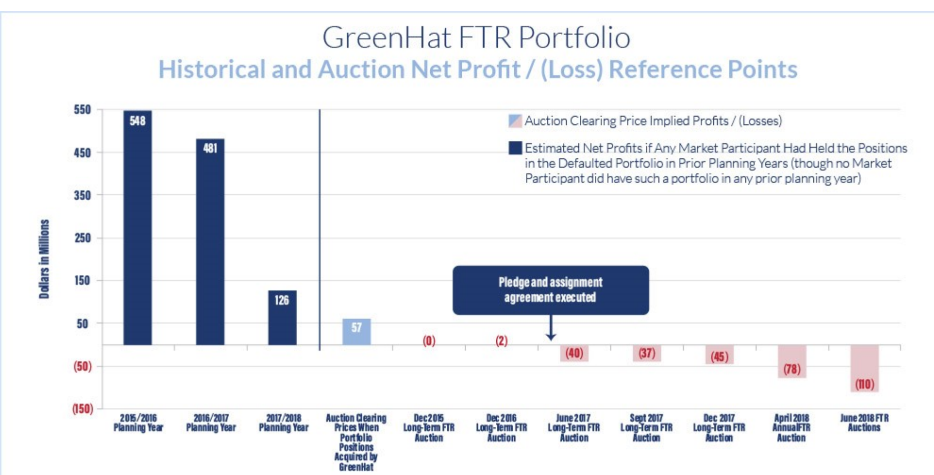
After becoming a PJM member in 2014, GreenHat began amassing its FTR portfolio in the 2015 long-term FTR auction. The company focused most of its activity on positions in the 2018/2019 planning year, securing the rights to 54 million MWh each month. That accounted for 73% of its portfolio. It held another 18 million MWh (24%) for the 2019/20 planning year and 2 million MWh (3%) for the 2020/21 planning year.

The company stuck mostly to long-term auctions — which are held three times a year and offer positions for the following year and two more beyond that — buying many of the same paths year over year. Between 2015 and December 2017, GreenHat participated in at least five long-term auctions. The positions seemed like good bets at one time: PJM calculates that in the 2015/2016 planning year, GreenHat's portfolio would have netted $548 million in profits.

How much did GreenHat pay to amass such a large position? Nothing at the time. It bought on credit, having to post only its initial $600,000 in collateral. Yet there were indications that GreenHat was not well capitalized: On one document, it listed its address as 826 Orange Avenue, Suite 565 Coronado, Calif. — a UPS store between a nail salon and a RiteAid.

GreenHat's positions, had the company held them, would have remained profitable, though less so, in the 2016/17 and 2017/18 planning years.

But the profitability of GreenHat's positions was falling as transmission upgrades approved in PJM's Regional Transmission Expansion Plan to alleviate congestion were added to the FTR model. The implied profits of GreenHat's portfolio, based on the auction clearing price, were $0 from the December 2015 long-term auction, and they generally decreased with each subsequent auction. By the December



PJM analysis shows the continuing downward trajectory of GreenHat's FTR portfolio. | *PJM*

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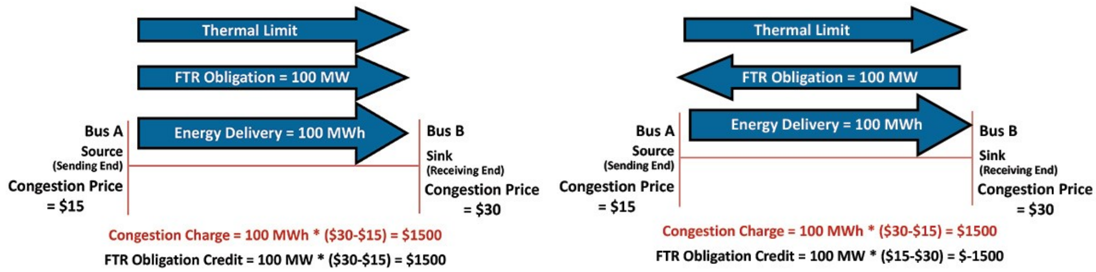
2017 auction, the portfolio appeared to be a $45 million loser.

During those years, GreenHat posted no more collateral than the $600,000 it originally provided as a requirement to trade in PJM's market. FTR auction participants do not pay the purchase price of FTRs until settlement, when the price is combined with or netted against any congestion revenue credit owed to or by the FTR holder. PJM calculates collateral based on a comparison of the purchase price to the "adjusted FTR historical value," a three-year, weighted average of the day-ahead congestion previously experienced on the FTR's path.



FTR obligation as a benefit (left) and as a liability (right). | *PJM*

The comparison calculations are cumulative, so a negative number for one position can help offset a positive number for another. In that way, GreenHat was able to consistently balance out its portfolio so it could continue acquiring positions without owing collateral.

Doubling Down

In April, PJM implemented FERC-approved revisions to its credit policy that factored future transmission upgrades into credit calculations, essentially reducing the expected clearing price on affected paths (ER18-425). The changes would have created a $60 million collateral call for GreenHat's portfolio, according to PJM, but the rule included a 13-month transition period, which GreenHat would exploit to increase its holdings.

During the transition, GreenHat participated in its only annual FTR auction, for the 2018/2019 planning year, acquiring enough new seemingly winning positions to negate a collateral call. The additional purchases would ultimately add nearly $35 million more in anticipated losses to the company's portfolio.

At its peak, GreenHat held 890 million MWh of FTRs. By comparison, the median FTR portfolio by volume is only about 4 million MWh, according to DC Energy. About 861 FTR participants trade FTRs, including generators, banks and municipal utilities.

"The buying activity in PJM's PY18/19 auction by [GreenHat] did not appear to be designed to reverse or offset [GreenHat's losing] positions. Instead, the buying activity was focused on entirely different parts of the PJM network, with a particular focus on buying FTRs with high adjusted FTR historical values (even after accounting for transmission upgrades) relative to their auction clearing prices, which as a result reduced [GreenHat's] collateral requirements," DC Energy noted in a FERC complaint seeking immediate changes to PJM's credit requirements (EL18-170).

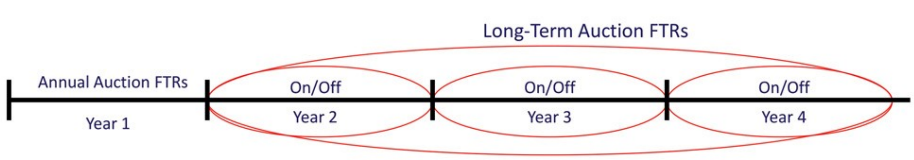
Going to Settlement

GreenHat's positions started going to settlement with the beginning of planning year 2018/19 on June 1, and PJM issued GreenHat a $1.2 million bill for its initial losses on June 5. By the time PJM declared GreenHat in default on June 21 — after a waiting period required by the Tariff — the anticipated losses had ballooned to $110 million.

At a stakeholder meeting in August, Vitol's Joe Wadsworth said he used recent market results to determine that it could be upward of $145 million and "is getting worse."

If accurate, the result would be almost triple the $52 million credit default by Power Edge in 2007, which also triggered credit policy revisions following FERC Order 741.

The order noted that FTRs "have unique risks that distinguish them from other wholesale electric markets" with obligations that can run from a month to a year or more, leaving them dependent "on unforeseeable events, including unplanned outages and unanticipated weather conditions." An outage can switch a profitable prevailing flow FTR to counter-flow, resulting in losses. And "because FTR obligations cannot be terminated prior to [their expiration], losses can mount to the point that the FTR holder goes bankrupt,"



| *PJM*

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FERC said.

PJM's revisions following Power Edge addressed FTR counterflow risks, while GreenHat's portfolio is predominantly prevailing-flow positions that will be affected by transmission upgrades.

According to DC Energy, all other RTOs/ISOs — CAISO, ISO-NE, MISO, NYISO, SPP and ERCOT — consider the distribution of historical values monthly, daily or hourly and incorporate a value representing the low-valued tail of the distribution (e.g., 75th or 95th percentile). CAISO, NYISO and ERCOT also require upfront payments to prevent market participants from defaulting on prevailing-flow portfolios.

FTR trader Appian Way criticized PJM in a FERC filing for failing to use "margining" to reflect changes in the market values of FTR portfolios. "Without margining, the moral hazard is that participants double down on losing positions, as has been the case with GreenHat Energy."

Efforts to Intervene

GreenHat's riskiness didn't materialize out of nowhere. DC Energy said it approached PJM in April 2016, months after GreenHat had secured its first positions, about tightening up its credit policies. Specifically, DC Energy pushed for a 5-cent/MWh collateral requirement and worked with PJM to shepherd a proposal through the stakeholder process. PJM argues the proposal wasn't viable because it would have reversed safeguards put in place after the Power Edge default.

Staff removed the collateral requirement from the proposal in September 2016, and the measure failed to receive stakeholder endorsement at the December meeting of the RTO's Markets and Reliability Committee — around the time GreenHat was securing positions in its second long-term auction that appeared to be a $2 million loss. (See *PJM Credit Adder Fails upon Heightened Review*.)

DC Energy met with PJM again in February 2017 and made presentations at stakeholder meetings in March, June and November, and again in January 2018. The campaign eventually bore fruit, with FERC approving the change in FTR credit rules effective April 1 that increased credit requirements on paths on which transmission upgrades are expected (ER18-425).

PJM told FERC its staff only became concerned about GreenHat's risk in early 2017 — despite DC's claim that it had informed the staff of the company's mounting, undercapitalized position roughly a year before.

In July, after winning stakeholders' endorsement, PJM asked for FERC approval of another revision to the credit rules: imposing a 10-cent/MWh minimum monthly requirement (ER18-2090).

But DC Energy saw that GreenHat's first bills were coming and attempted to beat the likely default by filing a complaint at FERC on June 4 and requesting it be fast-tracked (EL18-170). DC acknowledged the per-megawatt-hour monthly requirement PJM was likely to file soon, but it said the situation required more expediency and asked FERC to approve its own proposal on credit minimums.

PJM responded on June 25, four days after it declared GreenHat in default, to oppose the proposal and warn that "overly rigid credit requirements can limit market access and constrain competition." Staff argued that PJM's new proposals would have imposed a $90 million credit requirement on GreenHat's portfolio, that GreenHat had always followed PJM's credit rules and that its purchases seemed like good decisions.

"FTR auction clearing prices when GreenHat acquired the majority of the FTR portfolio on which it has defaulted indicated that GreenHat's portfolio would be profitable," staff wrote.

PJM's Stan Williams said in an affidavit included in the response that staff only became "concerned about" GreenHat's risk exposure in "early 2017" — despite DC Energy's claim that it had met with staff to discuss the developing situation roughly a year before.

Vitol, another FTR trader, supported DC Energy's complaint and blamed PJM staff, saying the RTO "does not appear to have acted in good faith or with any real sense of urgency to address the risk to the market, and may indeed have willfully ignored the mounting risk posed by GreenHat's market activity or positions."

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Vitol

Apogee Energy Trading accused RTO staff

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of being too "focused on trying to prevent 'another GreenHat' without addressing the [immediate] GreenHat portfolio problem."

PJM staff were too "focused on trying to prevent 'another GreenHat' without addressing the [immediate] GreenHat portfolio problem."

Apogee Energy Trading

FTR trader Appian Way criticized PJM in a FERC filing for failing to use "margining" to reflect changes in the market values of FTR portfolios. "Without margining, the moral hazard is that participants double down on losing positions as has been the case with GreenHat Energy."

Worthless Collateral?

PJM rejected the criticism, citing its efforts to secure additional collateral from GreenHat and the April 2018 rule change shoring up its credit policies. Prior to that, in April 2017, PJM had approached GreenHat to increase its collateral. DC Energy was still promoting its per-megawatt-hour minimum requirements, even though it had failed once to win stakeholder endorsement, and GreenHat had just completed its second long-term auction, where it had appeared successful even though its overall portfolio was running a $2 million loss.

GreenHat offered to sign over the rights to what company representatives said they believed to be $62 million in revenue from selling some of its FTR positions to an undisclosed company in bilateral contracts. PJM agreed to the deal, but it was later told by GreenHat's counterparty that it had already paid its debts before the company signed the rights over to the RTO.

PJM later admitted that it had not confirmed the amount due prior to accepting the deal. "To avoid a claim of interference with GreenHat's contractual counterparty and to allow GreenHat the ability to sell down its portfolio, PJM had no choice but to comply with this request," the RTO said.

"There is now some question whether the pledge agreement will result in monies to PJM."

GreenHat said it "offered additional collateral when it had no obligation to do so" only because it had no FERC quorum to complain to. The deal was that GreenHat wouldn't challenge the call, and PJM would make its own evaluation of what the collateral was worth.

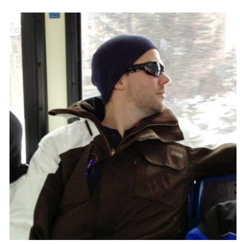
However, PJM hasn't collected anything from the pledge agreement and the RTO now acknowledges "there is now some question whether the pledge agreement will result in monies to PJM."

DC Energy noted in its complaint that PJM's Tariff gives staff the "right to 'require additional collateral as may be deemed reasonably necessary to support current market activity'" and that "such extraordinary measures should be done in unique one-off situations." PJM staff had referenced that Tariff provision in an email to GreenHat during the collateral call negotiations. But the company said the reforms it proposed were necessary because one-off collateral calls "should not be used to address Tariff deficiencies on a long-term basis."

But PJM said in a "lessons learned" document presented at the Sept. 17 meeting of its Credit Subcommittee that "there are limited provisions for a discretionary collateral call, and those provisions … are not necessarily applicable in all circumstances."

It recommended a rule change to allow itself "to issue collateral calls that can clearly be applied broadly to a wider range of potential circumstances and all types of market activity."

Traders with a Past



Andrew Kittell

This isn't the first time the people behind GreenHat have exploited market flaws at the expense of other participants. Two of the principals at GreenHat — Kittel and Bartholomew — were identified as lieutenants in the 2013 JPMVEC market-manipulation investigation that resulted in

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ID	Source	Sink	Class	Period	Hedge	Trade	Bid MW	Bid Price ($/MW-Period)	Cleared MW	Cleared Price ($/MWh)
125283963	APS	WESTERN HUB	OffPeak	MAY	Obligation	Buy	2.5	66.21	0.0	103.37
125283964	APS	WESTERN HUB	OffPeak	MAY	Obligation	Buy	3.5	86.04	0.0	103.37
125283965	APS	WESTERN HUB	OffPeak	MAY	Obligation	Buy	3.5	106.42	3.5	103.37
125283966	APS	WESTERN HUB	OffPeak	MAY	Obligation	Buy	3.5	131.21	3.5	103.37
125283972	APS	PENELEC	OffPeak	MAY	Obligation	Buy	2.5	-889.79	2.5	-1,084.28
125283968	APS	WESTERN HUB	OffPeak	MAY	Obligation	Buy	2.5	166.81	2.5	103.37
125283969	APS	PENELEC	OffPeak	MAY	Obligation	Buy	2.5	-1,068.79	2.5	-1,084.28

Screenshot of PJM's FTR Center shows market results by participant. | *PJM*

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a $235 million fine, which remains FERC's single-highest penalty paid since its records began in 2007 (IN11-8, IN13-5).

FERC said JPMVEC used 12 different bidding strategies to manipulate the energy markets in MISO and CAISO to ensure dispatch and uplift payments for plants that otherwise were often uneconomic. The company had obtained the tolling rights to most of the gas-fired plants from Bear Stearns, which had fallen apart in the 2008 financial collapse.

Kittell also came from Bear Stearns in the deal. Bartholomew was hired from Southern California Edison after submitting a resume that boasted he had "identified a flaw" in CAISO's markets that he could exploit for "millions of dollars."

FERC's Office of Enforcement said that the company violated the commission's anti-manipulation rule by "intentionally submitting bids ... that falsely appeared economic to ... market [operation] software but that were intended to, and in almost all cases did, lead CAISO and MISO to pay JPMVEC at rates far above market prices."

FERC's enforcement order came on July 30, 2013, but it noted that by June of that year, JPMVEC had effectively sold its interest in the plants by retolling, or subleasing, them to third parties. As of the enforcement action in 2013, Kittell and Bartholomew were still at JPMVEC but working on "transactional activities." Though named in FERC's enforcement order, neither was personally fined, as FERC has sometimes done.

John Bartholomew was hired by J.P. Morgan after submitting a resume that boasted he had "identified a flaw" in CAISO's markets that he could exploit for "millions of dollars."

FERC spokesperson Craig Cano said the commission doesn't comment on investigations and would neither confirm nor deny whether GreenHat is being investigated.

PJM refused to divulge when it learned of the connection between GreenHat and JPMVEC. However, staff acknowledged in the "lessons learned" document that "the current credit application may not include all inquiries that may be relevant for PJM to assess the application."

The document says "additional information should be required ... such as whether an applicant or its owners have been the subject of regulatory investigations in the past, whether an applicant has ever had its market-based rate authority suspended or terminated, whether an applicant has ever had its retail supplier license suspended or terminated, etc."

Sharing the Pain

Per its Tariff, PJM allocates the losses from defaulted portfolios to every entity that is a member as of the default date. The RTO had 992 members on June 21, and 10% of the final bill will be allocated to them on a per capita basis. Those assessments are capped at $10,000 per incident. The remaining losses will be allocated proportionally according to each member's gross PJM activity over the three months preceding the default.

PJM has sent bills for $42.5 million for GreenHat's losses in June through August representing about 18% of the company's portfolio, with 33 more months of settlements to go. The losses include both settled positions and money the RTO paid market participants to take on the positions before settlement.

In fact, the bids PJM received to take on GreenHat's prompt-month positions in August were so far above what they've actually settled at that the RTO petitioned FERC for emergency waivers of its Tariff requirements so it can plan a better

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Limit: $38,517,824.23 Available: $10,225,009.35 Requirement: $28,292,814.88 Account Adjustment: $0.00 Download Credit Calculator

Months	2016/2017 ($)	2017/2018 ($)	2018/2019 ($)	2019/2020 ($)
June		94,998.96	67,937.65	77,280.98
July		133,141.72	83,558.56	72,090.70
August		135,996.43	44,575.52	28,288.11
September		1,026.19	33,030.88	67,244.65
October		-275,218.07	-70,142.88	-22,592.70
November		-431,630.56	-97,358.70	-20,004.27
December		25,932.57	20,698.87	-6,976.04
January	8,165,490.80	82,604.30	329,231.95	180,942.70
February	2,503,309.01	-139,153.02	242,209.95	170,074.57
March	4,537,106.92	135,464.94	182,454.48	125,864.45
April	7,640,047.19	170,124.75	57,831.05	36,118.25
May	2,526,390.76	136,051.22	102,943.78	82,752.02
Totals	$25,372,344.68	$915,341.08	$1,164,472.69	$840,656.43

Screenshot of PJM's FTR Center shows credit analysis. | *PJM*

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strategy. The first waiver would allow PJM to only offer the prompt month of GreenHat's positions — the ones that will settle the following month — into its monthly auctions until November rather than offering all of the defaulted positions. PJM said it would "maximize the likelihood of liquidation of those positions," as the Tariff requires (ER18-2068).

The liquidations were costing $775,000 per day, PJM calculated, or $12.4 million for the first 16 days of August.

"By contrast, if PJM had allowed GreenHat's positions to proceed to settlement, actual losses for those same 16 days in the month of August 2018 would have been approximately $2.3 million, consistently less than $500,000 per day, with some days resulting in $0 in losses or even modest profits when they settled," PJM's Tim Horger said in an affidavit filed in the docket.

PJM also argues that markets for the prompt month are far more liquid than those for months and years further out.

After receiving stakeholder approval in August, PJM filed a second waiver request to allow all GreenHat positions to go to settlement through Nov. 30 (ER18-2289). Both requests were intended to buy time for PJM stakeholders and staff to find a resolution.

Some PJM members have also touted the potential for using the FTR market to hedge against the GreenHat losses by taking positions to offset the company's holdings.

Not all members are pleased with the delay, however. Apogee has opposed both waiver requests, arguing that prompt liquidation is better for the market than attempting to mitigate "undesirable consequences … for certain members over others." As a financial trader, Apogee's allocation would be relatively limited compared to members who buy, sell and trade in multiple PJM markets daily.

Apogee argues that waiting could allow traders to "front run" the sale of GreenHat's portfolio by selling any identical positions they have and then buying them back at a discount when the large volume of the FTRs are sold in the subsequent monthly auctions.

"The additional selling pressure from front-runners also is likely to increase and not mitigate the total loss," Apogee argued.

In July, PJM filed a third waiver request seeking to hold onto $550,000 in collateral posted by Orange Avenue, another FTR trader also managed by Kittell (ER18-1972). Orange joined PJM in February and posted its collateral but never traded. It sought to withdraw and recover its collateral in June, but PJM asked FERC to allow it to hold the money for a year until it can determine the legitimacy of the $62 million Kittell signed over to PJM on behalf of GreenHat.

Solutions

> **FTRs "have unique risks that distinguish them from other wholesale electric markets … because FTR obligations cannot be terminated prior to [their expiration], losses can mount to the point that the FTR holder goes bankrupt."**
>
> **FERC Order 741**

PJM has held several special sessions of the MRC to discuss the situation with stakeholders and analyze 23 proposals for dealing with GreenHat's portfolio. The suggestions range from letting all the positions go to settlement to the Monitor's proposal to cancel them so they don't settle. Apogee proposed allowing market participants to assume their share of the FTRs from the portfolio instead of paying the allocation. Vitol has suggested a separate sealed-bid auction of the portfolio.

"Our recommendations are so this does not spiral into chaos," DC Energy's Bruce Bleiweis said at the Sept. 18 session. Liquidation, he said, is "small bites over a period of time to make it manageable."

Most financial FTR traders are pushing for liquidation, including Apogee's Kevin Kelley.

"I think there's a lot of scare in the room based on the August results," he said at the same meeting.

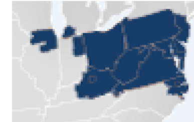
Staff plan to seek stakeholder endorsement at the Sept. 27 MRC meeting for any of six proposals preferred by stakeholders. If a path forward is approved at the subsequent Members Committee meeting, PJM plans to file it for FERC approval to be effective on Dec. 1. That filing would include a request that, if FERC doesn't approve the endorsed proposal, it extend the current waiver requests until March 1 to avoid reverting back to the status quo of being required to immediately liquidate the positions. If no proposal is approved, PJM expects stakeholders to direct staff to file the extension request by itself.

PJM also announced it plans to introduce problem statements and issue charges in October for both the Credit Subcommittee and the Market Implementation Committee to implement its "lessons learned." And a proposal to implement a "mark-to-auction" component into the FTR credit requirement is targeted for endorsement by the MRC and MC at their Dec. 6 meetings.

Staff also met with "experts in energy markets and risk management" during a closed-door FTR Risk Management Workshop on Aug. 14. The session identified at least 18 factors contributing to FTR portfolio volatility and determined that the "highest priority recommendation" is to establish FTR credit requirements based on the highest monthly calculation of three components: (1) path-specific congestion incorporating the projected impacts of transmission system changes (approved by FERC and implemented April 1); (2) a minimum volumetric requirement (implemented Sept. 3 subject to refund); (3) or mark-to-auction determinations (currently before the Credit Subcommittee).

The workshop also identified 11 other potential improvements.

PJM NEWS



MRC/MC Preview

Below is a summary of the issues scheduled to be brought to a vote at the PJM Markets and Reliability and Members committees on Thursday. 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

Consent Agenda (9:15-9:20)

Members will be asked to endorse:

B. Tariff and Operating Agreement revisions developed by the Governing Documents Enhancement & Clarification Subcommittee (GDECS).

1. PJM Manuals (9:20-9:35)

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

A. Manual 1: Control Center and Data Exchange Requirements. Revisions developed to change system operator communication protocols while controlling facility constraints and data specification and collection requirements during outages.

B. Manual 15: Cost Development Guidelines. Revisions developed as part of the manual's biennial review.

C. Manual 14F: Competitive Planning Process. Revisions developed to implement cost-containment elements in PJM's transmission planning process. (See "Manual 14F Changes," *PJM PC/TEAC Briefs: Aug. 9, 2018*.)

2. Behind-the-Meter Generation (9:35-9:50)

Members will be asked to endorse a proposal and associated manual revisions developed by the Distributed Energy Resources Subcommittee that would give PJM and transmission owners better observability of behind-the-meter generation resources. (See "BTM Visibility," *PJM MRC/MC Briefs: Aug. 23, 2018*.)

3. Market Seller Offer Cap Balancing Ratio Proposal (9:50-10:05)

Members will be asked to endorse a proposal approved by the Market Implementation Committee that would change how PJM estimates the expected future balancing ratio used in the default market seller offer cap. The proposed method would take the average balancing ratios during the three delivery years that immediately precede the Base Residual Auction using actual balancing ratios calculated during RTO performance assessment intervals (PAIs) of the delivery years, along with estimated balancing ratios calculated during the intervals of the highest RTO peak loads that do not overlap a PAI for any preceding delivery year with less than 360 intervals (30 hours) of RTO PAIs. (See "Balancing Ratio," *PJM Market Implementation Committee Briefs: July 11, 2018*.)

4. Variable Operations and Maintenance (10:05-10:25)

Members will be asked to endorse a proposal documented in draft revisions to Manual 15: Cost Development Guidelines, the OA and Tariff. The proposal has been revised from what the MRC voted on previously to remove inclusion of fixed costs for energy resources and units that did not clear the capacity auction, and to include the variable operations and maintenance language in the OA and Tariff, meaning that the revisions would only be implemented with FERC approval. (See *PJM Ponders Advancing VOM Effort over Objections*.)

5. Quadrennial Review (10:25-10:45)

Members will be asked to endorse one of several proposed packages to revise PJM's variable resource requirement demand curve as part of its quadrennial review. Among them are the RTO's recommendations and a proposal from the D.C. Office of the People's Counsel. (See "Concessions of VRR Curve Recommendations," *PJM Market Implementation Committee Briefs: Sept. 12, 2018*.)

6. FTR Default Liquidation Provisions (10:45-11:15)

Members will be asked to endorse on first read one of six proposals and the status quo regarding alternative financial transmission rights default liquidation provisions and associated revisions to governing documents.

If no proposal is endorsed, Citigroup Energy's Barry Trayers is expected to move, and EDP Renewables' John Brodbeck expected to second, a motion to extend the pending FERC filing to not offer the defaulted FTR positions for liquidation for an additional 90 days. (See *GreenHat FTR Default a 'Pig's Ear' for PJM Members*.)

Members Committee

Consent Agenda (1:20-1:25)

Members will be asked to endorse:

B. Open Access Transmission Tariff and Reliability Assurance Agreement revisions associated with the registration process for aggregated seasonal demand response resources. (See "Seasonal Aggregation," *PJM MRC/MC Briefs: July 26, 2018*.)

1. FTR Liquidation Process (1:25-1:45)

Members will be asked to endorse proposed OA and Tariff revisions associated with FTR default liquidation. If no proposal in agenda item 1.A is endorsed, then members will be asked to approve a motion to extend the pending FERC filing to not offer the defaulted FTR positions for liquidation for an additional 90 days. (See MRC item 6 above.)

2. Market Efficiency Process Enhancement Proposal (1:45-2)

Members will be asked to approve phase 1 of a proposal developed at the Market Efficiency Process Enhancement Task Force and associated OA revisions. (See "Market Efficiency," *PJM MRC/MC Briefs: Aug. 23, 2018*.)

3. Opportunity Cost Calculator (2-2:30)

Members will be asked to approve proposed OA Schedule 2 revisions related to opportunity cost calculators. Bob O'Connell with Panda Power Funds has offered one proposal and PJM is proposing an alternative. (See related story, *PJM Monitor Holding Firm on Opportunity Cost Calculator*, p.29.)

4. Variable Operations and Maintenance (2:30-2:45)

Members will be asked to endorse/approve proposed revisions to Manual 15: Cost Development Guidelines, the OA and Tariff regarding VOM. (See MRC item 4 above.)

5. Quadrennial Review (2:45-3:00)

Members will be asked to endorse proposed Tariff revisions associated with the quadrennial review of Reliability Pricing Model parameters. (See MRC item 5 above.)

6. Liaison Committee Charter (3-3:30)

Members will be asked to approve a motion to grant exceptions to the Liaison Committee charter addressing attendance at the Oct. 3, 2018, LC meeting with the Board of Managers. The exception brought by Greg Poulos, Consumer Advocates of the PJM States (CAPS) executive director, would allow RTO management and staff, state commission representatives, the Independent Market Monitor and FERC staff to attend the meetings.

— Rory D. Sweeney

FERC & Federal News

Ailing McIntyre Absent from FERC Open Meeting

By Michael Brooks

WASHINGTON — FERC Chairman Kevin McIntyre was absent from the commission's monthly open meeting Thursday, citing his recovery following surgery for a brain tumor and a fall.

Commissioner Neil Chatterjee, who chaired the meeting, opened by reading a statement in which McIntyre apologized for his absence.

"I had fully intended to be present. However, my ongoing recovery prevents me from being here in person today," McIntyre said.

"While my health situation has impacted my mobility, it has not impacted my ability to get the commission's work done," he added, citing 151 orders since the July open meeting, an agreement with the Pipeline and Hazardous Materials Safety Administration over LNG terminal permitting and the appointment of Administrative Law Judge Stephanie Nagel.

McIntyre also expressed gratitude "for everyone's concern regarding my ongoing recovery."

Chatterjee ended McIntyre's statement with his own comment, saying "I know I speak for my fellow commissioners when I say that we wish the chairman the best in his continued recovery."

McIntyre revealed in March that he had had surgery for a brain tumor and was undergoing treatment. Shortly before July's meeting, the chairman disclosed that he had compression fractures in two of his vertebrae, causing severe back pain, and that he had fallen and injured his arm on July 4.

At the July 19 open meeting, McIntyre remained seated throughout, and it was apparent that he was in pain. (See "McIntyre Toughs it out," *FERC Says Farewell to Powelson*.) The commission does not meet in August.

McIntyre also was absent at the commission's annual reliability technical conference July 31.

On Sept. 11, FERC posted an episode of its "Open Access" podcast, in which McIntyre said he was "well on the mend, and I'm feeling better every day."

"I also am happy to report that I have continued to work full steam ahead with my colleagues, my personal staff and the commission's professional staff to ensure that the commission's work continues unabated. In fact, the August break wasn't much of a break."

However, sources have told *RTO Insider* that the chairman is often absent from FERC headquarters and that meetings with him have been frequently rescheduled as a result.

When asked how often McIntyre has been coming into headquarters for work, FERC spokeswoman Mary O'Driscoll said Thursday, "I can't answer that; I don't know." She was incredulous when asked whether the chairman had considered resigning because of his health issues. "What? Where is that coming from? No. I don't know. No."

Another spokesman, Craig Cano, declined to comment.

In another departure from normal proceedings, the commission did not hold a press conference after the meeting. Despite being repeatedly asked, O'Driscoll refused to give reporters a reason for this.

"From time to time we do not have briefings. So it's not breaking with tradition. I've been here 11 years, and I've done it at least once with each chairman I've served. ... I don't know why you're making a big deal about this. No briefing. OK?"

FERC & FEDERAL NEWS

FERC Grants CFE International Access to US Markets

By Tom Kleckner

FERC last week granted Mexican wholesale marketer CFE International's request to sell energy, capacity and ancillary services at market-based rates, clearing the way for the company to compete in U.S. power markets (ER18-1778).

The commission noted CFE International would place itself under FERC's jurisdiction as a public utility and accepted its market-based rate authority, effective July 1. It also agreed with the company's request for certain waivers and blanket authorizations commonly granted to market-based rate sellers.

Houston-based CFE International was formed in 2015 to market energy commodities. Its only member is the Federal Electricity Commission (CFE), the Mexican government-owned electric utility.

FERC ruled CFE International, as it requested, meets the criteria to be a Category 2 seller in the Southwest region (primarily California, Arizona and New Mexico) and a Category 1 seller in the Central, Southeast, SPP, Northeast and Northwest regions.

FERC created the two categories in 2007 with Order 697. Category 1 sellers are wholesale power marketers or producers that own or control 500 MW or less of generation capacity in aggregate per region; do not own, operate or control transmission facilities, other than interconnection facilities; are not affiliated with transmission owners in the same region as the seller's generation assets; are not affiliated with a franchised public utility in the same region as the seller's generation assets; and do not raise other vertical market power issues.

Category 2 sellers are those that don't fit into Category 1 and are required to file updated market power analyses.

CFE International had to clear FERC screens for horizontal and vertical market power. The commission agreed with the company's claim that neither it nor its affiliate owns, operates or controls generation capacity in the U.S., but that CFE owns or contracts with capacity in Mexico. The company said its affiliated generation in Mexico could transfer up to 800 MW to the U.S. via two interties connected to CAISO, making that market the appropriate one to analyze its horizontal market power.

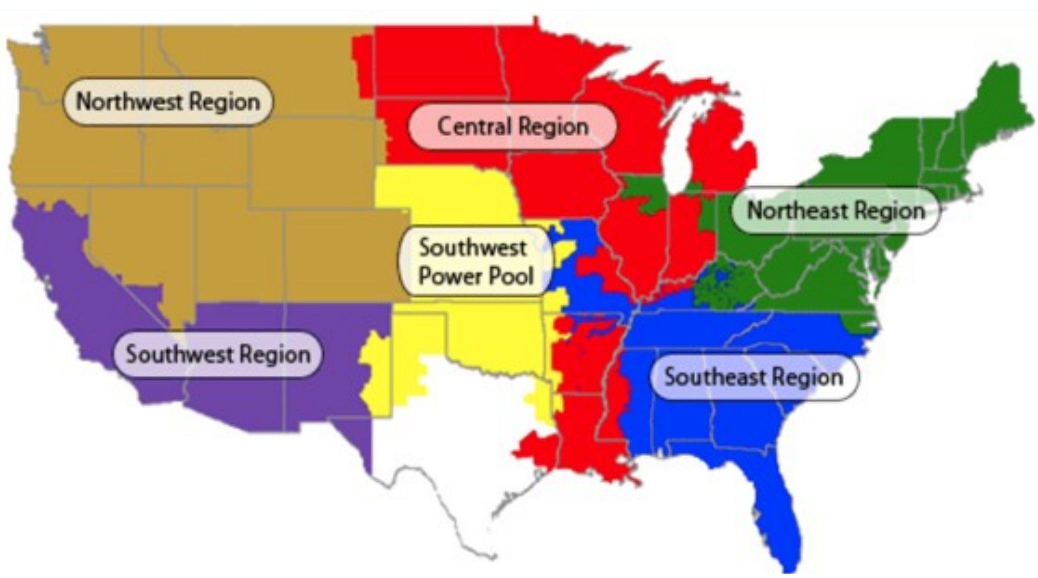
To pass the vertical power screen, CFE International had to show it had an open-access transmission tariff (OATT) on file or a FERC-approved waiver. Because CFE owns, controls or operates transmission facilities in Mexico that can be used by competitors to reach U.S. markets, CFE International had to prove its affiliate had a tariff or offered "comparable, non-discriminatory access" to its facilities.

The company noted CFE International does not control or assign access to its facilities or Mexico's transmission system, arguing all market participants receive access to the system because of their participation in the energy and ancillary services markets managed by the National Energy Control Center (CENACE), Mexico's ISO. CFE International said participants could provide transmission service over the interties if CENACE cleared their bids in the day-ahead market.

FERC agreed with CFE International that network service in Mexico is comparable to the services provided under the *pro forma* tariff in the U.S.

There are three other interties between Mexico and the U.S., all through ERCOT. Texas' Public Utility Commission, which has jurisdiction over ERCOT, said it saw no issue with the order, pointing to a July ruling by FERC easing concerns over potential federal oversight. (See *FERC OKs DC Tie Operations Between Texas, Mexico*.)

An SPP spokesperson said the ruling won't have an effect on its markets. He said, technically, CFE International could have already been making offers into the markets.



FERC will review Category 2 market-based rate sellers using the above regions every three years according to a rotating schedule. | *FERC*

FERC, PHMSA See Faster LNG Permitting Under Agreement

By Rich Heidorn Jr.

FERC and the Pipeline and Hazardous Materials Safety Administration on Thursday celebrated their agreement to coordinate the siting and safety reviews of LNG export facilities, saying their Aug. 31 memorandum of understanding will speed the process and make it easier for applicants.

FERC has authority under the Natural Gas Act for authorizing LNG terminals while the Department of Transportation's PHMSA is responsible for establishing minimal safety standards under the Pipeline Safety Act of 1979.

In the past, FERC staff made preliminary determinations on whether a proposed LNG project could comply with DOT standards, FERC General Counsel James Danly said during a briefing at Thursday's open commission meeting. But he said the process became problematic with the growing number of applications for LNG export terminals, which are more complex than import facilities.

"This required an extremely iterative process with multiple requests for information from the applicants and back and forth with PHMSA. The MOU that we've just signed is going to end that duplicative and iterative process, and now … the experts on this subject — PHMSA — are going to be the ones who make that preliminary determination," Danly said.

The agreement should allow FERC to accelerate its review on a dozen pending applications, Danly said, "potentially allowing FERC to act by early 2020 on projects capable of exporting over 8 Tcf per year."

"The numbers involved in the LNG industry are astounding," said PHMSA Administrator Howard Elliott, who also appeared at the meeting. "A single export facility can deliver an economic impact of $10 billion or more per year, and strong demand from the Asia-Pacific region looks to likely drive those numbers higher over time."

Commissioner Neil Chatterjee praised the agreement but said FERC should do more, suggesting the commission consider adding a regional office in Houston and boost salaries to make them competitive with industry "to improve retention and recruiting of top-tier engineers and attorneys."

The U.S., which last year became a net exporter of natural gas, is shipping gas to more than 25 countries, largely through its two operating LNG export terminals, Cheniere Energy's Sabine Pass in Louisiana and Dominion Energy's Cove Point in Maryland. The Department of Energy is considering about 25 applications for LNG exports to countries lacking free-trade agreements with the U.S.

"If the U.S. can ensure that adequate LNG export infrastructure is in place to meet that demand, it could mean thousands of additional jobs across the U.S.," Chatterjee said. "But if we miss the window of opportunity because of bottlenecks in FERC's LNG export facility application review process or because FERC lacks the resources to complete its review process in a timely fashion, those foreign trading partners will be looking elsewhere for their natural gas."

FERC had announced its plan to reach an agreement with PHMSA in July. (See *FERC Teaming up with PHMSA on LNG Applications*.)

Although there is a consensus that exporting too much domestic natural gas could expose U.S. consumers, industrial users and electric generators to much higher world prices, there is no agreement on what that tipping point is, or how soon the U.S. could get there. (See *Enviros, Industrials Challenge DOE Study on LNG Exports*.)

FERC General Counsel James Danly (left) and PHMSA Administrator Howard Elliott | © *RTO Insider*

Company Briefs

Exelon Shuts Down 4 GE Turbines Citing Oxidation Issue

General Electric said Sept. 20 that Exelon has shut down four of its HA power turbines because of an "oxidation issue" that it expects will affect more of the 51 units it has shipped.

GE said Exelon first discovered the problem a few weeks ago on blades in a natural gas-powered turbine the company operates in Texas. Exelon shut down the turbine because of the problem and three other GE turbines as a precaution.

The companies said they expect the turbines to return to service soon.

More: *Reuters*

SunPower Equipment Wins Exemptions from Tariffs

SunPower said Sept. 18 that some of the solar cells and panels it makes overseas will be exempt from President Trump's 30% tariffs on solar equipment.

The exemption covers the company's premium, high-efficiency interdigitated back contact cells and modules, which it had argued were different from the cheap, commoditized equipment that was targeted by the tariffs.

SunPower is based in San Jose, Calif., but does most of its solar product manufacturing in Mexico and the Philippines.

More: *Reuters*

Ares, Starwood Selling Stakes In Hudson Tx Project to Argo

Ares Management's Ares EIF subsidiary and Starwood Energy Group Global said Sept. 18 they have agreed to sell their stakes in Hudson Transmission Partners to an investment vehicle managed by Argo Infrastructure Partners for an undisclosed sum.

Hudson Transmission Partners is a joint venture formed to develop, construct, operate and maintain the Hudson Transmission Project, a 660-MW HVDC electric transmission system connecting PJM's PSEG-North zone to NYISO's Zone J power market via a cable beneath the Hudson River. A subsidiary of PowerBridge, which developed the project, will continue to run and maintain it on behalf of Argo and other stakeholders.

Ares and Starwood said they expect the sale to close later this year or early next year.

More: *Ares Management and Starwood Energy*

Judge Denies FirstEnergy's Nuclear Plant Worker Retention Bonus Plan

U.S. Bankruptcy Judge Alan Koschik on Sept. 18 denied FirstEnergy Nuclear Operating Co.'s (FENOC) proposal to give about 1,000 of its 2,300 nuclear plant workers roughly $100 million in bonuses if they continued to work at its power plants until it shutters them in 2020 and 2021.

In his decision, Koschik wrote that the plan, which would give bonuses only to non-union workers, was discriminatory and FENOC hadn't shown that it made good business sense.

FENOC is planning to shut down its Davis-Besse plant east of Toledo, Ohio, on June 1, 2020; its Perry plant east of Cleveland and one of the two reactors at its Beaver Valley plant near Pittsburgh on June 1, 2021; and the second Beaver Valley reactor on Oct. 31, 2021.

More: *The Plain Dealer*

RES Dropping Plan for Northern Ind. Wind Farm

Renewable Energy Systems said Sept. 18 it is dropping its plan to build a 600-MW wind farm in two northern Indiana counties.

"Technical circumstances for the project have changed unfavorably, making the project no longer feasible," the company said.

More: *News and Tribune*

PG&E Names Powell VP of Power Generation

Pacific Gas and Electric said Sept. 19 it has named Deborah Powell vice president of power generation, effective Oct. 1.

Powell, who is PG&E's senior director of substations, will succeed Jon Franke, who became the company's vice president of health and safety and chief safety officer on Sept 1. She will report to Steve Malnight, PGE's senior vice president of energy supply and policy.

Powell

Powell joined PG&E in 2010 and has served in increasingly senior leadership roles in the company's electric operations, fossil, hydroelectric and power generation organizations.

More: *Pacific Gas and Electric*

Flooding Breaches Duke Energy Coal Ash Basin, Cooling Lake

| Duke Energy

Flooding from the Cape Fear River has breached a coal ash basin and cooling lake at the former site of a Duke Energy coal-fired power plant in Wilmington, N.C., causing Duke to shut down the L.V. Sutton natural gas plant now at the site.

The flooding, a remnant of Hurricane Florence, caused pollution from the basin to flow into the lake and then into the river.

Duke said Sept. 23 that initial tests had showed that discharges from the lake weren't harming the water quality in the river.

More: *The Washington Post*; *Duke Energy*

Sempra Selling US Solar Assets to Con Ed for $1.54B

Sempra Energy said Sept. 20 it has agreed to sell its U.S. non-utility operating solar assets, solar and battery storage development projects and a wind facility to Consolidated Edison for $1.54 billion in cash.

"This sale represents an important step

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COMPANY BRIEFS

Continued from page 40

forward in the portfolio-optimization plan we announced in June to support market growth opportunities," Sempra President and COO Joseph A. Householder said.

The sale is subject to approvals from FERC and the Department of Energy. The company expects the sale to be completed near the end of the year.

More: *Sempra Energy*

NIPSCO Planning to Replace Coal Fleet with Renewables, Storage

Northern Indiana Public Service Co. on Sept. 19 announced a tentative plan to retire all its coal-fired generation in the next decade and most of it in the next five years.

The company made the announcement at the fourth of five meetings detailing the development of its new integrated resource plan.

NIPSCO said it expects renewable generation and energy storage will replace the coal generation.

More: *The Times of Northwest Indiana*

BU Signs 15-Year PPA with ENGIE for Midwest Wind

Boston University said Sept. 18 it has signed a 15-year power purchase agreement with ENGIE North America to buy 205 GWh a year from a wind farm in South Dakota that the company will begin building next spring.

As part of the agreement, two BU students will receive internships at ENGIE, and the company will give BU students, faculty and staff an annual tour of the wind farm.

More: *Boston University*

Xcel Celebrates Completion of Largest Wind Farm in Colo.

Xcel Energy Colorado on Sept. 18 celebrated the completion of its 600-MW Rush Creek Wind Project, which spans five counties on Colorado's Eastern Plains.

The wind farm has been producing some power the past several months and will begin commercial operations Oct. 31.

Rush Creek is the largest wind farm in Colorado and the first large wind farm that Xcel owns and operates.

More: *The Denver Post*

Wind on the Wires Renamed Clean Grid Alliance

Wind on the Wires, a nonprofit that works to advance renewable energy in the Midwest, said Sept. 19 that it has renamed itself Clean Grid Alliance.

"As our members have evolved into developing solar and energy storage projects in addition to wind, we grew right along with them. However, our name did not reflect our expanded service offerings. We felt it was important for our name to better represent the full scope of our organization," Executive Director Beth Soholt said.

The organization also said that the Minnesota Energy Storage Alliance has become one of its programs. MESA had been part of the University of Minnesota.

More: *Clean Grid Alliance*

FEDERAL BRIEFS

Avenue, Middle River Drop Bid For Navajo Generating Station

Navajo Generating Station

Avenue Capital and its portfolio company Middle River Power notified the Navajo Nation in a Sept. 20 letter that they have dropped their effort to acquire the Navajo Generating Station.

The companies said they couldn't get anyone to commit to buying power from the 2,250-MW coal plant near Page, Ariz., which remains scheduled to close at the end of next year.

The plant and coal mine that supplies its fuel employ Navajo and Hopi workers. Coal revenue provides about 20% and 85% of the revenue of Navajo and Hopi tribes budgets, respectively.

More: *Arizona Capitol Times*

DOE Issues RFI on Smart Appliances, Equipment

The Department of Energy's Office of Energy Efficiency and Renewable Energy on Sept. 17 issued a request for information to help it understand trends in the emerging market for appliances and commercial equipment that incorporate smart technology.

The department said the RFI is meant to give it greater perspective on the direction of the emerging smart technology market so it doesn't inadvertently impede innovation in setting efficiency standards for products and equipment.

The department is accepting comments in response to the RFI through Nov. 16.

More: *DOE Office of Energy Efficiency and Renewable Energy*

DOE Would Seek Quick Loan Repayment if Vogtle Canceled

The Department of Energy warned the owners of Plant Vogtle in a Sept. 21 letter that if they move to cancel an expansion of the nuclear power plant, it would seek quick repayment of $5.6 billion in loans used to fund the project.

The department said the addition of two reactors to the Waynesboro, Ga., power plant is a "linchpin" in the country's nuclear strategy.

Continued on page 42

FEDERAL BRIEFS

Continued from page 41

DOE sent the letter the same day as Georgia lawmakers said they want a "cost cap" put on the expansion to ensure that customers of the companies that own the plant don't see their rates soar from the project.

More: *The Associated Press*

USDA Lending $398.5M for Rural Tx Improvements

The Department of Agriculture said Sept. 19 it is making $398.5 million in loans under its Electric Infrastructure Loan Program to improve rural electric service in 13 states.

USDA said the loans include $43.7 million for smart grid technology.

The largest loan, $68.5 million, is going to the 81-MW Stuttgart Solar Energy Center outside Stuttgart, Ark. NextEra Energy Resources built, owns and runs the facility, which went online in May. Entergy Arkansas has a 20-year power purchase agreement to buy energy from it.

More: *Department of Agriculture*; *Arkansas Democrat-Gazette*

DOE Providing $120M to Renew Center for Battery Development

The Department of Energy said Sept. 18 it plans to provide $120 million over five years to renew the Joint Center for Energy Storage Research, an Energy Innovation Hub devoted to advancing battery science and technology that is led by Argonne National Laboratory.

The department said the center will focus on developing new battery materials "from the bottom up," with an emphasis on the development of multivalent battery designs with significantly higher energy capacity than today's lithium-ion batteries and new concepts for flow batteries for the grid.

More: *Department of Energy*

Del. Considering Response to EPA Decision; Md. Appealing

Delaware is mulling its options and Maryland is readying an appeal in response to EPA's Sept. 14 denial of their petitions asking it to take steps to limit emissions from coal-fired power plants in states upwind from them under the Clean Air Act's "good neighbors" provision.

EPA decided that the states' concerns can be addressed by existing programs.

Maryland Attorney General Brian Frosh said his state plans to appeal to the D.C. Circuit Court of Appeals.

More: *The Associated Press*; *The Baltimore Sun*

McIntyre Appoints Nagel as FERC ALJ

FERC Chairman Kevin J. McIntyre on Sept. 18 announced his appointment of Judge Stephanie Nagel as a FERC administrative law judge.

Nagel had been an ALJ with the Social Security Administration since July 2016. Prior to that, she was an attorney adviser in the International Trade Commission's Office of the Administrative Law Judges and served as principal adviser to ITC Vice Chairman Dean Pinkert on intellectual property litigation issues.

More: *FERC*

FERC Says Atlantic Coast Pipeline Construction Can Resume

FERC on Sept. 17 notified Dominion Energy Transmission that construction on the Atlantic Coast Pipeline could resume (CP15-554, CP15-555).

FERC had halted construction on the natural gas pipeline in early August after the 4th U.S. Circuit Court of Appeals ruled that the Fish and Wildlife Service needed to revisit a key endangered species permit for the pipeline and that the National Park Service needed to reissue a right-of-way approval to allow the pipeline to pass under the Blue Ridge Parkway.

In its letter to Dominion, FERC said the permits had been obtained so construction on the pipeline could resume.

More: *West Virginia Public Broadcasting*

WAPA Names Kevin Howard COO

The Western Area Power Administration said Sept. 18 it has named Kevin Howard executive vice president and chief operating officer.


Howard

Howard leads WAPA's engineering, security, asset management and technical programs and supervises about 100 employees responsible for carrying them out.

He has more than 33 years of experience in power system operations, maintenance, engineering and construction at WAPA.

More: *Western Area Power Administration*

NRC Renews Indian Point Units Beyond Shutdown Dates

The Nuclear Regulatory Commission on Sept. 17 renewed the licenses for the two working reactors at Entergy's Indian Point nuclear power plant in Buchanan, N.Y.

The renewals enable Unit 2 to operate through April 30, 2024, and Unit 3 to operate a year longer, although both are scheduled to close before their licenses expire.

In a settlement it reached with New York state in 2017, Entergy agreed to shut down Unit 2 by April 30, 2020, and Unit 3 by April 30, 2021.

More: *Entergy*

SCE Says Incident at San Onofre 'Nonemergency'

Southern California Edison told the Nuclear Regulatory Commission that an Aug. 3 incident at the shuttered San Onofre Nuclear Generating Station — during which a 50-ton canister loaded with nuclear waste got stuck as it was being lowered into a concrete vault — was a "nonemergency" involving safety equipment that was disabled or failed to function.

SCE made the categorization in a report it filed with NRC on Sept. 14, as the commission was ending an on-site probe of the incident.

The incident happened on a Friday, and SCE didn't notify NRC of it until the next business day, which was the following Monday, even though the commission requires it be notified within 24 hours of "important-to-safety" equipment being disabled or failing to function.

More: *The Orange County Register*

STATE BRIEFS

ARIZONA

State Official Questioned AG About Ballot Measure Language

An official with the secretary of state's office said language that the attorney general's office put in the explanation of a ballot measure on boosting the state's renewable energy portfolio was "eyebrow raising," according to an email exchange obtained by *The Arizona Republic*.

The language, which deals with the measure's potential costs to consumers, has become a prominent part of the campaign backed by the parent company of Arizona Public Service to defeat the measure.

The measure would change the state constitution to require regulated electric companies to get half their power from renewable sources by 2030. Supporters of the measure say the added language make it less likely to pass.

More: *The Arizona Republic*

CALIFORNIA

Brown Signs Bill to Ease Diablo Canyon Closure Impact

Gov. Jerry Brown on Sept. 19 signed legislation meant to ease the impact of the impending closure of the Diablo Canyon nuclear power plant.

The legislation and prior action by the Public Utilities Commission could increase the monthly bills of Pacific Gas and Electric customers by 1.2%.

More: *The Mercury News*

Energy Commission Approves 18 Grants to Developers

The Energy Commission voted Sept. 21 to approve 18 grants totaling nearly $3 million to design, develop or test the technical feasibility of new energy storage, energy efficiency, renewable energy and water technologies.

The grants, which are capped at $150,000, are funded through the Sustainable Energy Entrepreneur Development Initiative.

One grant recipient, California State University Fullerton, will design "solar shrubs" that use thin film photovoltaics in bio-mimicking leaf designs to create an easy-to-install and easy-to-move solar product for homes.

More: *California Energy Commission*

CONNECTICUT

Liberty Power Fined $1.5M, Temp Barred from Accepting Customers

The Public Utilities Regulatory Authority has fined Liberty Power $1.5 million and barred it from accepting new customers in the state for six months.

PURA found that the third-party energy supplier had enrolled customers without their approval, used deceptive or misleading sales tactics and issued more than 26,000 contracts containing early termination fees that were twice the state's $50 limit.

The agency said the violations took place over a multiyear time span.

More: *Hartford Business Journal*

Report: 10M Cyberattacks On Utilities per Week

The state's four major utilities, including its two electric utilities, faced between a few thousand and more than 10 million attempts per week to penetrate their computer systems in the past year, according to a report issued Sept. 17.

The "Connecticut Critical Infrastructure 2018 Annual Report" says the state's "critical infrastructure was able to stay ahead of the growing threats and sustain its defense against cyber compromise."

The companies reviewed in the report said they are dependent on cable and broadband service and need to work cooperatively with its providers. They also reiterated their request that cable and broadband companies take part in the state's annual review process with them.

More: *Connecticut*

IDAHO

PUC Sets New Hearing Date For Avista, Hydro One Deal

The Public Utilities Commission on Sept. 18 approved a new schedule for a hearing on Hydro One's proposed $5.3 billion purchase of Avista.

The companies have asked the PUC to make a decision by mid-December, but its members have said they may need more time.

The new schedule sets Nov. 26 as the date for a technical hearing. The hearing was scheduled for July, but the commission canceled it after Hydro One's CEO retired and its board of directors resigned.

More: *KXLY*

LOUISIANA

PSC Orders Investigation into Compensation, Perks at RECs

The Public Service Commission on Sept. 19 ordered an investigation into the compensation and perks at the state's rural electric cooperatives.

The PSC heard testimony that some REC board members make as much as $50,000 per year in the *per diem* payments they receive for attending meetings and that most receive such benefits as health, vision and life insurance. The state's RECs, which provide electricity to about 900,000 members, are nonprofits and being a director for them is supposed to be a part-time job.

More: *The Advocate*

MAINE

PUC Sued over Rules for Customers With Generation Capabilities

Two environmental organizations, a group of industrial power customers and the state's largest solar installer sued the Public Utilities Commission on Sept. 20, saying its latest set of rules governing small residential and commercial power customers with their own generation capabilities violates state law.

The Conservation Law Foundation, the Natural Resources Council of Maine, ReVision Energy and the Industrial Energy Consumer Group filed the lawsuit in Cumberland County Superior Court.

The plaintiffs allege that the rules violate a law preventing a utility from charging exit fees to a customer "who significantly reduces or eliminates consumption of

Continued on page 44

STATE BRIEFS

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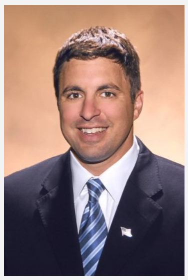
energy due to self-generation," and another statute they say prohibits charges for on-site power generation.

More: Bangor Daily News

MASSACHUSETTS

Solar Groups Urge Energy Secretary To Launch SMART Program


Beaton

A coalition of solar groups on Sept. 20 asked Energy and Environmental Affairs Secretary Matt Beaton that a solar power development incentive program authorized by the state legislature in 2016 be launched as soon as possible.

The group said that "the solar industry is slowing down and shedding jobs" because of the Department of Public Utilities' failure to implement the Solar Massachusetts Renewable Target (SMART) program. The state was expected to launch the program in the summer.

More: The Republican

MINNESOTA

PUC Grants Invenergy Wind Farm Permit After Noise Standards Pledge

The Public Utilities Commission voted 5-0 on Sept. 20 to grant Invenergy a permit to build the $300 million Freeborn Wind Farm after the company proposed "special conditions" to meet state noise standards.

The vote came after the Pollution Control Agency and Department of Commerce signed off on the standards.

An administrative law judge had recommended in May that Invenergy be declined a permit for the wind farm, which could have a capacity of as much as 200 MW. Her ruling was controversial because she said background noise, in addition to the noise produced by the wind farm, should be considered in determining whether the wind farm met state noise standards.

More: Star Tribune

NEW JERSEY

Towns Pass Resolutions Opposing North Bergen Power Plant


North Bergen Liberty Generating Plant | *Diamond Generating*

At least eight towns in Bergen County have passed nearly identical resolutions crafted by a coalition of environmental groups opposing the proposed North Bergen Liberty Generating Plant.

The resolutions say the 1,200-MW natural gas-fired power plant would be "one of the largest sources of air pollution and greenhouse gas emissions in New Jersey."

Mitsubishi-subsidiary Diamond Generating is proposing to build the plant, which would send its power via a 6.5-mile underground cable to Manhattan's West Side.

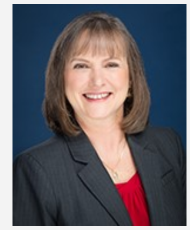
More: North Jersey Record

TEXAS

PUC Pulls Retail Plans from Power to Choose Website

As it had promised, the Public Utility Commission on Sept. 17 began pulling electricity plans from its Power to Choose website that did not list the offerings in both English and Spanish. The commission had set an 8 a.m. Sept. 17 deadline for retail electric providers (REPs) to comply during its Sept. 14 open meeting.

PUC staff deactivated 221 plans from 18 REPs, though some were reactivated later when the offerings were posted on both the English and Spanish (Poder de Escoger) websites, where consumers in competitive areas can shop for electricity providers. By the afternoon of Sept. 18, the websites offered 766 plans in English and Spanish, a 38% increase from the week before.


Walker

Commission Chair DeAnn Walker said that only 23 of the 57 REPs on the website were offering plans in Spanish. The ERCOT market has 117 REPs that offer more than 900 electricity plans.

More: Houston Chronicle

VIRGINIA

Suffolk City Council Approves Atlantic Coast Pipeline

The Suffolk City Council on Sept. 19 approved a 40-year, $50,000 license agreement allowing the Atlantic Coast Pipeline to be built and operate within the city limits.

The natural gas pipeline will pass under 30 city roadways and two other former railroad rights of way on its 600-mile course from West Virginia to North Carolina, a Suffolk deputy city manager told the council.

The vote in favor of the agreement was 5-0 with Vice Mayor Leroy Bennett, Councilman Timothy Johnson and Councilman Michael Duman abstaining because they own stock in Dominion Energy, one of four companies building the pipeline.

More: WAVY

WEST VIRGINIA

Judge Halts Work on Mountain Valley Pipeline

Summers and Monroe County Circuit Judge Robert Irons on Sept. 20 issued a temporary stay that halts work on the Mountain Valley Pipeline where it enters the Greenbrier River in Pence Springs.

Irons issued the stay in response to a motion by several local environmental groups and residents, after one resident learned that tree removal for the natural gas pipeline had begun on his property.

The petitioners have argued that the Department of Environmental Protection permit for the crossing doesn't comply with the state's Natural Streams Preservation Act.

More: The Register-Herald