RTO Insider
Your Eyes and Ears on the Organized Electric Markets
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DOE NOPR Rejected, 'Resilience' Debate Turns to RTOs, States

By Rich Heidorn Jr.

What is "resilience?" How can you measure it? And how much can be achieved through just and reasonable rates?

Those are the questions FERC and grid operators will be answering following the commission's rejection last week of Energy Secretary Rick Perry's proposed rulemaking to benefit coal and nuclear generators (RM18-1).

The 2-GW coal-fired Harrison Power Station | *FirstEnergy*

FERC's ruling created a new docket (AD18-7) and requires RTOs and ISOs to respond to two dozen questions about how they assess resilience. The commission said it will use the responses to determine whether additional action is necessary. (See *FERC Rejects DOE Rule, Opens RTO 'Resilience' Inquiry*.)

Defining, Measuring Resilience

FERC teed up the new proceeding by inviting comment on its suggested definition of resilience: "The ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to and/or rapidly recover from such an event."

It also asked grid operators to identify what attributes contribute to resilience and how they will obtain them. They are likely to look to NERC's definition of "essential reliability services," which the commission also referenced in its order. (See *NERC Report Urges Preserving Coal, Nuke 'Attributes'*.)

FERC offered less guidance on how the grid

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Wind, Solar, Gas, Storage Eye 'Resilience' Market Share

By Rich Heidorn Jr.

FERC's ruling last week that "resilience" is not simply a matter of onsite fuel supply won nearly universal praise outside the coal and nuclear industries.

Last Tuesday, a coalition of clean energy advocates and trade groups for the wind, natural gas, solar and storage industries held a celebratory press conference where they praised the ruling as a win for consumers and a sign that the new commission — including three Republicans appointed by President Trump — will remain independent.

"FERC continues to demonstrate that it takes its independence very seriously," said Todd Foley, senior vice president for policy and government affairs for the American Council on Renewable Energy.

"The professionalism of the [staff and commissioners] — in looking at the question

Continued on page 37

ISO-NE Effort to Accommodate States Leaves them Alienated

By Michael Kuser and Rich Heidorn Jr.

New England state regulators ended up split over ISO-NE's plan for accommodating clean energy procurements — yet seemingly united in their dismay over how the RTO's stakeholder process ended.

Vermont, Connecticut and Rhode Island opposed the Competitive Auctions with Sponsored Policy Resources (CASPR) proposal filed with FERC last week, while Massachusetts, New Hampshire and Maine supported it (ER18-619). (See *ISO-NE Files CASPR Proposal*.)

But all six states were upset about last-minute revisions the RTO made to the proposed two-stage capacity auction, according to the New England States Committee on Electricity.

Late Change

"The late change does not reflect the way, in

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IN THIS WEEK'S ISSUE

Correction

An article in the Jan. 9 newsletter incorrectly stated that FERC required the California Department of Water Resources to "create" a forensics team to investigate the crisis at the Oroville Dam in February 2017. (See *Report: Regulatory Failure Caused Oroville Incident*.) FERC required the department to "engage" with an independent forensics team. The team that produced the report on the incident was recommended by the Association of State Dam Safety Officials and the United States Society on Dams.

CAISO NEWS

CPUC Retires Diablo Canyon, Replaces Calpine RMRs

By Jason Fordney

From left to right: California PUC Commissioners Martha Guzman Aceves, Carla Peterman, Liane Randolph and Clifford Rechtschaffen. Commission President Michael Picker joined Thursday's meeting by video call. | *© RTO Insider*

SAN FRANCISCO — California regulators last week issued several decisions that will affect the state's energy resource mix and markets, including approving the retirement of the Diablo Canyon nuclear plant and replacing three reliability-must-run contracts for gas-fired generators with energy storage.

In its first meeting of 2018, the California Public Utilities Commission also approved exploring more uses for energy storage and pilot programs for new electric vehicle infrastructure. But staff delayed until Feb. 8 a vote on a proposal that would subject community choice aggregators (CCAs) to resource adequacy requirements, an idea that has drawn swift opposition from CCA supporters.

Fraction of Negotiated Cost Recovery

The CPUC unanimously approved the retirement of Pacific Gas and Electric's 2,240-MW Diablo Canyon plant in San Luis Obispo County, the last remaining nuclear plant in the state. But the commission granted only a fraction of the $1.8 billion in cost recovery that was included in a joint proposal negotiated between PG&E and labor and environmental groups.

CPUC President Michael Picker said that with the decision, "We chart a new energy future by phasing out nuclear power here in California in 2024 and 2025." Attending the meeting by teleconference, he called it "a very difficult and contentious case," but "we agree the time has come."

Diablo Canyon represents 6% of energy generated in California, but it is exacerbating overgeneration and curtailment of renewable resources. The plant is also aging and not needed for local reliability, Picker said. PG&E's load is dropping with the growth of CCAs, direct access users (that buy directly from wholesale) and customer-based generation such as rooftop solar.

Picker said the order also directs PG&E to explore shutting the plant's two units down earlier, in 2020 and 2022.

The CPUC rejected provisions in the joint proposal that would have paid for $1.3 billion in energy efficiency projects. An administrative law judge had proposed denying the efficiency cost recovery because the utility is already required to make that effort. (See PG&E Disputes ALJ's Diablo Canyon Recommendation.)

The commission also rejected provisions in the joint proposal that allocated $85 million to mitigate the impact of the plant's closure on the local community. Local officials say the plant is the hub of the local economy, but the CPUC said it would not authorize assistance without legislative direction.

The CPUC did approve recovery of $211 million to retain PG&E employees until the plant closes, $11 million for employee retraining of workers and $19 million for license renewal expenses already incurred. The commission said replacement capacity would be addressed in its integrated resource plan proceeding.

Parties to the joint proposal include PG&E, International Brotherhood of Electrical Workers Local 1245, Coalition of California Utility Employees, Friends of the Earth, Natural Resources Defense Council, Environment California, California Energy Efficiency Industry Council and Alliance for Nuclear Responsibility.

PG&E said it was "disappointed" the full proposal was not approved, but it noted the CPUC increased funding for employee retention above what was in the proposed decision.

"The joint proposal represents an array of interests from many parties who joined together to promote the best path forward for our state and PG&E's customers," the utility said in a news release. "Since the full proposal was not approved, in line with our agreement, PG&E will be meeting to confer with our labor, community and environmental group partners in the days ahead about the decision, our next steps and the path forward."

Commissioners noted the significance of the plant and the new challenges involved with retiring a major energy resource. Commissioner Martha Guzman Aceves called it a "landmark decision" to get a safer source of energy that is also clean. Commissioner Clifford Rechtschaffen noted that the commission intends to ensure the replacement capacity does not increase greenhouse gas emissions.

Elizabeth Echols, director of California's Office of Ratepayer Advocates (ORA), said, "PG&E customers benefit from this decision because it protects customers from paying $1.56 billion in unnecessary costs, while providing important funding for PG&E employee retention and retraining programs. Today's decision is well-supported by the evidence ORA and other parties provided in this case."

The two units at Diablo Canyon went online in 1985 and 1986.

RMR, Storage, EV Measures Passed

In its consent agenda, the CPUC passed a resolution to replace RMRs inked between CAISO and Calpine for the Metcalf, Yuba City and Feather River plants in PG&E's service territory. The contracts have created tensions among ISO stakeholders

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CAISO NEWS

Court Remands PG&E Adder for CAISO Membership

By Jason Fordney

Pacific Gas and Electric stands to lose millions of dollars in transmission revenues after a federal court this week challenged FERC decisions allowing the utility to include a CAISO participation adder in its transmission rates.

In a 3-0 ruling last week, the 9th U.S. Circuit Court of Appeals remanded to FERC two previous orders authorizing the adders for 2016 and 2017, saying the commission's interpretation of its authority to grant incentives "does not reflect thorough consideration, nor is it persuasive in its own right."

The ruling could shake up FERC's longstanding practice of routinely granting the 50-basis-point adder to transmission owners, a practice the California Public Utilities Commission has challenged because state law requires investor-owned utilities to be members of CAISO. (See *CPUC Contests ISO Incentive for PG&E*.) The CPUC has contended the adder provides a $30 million "unjustified windfall" for PG&E but has withdrawn previous challenges as a condition of settlement.

The Energy Policy Act of 2005 directed FERC to create the incentives, and the adders were introduced the following year in Order 679. Rather than being included as a "generic" adder to a TO's formula rate, RTO incentives are subject to commission approval on a case-by-case basis — which the commission has routinely granted PG&E.

FERC last year rejected the CPUC's request to rehear a decision permitting PG&E to include the adder in its 2017 rates, calling the incentive "longstanding practice." (See *FERC Upholds PG&E ISO Incentive Adder, Rebuffs CPUC*.)

But the appeals court took issue with the commission's approach.

"FERC did not reasonably interpret Order 679 as justifying summary grants of adders for remaining in a transmission organization," the court said in its ruling. It called FERC's practice "an unexplained departure from longstanding policy" and said the commission's rationale for granting the incentives amounted to the creation of generic adder.

"FERC's interpretation of Order 679 is plainly erroneous and inconsistent with the regulation," the court said.

"We are disappointed with the ruling and intend to pursue the issue when FERC considers its next steps in the proceedings," PG&E said.

The CPUC told *RTO Insider* that "FERC was going against its own longstanding policy that incentives should induce future voluntary conduct. By granting PG&E this incentive adder, FERC was essentially giving PG&E a windfall for action it had already taken and is legally required to do."

If reversed on remand, the CPUC expects $25 million to be removed from PG&E's current rate case and $30 million or more in future rate cases.

FERC spokesman Craig Cano said the commission had no comment on the decision.

The CPUC has also filed a separate protest with FERC over similar adders being considered in Southern California Edison's current rate case, a position that has won sympathy from new Commissioner Richard Glick.

The commission last month ordered hearing and settlement proceedings over SCE's latest rate proposal. (See *FERC Sets Hearing on SCE Tx Rates; Glick Dissents*.)

The James R. Browning Courthouse in San Francisco, home of the 9th Circuit.

CPUC Retires Diablo Canyon, Replaces Calpine RMRs

Continued from page 3

and signal the state's resource adequacy is not meeting reliability needs. The decision requires PG&E to hold solicitations to replace the RMRs with energy storage. (See *CPUC Targets CAISO's Calpine RMRs*.)

Commissioner Carla Peterman also developed two decisions approved by the CPUC, including one adopting 11 rules governing multiple-use applications for energy storage. The decision creates a framework enabling energy storage companies to stack their offerings and provide more than one service to the wholesale market, distribution grid, transmission system and resource adequacy programs. The rule, developed in coordination with CAISO and other agencies, is supported by energy storage companies.

"This is the first time any commission has tried to do anything like this," Peterman said.

Her other proposed decision supports new EV pilot projects, which she called "an important issue for the state of California." It directs PG&E, Southern California Edison and San Diego Gas & Electric to invest $41 million in pilot projects for school buses, delivery trucks, airport/seaport equipment, truck stops and commuter locations. Other projects include the installation of fast charging for urban locations and car dealerships, the commission said.

The full list of the CPUC's approved, withdrawn and held decisions from the Jan. 11 meeting is available here.

CAISO NEWS

CAISO: Tx Constraints Hinder Out-of-State Wind

By Jason Fordney

California faces a "severe shortage" of transmission capacity needed to tap potential New Mexico and Wyoming wind resources that would help the state meet its 50% renewable portfolio standard, CAISO said in a new study.

The findings regarding interregional transmission projects are supplements to CAISO's 2016-2017 transmission plan, which was approved by the ISO's Board of Governors last year. A second study released Jan. 5 looked at the impact of gas generator retirements scenarios, finding flexible capacity shortfalls at certain times.

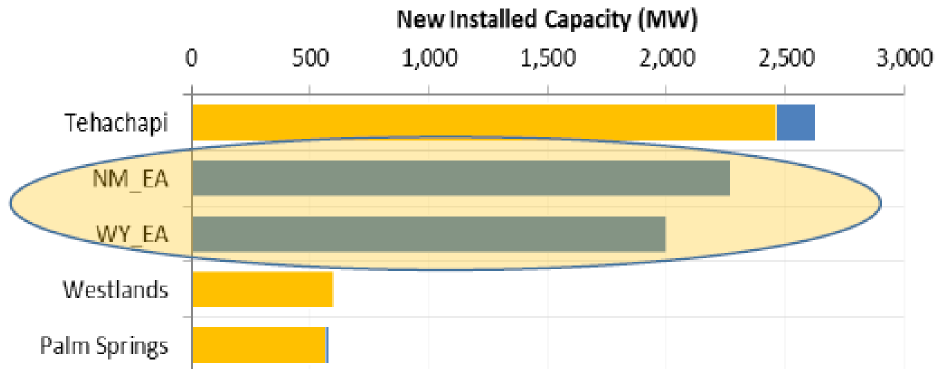
The ISO assessed the feasibility of accessing 4,000 MW of wind from New Mexico and Wyoming to meet the 50% renewables goal and reached out to other Western planning regions to assess out-of-state portfolios. It said it had received feedback that its production cost simulations and power flow analyses do not fully capture the challenges of accessing out-of-state resources.

The study was "a preliminary examination of transmission implications of meeting part of California's 50% RPS requirement by assuming California's procurement of 2,000 MW of wind resources in Wyoming and 2,000 MW of wind resources in New Mexico," it said.

CAISO did not say whether the lack of transmission capacity would make the RPS goal unattainable. But wind energy interests are urging the ISO to explore additional transmission capacity to access low-cost regional wind resources, and the transmission projects included in the study represent billions of dollars in investment to serve California's RPS.

The study is informational, CAISO said, and the results are not intended to direct interregional transmission, renewable generation development or policy direction.

The study looked at four large proposed transmission projects — TransWest Express, Southwest Intertie Project - North, Cross-Tie Transmission Line and Renewable Energy Express. It used two case studies based on two assumptions regarding resources and transmission.



CAISO assessed the California PUC's out-of-state 50% RPS portfolio. Above are the top five zones modeled in the portfolio, with wind resources from New Mexico and Wyoming highlighted. | *CAISO*

Major transmission projects outside California have a large impact on grid operations, CAISO said. It noted that transmission constraints on a 230-kV network in southern Wyoming would have to be mitigated for California to realize the full benefit of the Western transmission system.

CAISO Studies Gas Retirements

In a second study on the risks of early retirement of uneconomic gas plants, CAISO said in some scenarios capacity shortages would occur in early evening, the new period of peak net load.

"Capacity issues start to emerge between 4,000 to 6,000 [MW] of retirement, considering some uncertainties in forecasts," the study said.

CAISO studied six retirement scenarios of between 4,000 and 7,900 MW for four types of gas-fired technology. It found "unlimited renewable curtailment" is masking the need for flexible ramping capacity to meet morning and afternoon demand ramps.

Large amounts of renewable generation on the grid "is also putting economic pressure on the existing gas-fired generation fleet, especially for those generators not obtaining resource adequacy contracts."

CAISO produces its transmission plan each year to assess system limitations and needed reliability improvements. As part of the 2017-2018 plan, the ISO examined proposed system improvements in the Moorpark area, where it is increasingly unlikely that NRG Energy will build the Puente natural gas power plant. (See *NRG Signals Pull-out on Proposed Puente Plant*.) The review is needed because of the expected retirement of up to 2,000 MW of generation, CAISO said in a Jan. 11 presentation. Comments on the analysis are due Jan. 18.

Retirement by Technology (MW)	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
CCGT	-3,739	-4,325	-4,325	-5,107	-5,107	-5,107
CHP	-219	-286	-751	-751	-840	-1,138
GT	0	-200	-250	-250	-939	-1,632
ST	0	0	0	0	-10	-10
Total	**-3,958**	**-4,811**	**-5,325**	**-6,107**	**-6,895**	**-7,886**

As part of a study on the risks of early retirement of gas plants, CAISO analyzed six scenarios incrementally: Case 2 includes all resources in Case 1, Case 3 includes all of Case 2, etc. | *CAISO*

CAISO News

CAISO Players Urge Action on RMR, Other Topics

By Jason Fordney

CAISO market participants have many opinions on how the ISO should prioritize the complex and urgent tasks on its plate for 2018.

The ISO recently announced major initiatives to become a reliability coordinator in the West, expand its day-ahead market into the EIM and implement a new package of resource adequacy (RA) enhancements, among a slew of other ongoing market initiatives listed in the grid operator's policy initiatives catalog. Renewable integration issues such as flexible capacity needs and regional markets and transmission planning are other topics on the minds of market participants who commented on the CAISO roadmap laying out the schedule for policy initiatives.

The spate of initiatives is emerging as CAISO and California regulators look to overhaul their RA programs in the face of rising reliability-must-run (RMR) payments to gas generators. Misalignments in RA procurement between the ISO and the California Public Utilities Commission has increased the ISO's reliance on backstop processes such as RMR and capacity procurement mechanism (CPM) contracts.

Pace of RMR Overhaul Questioned

In comments filed with CAISO, some stakeholders said they want the ISO to combine and accelerate timelines for initiatives such as its RMR/CPM overhaul, while others questioned whether the ISO is taking on too many issues at one time given the complexities and interplay of the many initiatives already underway going into this year.

Pacific Gas and Electric's Matt Lecar urged quicker action on the RMR/CPM initiative, which kicks off with a Jan. 30 meeting. The company wants CAISO to combine proposed Phases 1 and 2 of the effort into a concurrent process and move on an accelerated timeline to prevent a wave of RMR contracts.

"PG&E is deeply concerned that this schedule and framing of the issue [do] not rise to the level of current challenges in the backstop procurement arena," he said. The timeline does not allow for policy changes until 2019, leaving little time for FERC approval before the 2020 RMR designations go into effect, he said.

"The CAISO has proposed a timetable that may condemn PG&E customers to bear hundreds of millions of dollars of new RMR contract costs for a minimum of three more years and likely longer. There is no justification for this delay," Lecar said.

The RMRs and other backstop procurements have become more urgent issues since the CAISO Board of Governors reapproved three RMRs in 2017, which PG&E referenced in its roadmap comments. Last week, the CPUC ordered PG&E to replace the contracts with storage resources. (See related story, *CPUC Retires Diablo Canyon, Replaces Calpine RMRs*, p.3.) CAISO also last month assigned a CPM designation to more gas-fired plants.

PG&E, the CPUC and others have opposed the RMRs, each for their own reasons, and CAISO officials have also expressed they would rather procurements result from market signals than out-of-market mechanisms. The debate also has implications for ratepayers and other market participants such as community choice aggregators, which the CPUC is proposing be brought under its RA procurement requirement.

NRG Energy Director of Market Affairs

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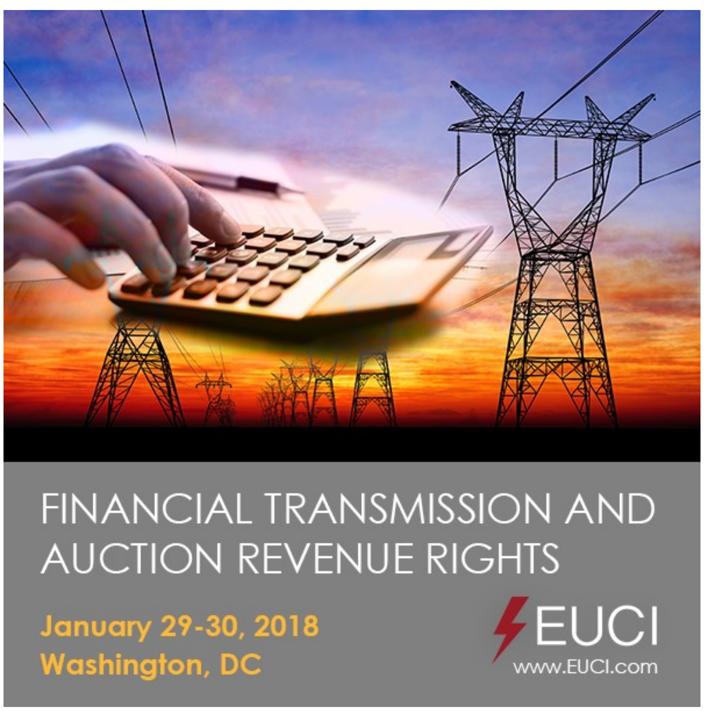


CAISO News

CAISO Players Urge Action on RMR, Other Topics

Continued from page 6

Brian Theaker said, "The increased use of RMR and CPM is a sign of the growing failure of the RA program to identify and compensate the resources needed to maintain reliability." NRG also said the RA problems and RMR/CPM initiatives should not be fixed sequentially.

"The perpetual limbo for lesser items must be addressed," said Theaker.

Carrie Bentley, representing the Western Power Trading Forum (WPTF), said CAISO should take full responsibility for the RA program, which holds the ISO accountable for local and flexible capacity requirements.

"Concurrently, RA reform is being taken up by the CPUC, and the CAISO has stated [it] will need to be coordinated with this effort," she said. "WPTF believes that both efforts are very large and worthwhile and therefore asks the CAISO to make transparent how [it] will allocate resources to each process."

EIM Participants Look to Day-Ahead

Other commenters are focused on CAISO's Western Energy Imbalance Market (EIM) and regional issues, such as transmission planning and the ISO's announced expansion of its day-ahead market into the EIM.

The Public Generating Pool (PGP), an association of 10 consumer-owned utilities in the Pacific Northwest with more than 6,000 MW of generation, said CAISO should publish an issue paper on its EIM expansion soon and mentioned the many other initiatives the ISO has underway. PGP thinks CAISO should extend its time frame for working on the day-ahead market enhancements.

"PGP finds the timeline for these initiatives to be very aggressive and is concerned about the impact and unintended consequences implementing these initiatives on such a constricted schedule will have," PGP said in its comments. While PGP acknowledged the constraints on the ISO's priorities and resources, it also said "there is currently little transparency around how and when the ISO makes those changes."

The American Wind Energy Association's California Caucus said it was concerned that CAISO's roadmap is focused too much on operational efficiencies and not enough on transmission planning to access renewables. The group said it "implores the CAISO to immediately begin studying transmission expansion to access low-cost renewable resources outside of the current CAISO footprint."

The Bonneville Power Administration said it was encouraged that the roadmap includes CAISO's Flexible Resource Adequacy and Must Offer Obligations (FRACMOO2) initiative, which is important to all Northwest hydroelectric producers and can provide fast-acting response to help manage intermittent renewables. (See Power Sellers Urge Action on CAISO Flex Capacity.)

"We look to this initiative in 2018 to explain the objectives driving any limitations for external resources providing flexible RA," BPA said. It also asked CAISO to prioritize changes to the default energy bid option that address opportunity costs for hydro units.

Clean energy interests in jointly filed comments urged CAISO to prioritize the expansion of the day-ahead market into the EIM and begin outreach to stakeholders this month. They include the Western Grid Group, Islands Energy Coalition, Natural Resources Defense Council, Northwest Energy Coalition and Vote Solar.

ERCOT News

Texas PUC Considering Rulemaking over AEP Battery Proposal

By Tom Kleckner

AUSTIN, Texas — State regulators Thursday agreed to "marinate" on an administrative law judge's order approving AEP Texas' request to connect a pair of utility-scale lithium ion battery facilities to the ERCOT grid.

Public Utility Commission Chair DeAnn Walker said she will file a memo in the docket (46368) explaining how she would like to move forward, while Commissioner Brandy Marty Marquez asked for another chance to discuss the matter publicly and said a rulemaking may be needed.

"The PFD [proposal for decision] did make some strong points," Marquez said. "A lot of what we're working through is a market that we all love and how to [incorporate batteries]. They are coming, so how does that happen?"

The order is opposed by a "diverse range of market participants," observed Emily Jolly, legal counsel for Luminant and TXU Energy, which oppose AEP's proposal. The opponents include Calpine, the state Office of Public Utility Counsel and several consumer organizations, who argue that allowing the assets to be included in AEP's regulatory base would harm competition.

| © RTO Insider

"The goal of competition is to minimize regulatory facilities, not encourage them to proliferate," Jolly said. "What the PFD does not explain is why preserving the market structure is beneficial. Competition fosters innovation and efficiency. We've seen that play out" in ERCOT.

Attorney Kerry McGrath, representing AEP, said the batteries would be used "very, very infrequently. Twelve times a year, on average." They would also not be used for commercial activities, he said.

AEP filed its application in 2016. ALJ Stephanie Frazee's October decision would allow the facilities to be classified as distribution assets and included in AEP's cost-of-service rates.

The company wants to install the 1-MW and 50-kW battery facilities in remote areas of West Texas, setting them to automatically discharge during an outage or to serve additional loads. It has proposed the energy be accounted for as "unaccounted-for energy (UFE)," which ERCOT defines as the difference between the system's total generation supply and the total system load plus losses.

"By allowing these facilities to be settled through UFE, you would be charging one set of customers when the battery is charged, then give free energy away to another set of customers," said attorney Katie Coleman, speaking for the Texas Industrial Energy Consumers trade association. "The settlement mechanism was never intended for this purpose. We're concerned about distortions to pricing in the market and ratepayer-subsidized facilities participating in the wholesale market."

PUC staff also intervened, saying the commission should open a rulemaking if it approves the ALJ's order. OPUC's Sara Ferris agreed with staff and said the batteries should be classified as generation assets.

"The rulemaking should be sufficiently broad to encompass other alternatives besides batteries," Ferris said.

"I agree a rulemaking is in order here," Marquez said. "This is new."

ERCOT NEWS

PUCT Briefs

Regulators Begin Addressing Utility Tax Savings

AUSTIN, Texas — Taking a cue from other state regulators, the Public Utility Commission on Thursday took its first steps in determining how to share federal corporate tax cuts with ratepayers.

PUC Chair DeAnn Walker directed staff to begin gathering information from utilities and considering legal options to recover the savings. She referred to 1987, "when similar things were done" following tax cuts under President Ronald Reagan.

Southwestern Electric Power Co., Oncor and El Paso Electric have already agreed to claw back tax savings during recent rate-case settlements. Two additional utilities are scheduled to undergo rate reviews in May.

The commission, which hopes to avoid a rulemaking, will take up the issue again during its Jan. 25 open meeting.

Commission to Strengthen Education Efforts with Legislature

The commission agreed with Commissioner Brandy Marty Marquez' suggestion to "re-up" its efforts to educate state legislators and others about potential price spikes this summer in the wake of recent plant retirements.

"To quote someone else, this is an opportunity for our market's finest hour," Marquez said, referring to Winston Churchill. "I think we're going to be fine … we just need to make sure people are educated about how our market works. People need to know what's going on and prepare for it, because this is part of a natural cycle."

Cheaper renewable and gas-fired energy has reduced coal generation's share of ERCOT's production to less than a third and led to a wave of coal-fired retirements last year. That, in turn, sliced the ISO's planning reserve margin to 9.3% for this summer. (See *Wind Nearing Coal as ERCOT Ponders Thinning Reserves*.)

Walker said she has already briefed Gov. Greg Abbott on possible "price elevations" this summer. She decried comments made last year during PUC-led workshops on scarcity pricing and other price-formation issues in ERCOT's energy-only market (47199). (See *ERCOT, Regulators Discuss Need for Pricing Rule Changes*.)

"A lot of people used 47199 as rhetoric to scare people, including us," Walker said. "We need to say we think we have this."

Staff Publishes Revisions to IOU Earnings Reports

PUC staff on Friday published its proposal for revising the earnings monitoring reports that investor-owned utilities must file. The reports reflect the 12-month period ending Dec. 31 and are due by May 15.

Staff originally intended to make only minor revisions but added other modifications reflecting recent changes to federal income tax law and eliminating two schedules because of recent legislation.

Invenergy-CSW Energy Joint Venture Approved

The PUC approved a joint venture between Invenergy Renewables and CSW Energy to repower a pair of West Texas wind farms. Invenergy will become a 20.1% owner of the Trent Wind Farm and Desert Sky Wind Farm, with CSW holding on to the remaining 79.9% (47637).

The wind farms currently have 207 1.5-MW turbines for a capacity of 310.5 MW.

CSW is a wholly owned subsidiary of American Electric Power, retaining its name following the 2000 merger between AEP and Central and South West.

— Tom Kleckner

ISO-NE NEWS

Conn. Regulators Hear Conflicting Advice on Millstone

By Michael Kuser

Connecticut regulators are getting mixed signals from power industry participants as they approach a Feb. 1 deadline for issuing a report on the economic viability of the Millstone nuclear power plant.

While some stakeholders say Millstone may be the most profitable nuclear plant in the country, others contend the plant must contract directly with the state in order to remain operational.

Gov. Dannel Malloy last July ordered the state Department of Energy and Environmental Protection (DEEP) and the Public Utilities Regulatory Authority to assess the current and future viability of the plant and determine whether the state should provide financial support (17-07-32). (See *CT Gov Orders Financial Analysis of Millstone Plant*.)

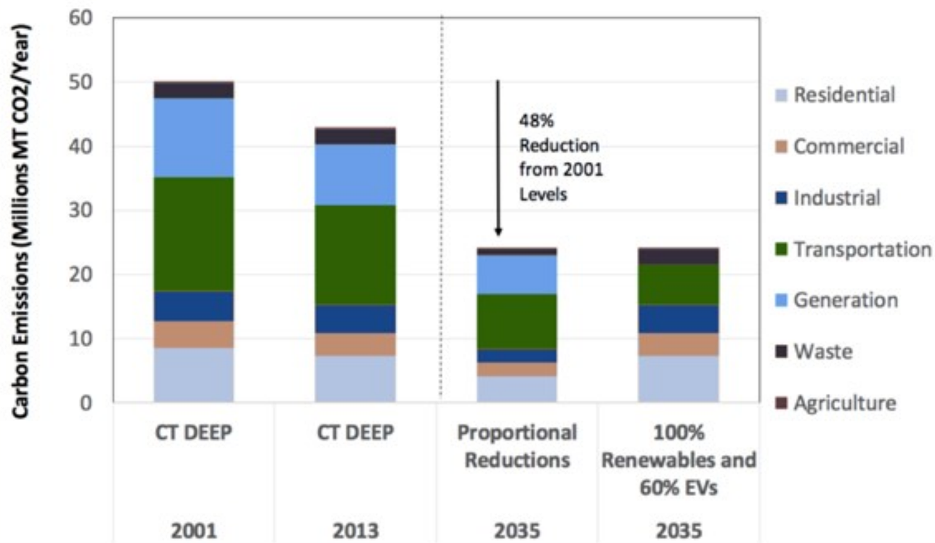
The governor's move came a month after the state's General Assembly failed to pass a bill that would have allowed the 2,111-MW nuclear plant in Waterford to bid into the state's procurement process reserved for renewable energy resources such as large-scale hydropower, wind and solar (S.B. 106).

Plant owner Dominion Energy is seeking guaranteed state contracts for its nuclear units, claiming they operate under the same financial constraints from low natural gas prices that led New York and Illinois to provide state subsidies for some of their nukes.

The Electric Power Supply Association filed comments with the state this month, contending that Millstone's profitability made any ratepayer subsidy unnecessary.

"EPSA believes — and the draft Levitan report confirms — that Millstone will remain economically viable through 2035," said EPSA, referring to a Levitan & Associates report sent to the governor last month. (See *Millstone Likely Profitable Through 2035, Conn. Consultant Says*.)

EPSA also submitted a new study by Energyzt Advisors that said "numerous studies have shown that the plant is profitable — perhaps the most profitable nuclear plant in the United States." The study also recommended regulators put a "price or cap on carbon for all sectors in the state and let market forces determine which carbon reduction investment provides the greatest payback."



| Energyzt

EPSA CEO John E. Shelk said Energyzt's new analysis "identifies a wide range of strategies state policymakers can implement to protect and grow jobs, manage costs and reduce emissions for the long term."

Dominion: Flawed Economics

Dominion's Jan. 8 filing with DEEP and PURA accused the Levitan study of "mixing apples and oranges" in using the company's regulated, Virginia-based nuclear plants as a proxy for Millstone's cost projections.

"Millstone Unit 2 and Unit 3 are entirely different designs requiring separate control rooms, separate spare parts inventory, distinct operator training and separate teams of licensed operators," Dominion said. "In addition, Millstone's larger physical footprint requires a larger security staff and has higher site maintenance costs including utility costs, building maintenance and snow removal."

Dominion also cited higher labor costs in Connecticut, saying its plants in Virginia are located in lower-cost rural areas.

In addition, Dominion said the Levitan report "understates the upcoming capital requirements of Millstone as critical station components reach their end-of-life cycle and need to be replaced to maintain the company's core commitments of safety and operational efficiency. It is important in this regard not to confuse operating cash flow, much of which must be reinvested in the capital needs of the station, with profitability."

The General Assembly submitted comments last week encouraging PURA and DEEP to "hedge against natural gas by opening a bidding process to receive bids from nuclear generating facilities, including Millstone, to purchase power directly by long-term contract."

The legislators argued that "since Millstone's power is currently purchased by hedge funds and financial institutions, these groups are receiving the benefit of price spikes today due to the current 'cold snap.'"

Environment and Markets

Environmental organization Citizens Campaign for the Environment, which has more than 80,000 members in Connecticut and New York, said that it "strongly opposes any special deals for nuclear power under our state's energy procurement markets. Allowing Millstone to compete with up-and-

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ISO-NE NEWS

ISO-NE Effort to Accommodate States Leaves them Alienated

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our experience, that New England has done business in recent years," NESCOE said in a statement at the Dec. 8 Participants Committee meeting, where the proposal fell short of the 60% support needed to win committee endorsement. "If we want New England to be the place where groups gather to try [to] figure out complicated issues, there is work to do to restore trust and restart the willingness to participate in the process."

[EDITOR'S NOTE: Because the New England Power Pool bars the press and public from its stakeholder meetings, *RTO Insider* was not permitted to cover any of the stakeholder sessions at which CASPR was debated. This account is based on NEPOOL meeting documents, the NESCOE statement and interviews with state officials and other stakeholders.]

CASPR received a sector-weighted vote of 58%, backed by most of the Generation, Transmission and Supplier sectors but receiving virtually no support from End Users. Publicly Owned Entities voted 45-0 in opposition.

The proposal arose out of NEPOOL's Integrating Markets and Public Policy (IMAPP) initiative, launched in August 2016 in response to state regulators' cost concerns and generators' fears that out-of-market procurements of renewable generation would suppress capacity prices.

NESCOE said that although its members are split over CASPR, the states were united in their opposition to ISO-NE's last-minute

Sector	For — Against (Abstained)
Generation	8.67-1.33 (3)
Transmission	3.55-0.45 (1)
Alternative Resources	4.5-2 (2.5)
Suppliers	11-2 (8)
Publicly Owned Entities	0-45 (0)
End Users	3-15 (3)
Provisional Members	1-0 (0)

NEPOOL sector vote on CASPR (Participants Committee meeting on Dec. 8, 2017 | *NEPOOL*

decision to adopt changes to the definition of sponsored policy resources (SPR) and limit inter-zonal transfers in the new second capacity auction.

"The states are of one mind on one thing about CASPR. ISO-NE's approach at the very end of an otherwise open and collaborative process — and specifically its 11th-hour changes — was, to put it mildly, disheartening. These late changes were accompanied by little explanation and provided no time for meaningful dialogue," NESCOE said.

ISO-NE declined to respond in detail to NESCOE's criticism. In an email, ISO-NE spokeswoman Marcia Blomberg said only, "The CASPR proposal underwent a robust stakeholder process, with extensive discussion in the NEPOOL Markets Committee and the Participants Committee. The ISO's goal with CASPR is to balance the accommodation of state policy actions while maintaining accurate pricing in the wholesale markets."

Regional Split

Although state regulators don't have voting rights in NEPOOL, they are nevertheless an important constituency.

ISO-NE's effort in IMAPP to balance the interests of states and generators was further complicated by the disparity in the states' environmental goals. Massachusetts, Connecticut and Rhode Island plan to procure more than 3,600 MW of nameplate renewable generation. Vermont, New Hampshire and Maine have not adopted such goals.

Those differences were evident when New England rejected increasing carbon emission prices to accommodate the state procurements within ISO-NE's wholesale markets.

Although the New England states have supported carbon pricing through the Regional Greenhouse Gas Initiative for a decade, RGGI's emissions limits would have to be substantially reduced to make the resources sought by the states economic in the RTO markets, Market Monitor David Patton told a FERC technical conference in May. Cost was among eight factors NESCOE cited in an April 7 memo outlining the states' opposition to a "carbon pricing-style mechanism" administered by ISO-NE and regulated by FERC.

"What I want is not to pay for Massachusetts' and Connecticut's policies," New Hampshire Public Utilities Commissioner

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Conn. Regulators Hear Conflicting Advice on Millstone

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coming renewable technologies like wind and solar power would unfairly force Connecticut ratepayers to foot the bill for an antiquated, and yet highly profitable, power source."

The Conservation Law Foundation submitted a draft proposal for a Dynamic Forward Clean Energy Market (DFCEM) that would allow Connecticut and other states in the region to procure clean and renewable electricity via a market administered by ISO-NE.

"The DFCEM market mechanism would allow Connecticut to procure the environmental attribute of new and existing zero-emission resources, including nuclear, on a least-cost basis through an auction mechanism that places all emissions-reducing resources on equal footing while allowing Connecticut to share emissions compliance costs with other states fairly and in proportion to each state's climate and energy laws and regulations," CLF said.

The group did not specifically address the issue of Millstone's financial viability, but it referred to a November 2017 report by The Brattle Group that assumed "nuclear plants (with the exception of Pilgrim) retire after 60 years in service, or earlier if going-forward costs exceed market revenues."

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Robert Scott said at the conference. (See ISO-NE Two-Tier Auction Proposal Gets FERC Airing.)

Proposal Described

Under CASPR, ISO-NE would clear its Forward Capacity Auction as it does today, applying the minimum offer price rule (MOPR) to new capacity offers to prevent price suppression. In the second Substitution Auction (SA), generators with retirement bids that cleared in the primary auction would transfer their obligations to subsidized new resources that did not clear because of the MOPR. Because the SA will not use the MOPR, it will clear at lower prices than the primary auction, enabling existing resources to buy out their obligations at a lower cost in return for retiring.

The proposal would phase out the current Renewable Technology Resource (RTR) exemption, which has allowed ISO-NE to exempt limited quantities of renewable generation from the MOPR.

Supporters of the RTO's proposal said it was "an improvement over [the] status quo and is properly tailored narrowly to address particular concerns in the markets that are arising or threatened from the future addition of substantial state-sponsored resources," according to the minutes of the Dec. 8 meeting.

One representative described the CASPR proposal as "a reasonable balance in accommodating states' initiatives while minimizing the impact on the markets. Many expressed support for how the proposal seeks to support reasonable price formation in FCM and for the late changes that address concerns they had with a very broad definition for sponsored policy resources."

ISO-NE's Reversal

The states became disillusioned after the NEPOOL Markets Committee voted on the CASPR proposal and nine states suggested amendments on Nov. 8-9. Only one amendment, by NESCOE, was approved.

According to a summary memo prepared by Day Pitney attorneys for the Participants Committee, the NESCOE proposal included a FirstLight Power Resources amendment to limit SA capacity transfers between zones. They would be permitted only where the cleared outcome does not change marginal reliability impact congestion in any capacity zone.

NESCOE also proposed a backstop mechanism to take effect after the phase-out of the RTR exemption that would allow up to 200 MW of state-procured renewables to enter the market annually even if there were no corresponding retirements in that year.

The NESCOE amendment won a 61% vote of the Markets Committee. With the amendment, however, the overall proposal won only 58%, just below the 60% threshold to recommend it to the Participants Com-

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ISO-NE Seeks Lower Cutoff for Market Power Reviews

By Michael Kuser

Bidders in ISO-NE's capacity auctions would face a lower price threshold for triggering market power reviews under a Tariff revision filed by the RTO last week.

ISO-NE and the New England Power Pool Participants Committee filed with FERC to decrease the dynamic delist bid threshold (DDBT) in the RTO's Forward Capacity Market from $5.50/kW-month (set in 2014) to $4.30/kW-month, starting with Forward Capacity Auction 13, slated for February 2019 (ER18-620). The DDBT is an administrative threshold established by the Internal Market Monitor for use in determining which capacity market bids from existing resources must be reviewed for the potential exercise of seller-side market power in the FCM.

The change reflects the Monitor's estimation of the likely marginal bid in the auction. ISO-NE said changes in supply-and-demand dynamics since 2014 warrant the decrease in the DDBT. Four years ago, the Monitor projected a capacity shortage of more than 1,600 MW, but since then, existing capacity has increased each year while the installed capacity requirement has consistently declined. For next month's FCA 12, the Monitor projects a capacity surplus of about 1,250 MW.

If the DDBT is set appropriately, bids below the threshold will be considered "inframarginal" — that is, priced below the auction clearing price and therefore unable to exercise market power.

The Monitor aims to set the DDBT slightly below the likely competitive price from the marginal resource in the FCA to minimize the likelihood of an uncompetitive bid setting the clearing price. If the DDBT is set too high and the auction clears below the threshold, all remaining delist bids enter the auction without having been reviewed for the potential exercise of market power.

In its testimony in the filing, the Monitor explained the adverse consequences of setting the DDBT too high.

"Since the ISO makes known ... the amount of remaining supply at the start of each auction round, suppliers with market power within the dynamic range of the auction may be able to profitably increase the auction clearing price to benefit their supply portfolio," the Monitor wrote.

"Furthermore, the impact of an uncompetitive increase in the auction clearing price is not localized to the individual supplier that exercises market power; the clearing price is artificially inflated for the entire capacity zone or the entire system."

But the Monitor said there are no corresponding adverse consequences for the auction if the DDBT is set well below the price of the marginal bid.

"While doing so may result in more suppliers carrying the administrative burden of submitting delist bids for IMM review prior to the auction ... this burden is not unreasonable when compared with the significant risk to the competitiveness of the auction from setting the DDBT too high," it said.

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mittee. In a separate vote, only 28% of the committee supported the RTO's proposal without the NESCOE amendment.

Dec. 8 Participants Committee Meeting

Without a Markets Committee-approved package, it was unclear what ISO-NE would propose at the Dec. 8 Participants Committee meeting — the final venue for stakeholders to express their opinion before the RTO filed its proposal with FERC.

On Nov. 30, the RTO outlined its plans in a memo, saying it was adding the FirstLight amendment and a revised definition of SPR.

The revised definition, proposed by the Natural Resources Defense Council and Conservation Law Foundation, limited eligibility in the SA to renewable or clean energy resources receiving out-of-market revenue under state rules enacted before Jan. 1, 2018.

Although the states had included the FirstLight amendment in their November proposal to the Markets Committee, NESCOE's statement said they opposed the amendments "on a standalone basis [because they would] limit the likelihood of CASPR being successful."

Liquidity Concerns

Vermont, Connecticut and Rhode Island say the limits on inter-zonal substitution will reduce liquidity in the SA and the chance that CASPR will accomplish ISO-NE's design objective No. 2: accommodating the entry of SPR into the Forward Capacity Market over time. That, they said, creates a risk that consumers will pay twice for state-procured renewables.

By agreeing to the Jan. 1 cutoff date for eligibility, NESCOE said, ISO-NE "reversed its previously unwavering position that CASPR would be resource-neutral" and accommodate future technologies and solicitations for resources such as storage.

"Without explaining what new information caused the reversal or [providing] an opportunity to discuss, ISO-NE let us all know that its 'notable property' — resource neutrality — was wrong all along and that ISO-NE instead prefers a tariff that limits resource eligibility based on an arbitrary statutory date," NESCOE said.

The Jan. 1 cutoff means CASPR will be a "very short-term mechanism," the states said. "Should any state adopt a new law this coming legislative session, for example, states and perhaps others will be back where we were at the outset of this process, with a diminished appetite to negotiate and tempered optimism more broadly."

Connecticut expressed concern at the Dec. 8 meeting that the RTO's proposal did not "definitively allow" large-scale hydro that the state may procure "through existing or future state law or regulations" to qualify for the SA.

"The minutes accurately reflect a concern Connecticut expressed at the December [Participants Committee] meeting, which speaks to the general confusion and lack of dialogue that resulted from the ISO-NE's 11th-hour changes to the proposal," Katie Dykes, chair of the Connecticut Public Utilities Regulatory Authority, said in an email to *RTO Insider*.

In contrast, Katie Gronendyke, spokeswoman for the Massachusetts Executive Office of Energy and Environmental Affairs, said her state supported the final CASPR proposal because it "will provide the region with the mechanism necessary to provide residents and businesses with affordable energy while achieving carbon reduction goals set forth under the Global Warming Solutions Act as well as regional emissions targets."

The 2008 act requires the state to reduce greenhouse gas emissions by 25% from 1990 levels by 2020 and 80% by 2050. To meet those goals, the state in 2016 required its utilities to purchase 1,600 MW of offshore wind and about 1,200 MW of other new renewables, including onshore wind and hydropower.

ISO-NE's Seeks to Balance Competing Concerns

ISO-NE Chief Operating Officer Vamsi Chadalavada attempted to assuage the states' concerns at the Dec. 8 meeting with a promise that the RTO would consider future rule changes if CASPR fails to accommodate state policies.

He noted that it took the RTO from 2005 to 2010 to implement its capacity market and said it has made "numerous and material changes" to the market since, according to meeting minutes. "He stated that, with CASPR, the ISO favored price formation as the best means for the market to address a very uncertain future."

Chadalavada's "expressed hope was that necessary improvements over time would be much more limited and capable of being identified and implemented quickly," according to the minutes. "He acknowledged that some of the late decisions illustrated the ISO's internal struggles related to the competing objectives inherent in the CASPR proposal."

Lack of 'Backstop'

Vermont, Connecticut and Rhode Island said the elimination of the RTR exemption was unacceptable without a backstop provision "that provides a comparable degree of accommodation of the requirements of state laws and, thereby, mitigation of excessive consumer costs and oversupply," NESCOE said.

Consumer advocates for Massachusetts, Connecticut, New Hampshire and Maine, who are members of the End User sector, cited the lack of a backstop in voting against the RTO's proposal.

For FCA 12, which begins Feb. 5, 514 MW of RTR exemptions are available. Under CASPR, RTRs would be eliminated beginning with FCA 16. In the interim, RTRs would decrease annually by the amount of capacity supply obligations (CSO) acquired by new RTR capacity in the prior auction. If 100 MW of CSO is acquired in FCA 12, for example, the FCA 13 cap would be reduced to 414 MW. Any RTRs remaining after FCA 15 would be void.

Public Power's Concerns

Brian Forshaw, representing the Public Power sector, also was dissatisfied with the RTO's promises to consider changing the SPR definition in the future, according to

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the Participants Committee meeting minutes, "because such a commitment provided no assurance of whether or when any definitional change would be made."

Forshaw moved to restore the SPR definition to that advocated by ISO-NE at the Nov. 8 Markets Committee meeting, before its Nov. 30 changes.

"The minutes accurately reflect a concern Connecticut expressed at the December [Participants Committee] meeting, which speaks to the general confusion and lack of dialogue that resulted from the ISO-NE's 11th-hour changes to the proposal."

Connecticut PURA Chair Katie Dykes

In a memo to NEPOOL, Forshaw said the earlier "technology-neutral" definition would allow procurement of resources meeting "broader policy objectives including fuel diversity, local area resiliency, maintaining competitive electric rates, and mitigating the volatility of capacity costs in addition to environmental stewardship objectives."

Forshaw also was unmoved by the RTO's assurances that resources not meeting the SPR definition could be offered into the primary auction. "Many of the policy resources that states and local communities are seeking to meet fuel diversity and local area resiliency objectives (including microgrid facilities and battery storage projects) are smaller and limited to specific locations, making it highly unlikely that such resources will be able to clear in the primary FCA, even if those states and communities are willing to absorb the incremental costs above the FCA clearing price," he said.

"What this means is that if a state or local utility wants to develop a battery storage project (outside of a limited quantity in Massachusetts) or a fuel cell-based combined heat and power project (outside of Connecticut) it would be precluded from having such projects acquire a capacity supply obligation through the Substitution Auction."

The Public Power motion failed by a show-of-hands vote.

CLF Opposition

The CLF also opposed the RTO's proposal, despite the revised SPR definition that excluded fossil fuel generation.

The organization's David Ismay told *RTO Insider* it also insisted on inclusion of "a reasonable RTR backstop that would ensure state clean energy procurements are timely integrated into the regional market (and unjust/unreasonable double charging for capacity avoided) if CASPR doesn't work as advertised or at all — a risk we think is … potentially significant."

MISO NEWS

MISO Breaks down Recent Cold Snap

By Amanda Durish Cook

CARMEL, Ind. — History repeated itself during this month's extreme cold snap — but only to a degree, MISO told stakeholders last week.

While the high load and generation outages during the arctic blast followed the pattern of 2014's so-called "polar vortex," this time the RTO managed to keep prices stable and maintain better reliability.

Tim Aliff | © *RTO Insider*

Tim Aliff, MISO director of system operations, said the RTO dubbed the weather event with a simple nickname.

"The best we could come up with was 'cold snap,'" Aliff joked at Thursday's Market Subcommittee meeting. "It doesn't inspire the terror that 'bombogenesis' does, and 'polar vortex' was already taken."

Aliff said that while there were major similarities between the polar vortex and this month's artic conditions, MISO's response to the demand and ensuing prices were very different, ensuring the RTO's conservative operations declaration did not escalate to a maximum generation alert.

The recent low temperatures persisted longer and were on average lower than during the polar vortex, although the coldest day during 2014's events was about 2 degrees Fahrenheit lower than this month's. Demand peaked at 104.7 GW on Jan. 2, when low temperatures in the footprint averaged 0 F. During the polar vortex, MISO load hit an all-time winter peak of 109.3 GW on Jan. 6, 2014, when lows averaged minus 2 degrees.

Load topped 100 GW on five days during the recent cold snap, compared with two days during the polar vortex.

"We were on average about 10 degrees colder than in 2014," Aliff said.

This year's arctic blast was tempered in part by wind's 13% contribution to the resource mix, supplying 13.4 GW during the Jan. 2 peak hour. In 2014, wind supplied 6.6 GW during the peak.

"The highest locational marginal price was significantly lower than in 2014," Aliff said. Real-time LMPs hit $281.23/MWh during the peak, compared with the $1,780.70 record price seen in 2014. During the bitter cold on Jan. 1 and 2, gas prices held to $4.63/MMBtu, jumping to $9 a day later when temperatures increased by 13 degrees. In 2014, gas prices ranged between $5.88 and $7 during three straight days of punishing cold.

Outage levels on the most frigid day remained at levels typical for the month of January, Aliff said, accounting for about 36 GW of unavailable generation during the peak, including more than 19 GW of forced outages. Natural gas forced outages, mostly attributable to fuel transportation and supply issues, accounted for almost 7 GW of unavailable generation, while equipment failure in coal generation accounted for slightly more than 2 GW of forced outages.

"That is kind of expected at this time of year. The utility gas supply is competing with the residential gas supply," Aliff explained. MISO was better prepared for outages this year and was equipped with a more accurate list of gas-fired generators most likely to be affected by a dwindling gas supply.

"We had a better picture of what the generation limitations would be," he said.

Ameren's Jeff Moore asked if greater wind production helped MISO fare better during the cold snap.

"I think that there's a lot that went into the lower LMPs," Aliff replied. Other improvements made since the polar vortex, especially gas-electric coordination, helped MISO's performance, he added.

MISO staff at the meeting promised to provide more outage analysis and data collection on the event.

Stakeholders: More Real-Time Communication

Multiple stakeholders asked MISO to consider issuing more immediate updates to members as it navigates challenging conditions.

ITC Holdings' Ray Kershaw led the charge, asking that MISO distribute more real-time electronic communication to its members when faced with near-emergency or emergency conditions.

Market Subcommittee Vice Chair Megan Wisersky said there was a marked difference between MISO's sparse communication and PJM's frequent email updates to its members on the state of its system during the cold snap. "It seemed like there was a little bit of an information gap between the two approaches," she said.

"It'd be nice to know what the capacity breakdown is," said Customized Energy

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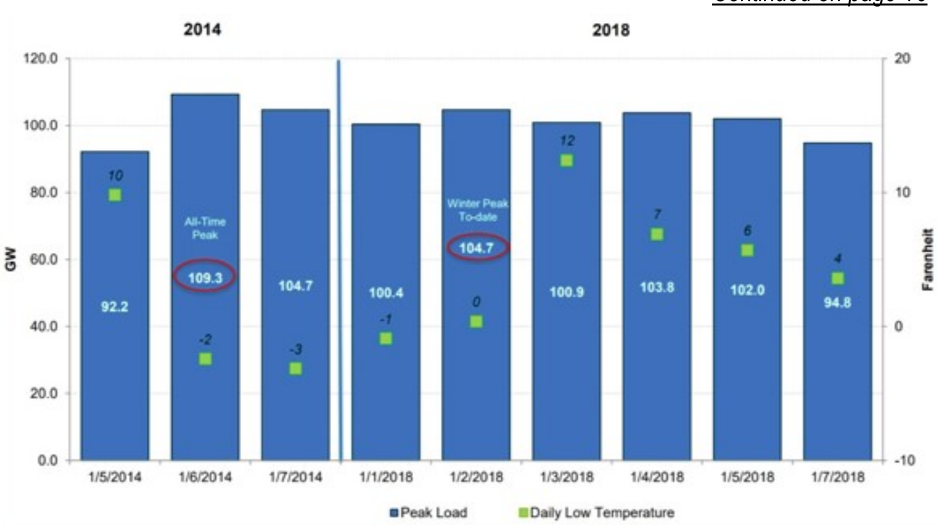

| *MISO*

MISO NEWS

Renewables Developer Escalates MISO Queue Design Dispute

By Amanda Durish Cook

EDF Renewable Energy has escalated its push to make MISO speed up the process for connecting new generation to the grid — this time filing a FERC complaint against the RTO.

Time is of the essence, says EDF, which has previously argued that MISO's year-old revised interconnection queue process is only worsening the backlog of waiting generators.

In its Jan. 4 complaint, the company asked FERC for a "workable" interconnection timeline to ensure that wind developers can secure federal production tax credits before they expire at the end of 2020. It also seeks a commission ruling no later than Feb. 15 (EL18-55).

"MISO's apathy and lack of attention to this need is unjust and unreasonable and should be found unacceptable by the commission," EDF said.

The company argues that its projects can only meet the tax credit deadline if MISO completes interconnection studies by June 2019 to allow for the average 18-month construction of a wind farm. But the RTO's "severely delayed" interconnection study schedule puts the execution of generator interconnection agreements "perilously close to June 2019" for projects that entered the queue's definitive planning phase in 2016 and 2017, it said.

And EDF takes a dim view of MISO's ability to hit even the 2019 target.

| *EDF Renewable Energy*

"Given MISO's track record over the last full year in applying its new [generator interconnection procedures], it is highly likely that these dates will continue to slip," the company said.

If that happens, prospective interconnection customers will forfeit "tens of billions" of dollars, EDF warned.

The company contends that MISO's Tariff is no longer just because the RTO "cannot deliver interconnection studies and a generation interconnection agreement in sufficient advanced time to allow proposed wind generation projects to achieve commercial operation" in time to receive tax credits.

"MISO represented that interconnection studies would be completed and a generation interconnection agreement would be offered in sufficient time to enable proposed wind generation projects to achieve commercial operation before the federal production tax credit expires on Dec. 31, 2020. That has not occurred, and the upcoming prognosis as to timing is not good," EDF said in its complaint.

EDF brought similar concerns before MISO's Steering Committee in November, asking the RTO to consider a shortened "fast track" queue process for vetted projects with secured site control, but MISO officials said they would not change the queue process so soon after its early 2017 overhaul. (See EDF Asks MISO to Revisit Queue Overhaul.) Steering Committee members had asked for EDF representatives to return in January with a fuller explanation behind its proposal.

In its complaint, EDF once again argued for the fast-track option and a newly designed two-stage queue, despite FERC's denial in November of a similar appeal contained in a rehearing request filed by a group of generation developers, including EDF (ER17-156). However, FERC concluded that order by urging MISO to consider additional measures in its revised queue design to avoid delays. EDF now charges that two months have passed without MISO initiating a single stakeholder discussion of the reasons behind the delays or how to diminish them.

MISO planners are sifting through the largest batch of interconnection queue requests in a decade, and the RTO last summer warned stakeholders to prepare for delays. The queue has ballooned to more than 355 projects totaling 60 GW, with 191 projects potentially worth 31 GW entering the definitive planning phase in the August 2017 cycle alone. Before the new design took hold, MISO had predicted that interconnection customers would spend an average of 460 days in the new three-stage definitive planning stage instead of the previous average of 589 days. It remains to be seen if MISO can meet that timeline.

MISO Breaks down Recent Cold Snap

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Solutions' David Sapper.

Indiana Utility Regulatory Commission staffer Dave Johnston pointed out that, sometimes, "no news is good news." He noted that MISO does alert state regulators when reliability issues arise. "But, of course, I'm not a market participant, and I'm not watching prices," Johnston said.

MISO Senior Director of Systemwide Operations Rob Benbow said the RTO would consider the request and determine what information it could release in real time. "We understand the importance of good communication," he said.

"Good markets are run with better information," Wiskersky said.

November Sees Boost in Load, Prices, Wind

MISO released a November market report showing that lower temperatures that month boosted average load to 71.6 GW, up 3.6 GW from a year earlier, while the monthly peak jumped by 2.5 GW to 84 GW. Real-time and day-ahead energy prices both averaged about $27.30/MWh, 10% higher than last November. MISO reported an all-time wind record of 14.6 GW on Nov. 21, only to be exceeded by a new high of 14.7 GW on Dec. 5.

MISO NEWS

MISO Seeks To-Do List for Resource Adequacy Panel

By Amanda Durish Cook

CARMEL, Ind. — MISO staff asked the Resource Adequacy Subcommittee on Wednesday for feedback on the group's priorities for 2018.

The RTO is eyeing a few initiatives from 2017 that have not been completed, including:

- How capacity accreditations should be granted to battery storage based on operating characteristics;
- If units on an extended outage should still be allowed to offer into the capacity auction; and
- If MISO should take steps to alleviate partial unit clearing, in which the RTO's algorithm clears a marginal unit on a *pro rata* basis. This can result in resources clearing a fraction of their unforced capacity values, leading to higher costs than capacity revenues.

Michael Chiasson of Potomac Economics, the Independent Market Monitor, said he was concerned that if a resource decides not to offer into the Planning Resource Auction because of a lengthy planned outage, the Monitor could construe the move as physical withholding.

MISO staff also want the RASC to finalize Tariff changes to implement external resource zones for the 2019/20 PRA.

The committee also will discuss an upcoming whitepaper on resource availability and need, and whether to create minimum capacity procurement requirements to address the increase of intermittent renewable generation and an aging baseload fleet more susceptible to outages.

"We're going to have a discussion on how PRA rules can support year-round operational adequacy," said MISO Manager of Resource Adequacy John Harmon.

John Harmon | © *RTO Insider*

Ontario Contribution?

Harmon also said the RASC could decide how to import capacity from Ontario's Independent Electricity System Operator (IESO).

"Ontario is interested in developing its export capacity to MISO via its interface with Michigan," Harmon said.

Harmon said Ontario has never qualified as a balancing authority to export capacity into the RTO. The province would like to become a qualified external supplier in time for the 2019/20 capacity auction.

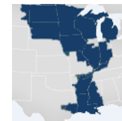
Customized Energy Solutions' David Sapper said he understood that Ontario's transmission service isn't analogous to MISO because it does not offer firm point-to-point transmission rights.

"The sticking point is really that firm transmission piece," Harmon said. Before the province can become an external supplier, MISO must also receive a commitment from Ontario to curtail non-firm exports during capacity emergency events, Harmon added.

Although Ontario has signaled a willingness to make some changes over the last year, Harmon said it's too early to know if it will create firm transmission service. IESO currently sells transmission rights that entitle the owner to a payment if the price of energy in Ontario is different from the price in an intertie zone, allowing hedging of congestion risks and price volatility.

MISO is asking stakeholders to submit any additional 2018 improvement candidates and suggested prioritization by Jan. 26 to radequacy@misoenergy.org. MISO staff said they will review and prioritize the issues in February and finalize a plan to tackle them by the March RASC meeting.

MISO NEWS



RASC Briefs

Little Change to Capacity Forecasts

CARMEL, Ind. — MISO's next capacity auction will likely rely on megawatt values and limits similar to those underpinning last year's auction, the RTO said Wednesday.

Tim Bachus | © *RTO Insider*

For the 2018/19 Planning Resource Auction scheduled for early April, MISO is planning for a systemwide coincident peak load of nearly 122 GW — a 42-MW decrease — and a planning reserve margin requirement of 135 GW, which is 177 MW higher, Tim Bachus, MISO capacity market administration analyst, said during a Jan. 10 Resource Adequacy Subcommittee meeting.

MISO also forecasts a zonal coincident peak of 126 GW and predicts that its 10 zones combined will need 152 GW to satisfy local resource requirements.

"These numbers aren't final; we do accept updates to forecasts through January," Bachus said.

2018/19 Transfer Limit

The RTO expects to make no changes to transfer flow limits between MISO South and Midwest for the 2018/19 planning year after FERC recently endorsed its methodology for calculating those constraints.

Manager of Resource Adequacy John Harmon said a feasibility analysis concluded that no adjustment is needed for this year's regional directional transfer limits, leaving the preliminary South-to-Midwest limit at 1,500 MW (accounting for 1,000 MW of firm transmission reservation offsets) and the Midwest-to-South limit at 3,000 MW (with no firm reservations to reduce the limit).

In November, FERC denied a rehearing of the process for calculating subregional limits request by a coalition of MISO transmission customers that contended the limits were too conservative. (See *FERC Upholds MISO Transfer Limit Policy*.)

MISO calculates transfer limits between its Midwest and South regions by deducting firm reservations from 2,500 MW of available capacity flowing from South to Midwest and 3,000 MW estimated to be available in the opposite direction. The initial limits were determined in a settlement with SPP that became effective in early 2016.

Harmon said MISO will release final megawatt values for the two-way limit in February.

2018 OMS-MISO Survey

MISO is also preparing its annual resource adequacy survey with the Organization of MISO States and moving ahead with a new calculation for estimating the volume of future new resources.

Ryan Westphal, MISO resource adequacy coordinator, said the new resource counting methods for the 2018 survey enjoy general stakeholder support.

In accounting for future resources, MISO will tally projects not yet in the three-part definitive planning phase (DPP) of its interconnection queue — and those that have entered the DPP's first phase — at a 10% completion rate. Conventional and intermittent resources in phase two of the DPP will be counted at 50% and 25%, respectively, increasing to 75% and 50% in phase 3.

Projects still negotiating a generator interconnection agreement will be tallied at 90% completion, while those with signed agreements will be counted as new generation in the survey's weighted averages. The percentages represent a further refinement of the likelihood values introduced by MISO in November. (See *MISO Still Tweaking OMS Survey Assumptions*.)

In response to stakeholder questions about the relatively lower completion figures for intermittent resources, Westphal said the RTO has observed that conventional resources have higher rates of completion, "so we're reflecting that here in the numbers."

MISO will also apply its capacity credit percentages to the projections, with wind receiving a 15.6% credit, solar receiving 50% and all other resources receiving full capacity credit.

— Amanda Durish Cook

MISO NEWS

MISO, PJM Ponder Interregional Study

By Amanda Durish Cook

MISO and PJM will decide this spring whether to take another shot at a two-year coordinated system plan, which could result in the RTOs' first large-scale interregional project.

The grid operators' Joint RTO Planning Committee will make a decision by May 18 after discussing the issue at a March 30 meeting of the Interregional Planning Stakeholder Advisory Committee.

MISO and PJM staff last year already exchanged information on regional issues, market-to-market congestion, interconnection requests and newly approved projects near the RTOs' seam. Those details should help the joint planning committee — comprising MISO and PJM planning staff — decide whether to pursue the study, MISO interregional adviser Adam Solomon said during a Jan. 12 IPSAC conference call.

The RTOs are calling on stakeholders to email a list of seams issues by Feb. 28 for the March IPSAC meeting. According to their joint operating agreement, the two grid operators then have 45 days to announce a decision on pursuing a plan.

The RTOs' last coordinated system plan concluded in the fall without producing a viable interregional market efficiency project. One serious contender, a proposed 30-mile, 138-kV line near the Indiana-Illinois border, ultimately failed the joint 5% generation-to-load-distribution factor test, which requires each RTO to show that at least one of its generators has at least a 5% impact on the affected flowgate. (See *MISO, PJM Reverse Support for Lone Interregional Tx Project*.) Interregional market efficiency projects also must meet a 100-kV minimum voltage threshold and a 1.25-to-1 benefit-to-cost ratio based on each RTO's expected share of the project's total benefits.

Staff vowed to collaborate on ways to improve the coordinated system plan process after the study was concluded.

At EUCI's Transmission Expansion in the Midwest conference in December, several stakeholders and panelists said that an effective wind transmission network in the Midwest will eventually require large-scale interregional projects. (See *EUCI Panelists: Midwest Tx Plans Must Address Wind, Seams*.)

Regardless of the outcome of the coordinated plan, the proposal window for interregional market efficiency projects — required under FERC Order 1000 — opens in November 2018. Stakeholders have until February 2019 to submit project suggestions.

NYISO NEWS

New York Stakeholders Debate Carbon Policy 'Issue Tracks'

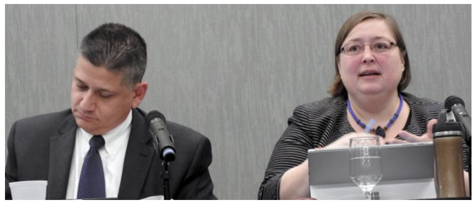
By Michael Kuser

ALBANY, N.Y. — Stakeholders last week debated a draft work plan for introducing carbon pricing in New York's wholesale electricity market.

Devised by the Integrating Public Policy Task Force (IPPTF) late last month, the plan consists of six "issue tracks" designed to generate stakeholder recommendations for pricing carbon into the market. The task force, which held its first technical conference Dec. 11, will next month begin meeting nearly every Monday over the course of the year to work through each track. (See *New York Hashes out Details of Carbon Policy*.)

The objective is to develop a firm proposal by December 2018 — if possible.

The issue tracks are the following:



IPPTF chairs Marco Padula and Nicole Bouchez | *© RTO Insider*

1. straw proposal development;
2. wholesale energy market mechanics (including "carbon leakage" and how to measure emissions);
3. policy mechanics;
4. interaction with other wholesale market processes (such as the capacity market);
5. interaction with other state policies (such as RGGI); and
6. impacts.

The task force will issue a final work plan by the end of January, said IPPTF co-chair Nicole Bouchez, a NYISO market design economist.

During the Jan. 8 meeting, attorney Kevin Lang of Couch White, representing New York City, quickly questioned the premise of the task force, contending that pricing carbon seemed to be a conclusion built in to the process.

"When will we talk about whether we will price carbon?" Lang said. "It's not just about how to do it, but whether this is the right way to go."

Co-chair Marco Padula, deputy director for market structure at the state's Department of Public Service (DPS), said Lang was moving too fast and that the whole point of a deeper analysis of the issue is to determine whether a carbon charge would work in New York.

Defining the Challenge

The first hour of last Monday's meeting was devoted to discussing Track 1 — developing a straw proposal for carbon pricing, which the IPPTF wants to complete by March.

"What is the rationale, what is the end goal

Continued on page 21

FERC Upholds New York Denial of Constitution Pipeline

By Michael Kuser

FERC on Thursday refused Constitution Pipeline's request to find that New York environmental regulators had failed to act in a timely manner on the company's water permit application (CP18-5).

The New York Department of Environmental Conservation rejected Constitution's application in April 2016, saying the company had not included sufficient information for the agency to determine whether its 124-mile natural gas pipeline met state water standards. The pipeline, originating in Susquehanna County, Penn., would deliver 650,000 dekatherms of gas per day.

Constitution asserted that the DEC had waived its authority under Section 401 of the Clean Water Act by failing to issue or deny a water quality certification for the project within the stipulated one-year "reasonable period of time," contending that a cycle of withdrawal and resubmission of its application had not changed the effective start date for the agency to act.

Though the company first submitted its application in August 2013, it withdrew and resubmitted it several times at the request of the DEC. It submitted its final application on April 27, 2015, and the DEC ruled on April 22 the next year.

In its Jan. 11 order, the commission said that "that once an application is withdrawn, no matter how formulaic or perfunctory the process of withdrawal and resubmission is, the refiling of an application restarts the one-year waiver period under Section 401(a)(1)."

The commissioners said they "continue to be concerned, however, that states and project sponsors that engage in repeated withdrawal and refiling of applications for water quality certifications are acting, in many cases, contrary to the public interest and to the spirit of the Clean Water Act by failing to provide reasonably expeditious state decisions. Even so, we do not conclude that the practice violates the letter of the statute."

FERC, however, also refused a formal hearing request by the Sierra Club and local environmental organizations Catskill Mountainkeeper and Riverkeeper, saying they raised "no material issue of fact that the commission cannot resolve on the basis of the written record." The groups wanted the commission to reconsider its 2014 approval of the pipeline.

Gov. Andrew Cuomo on Thursday issued a statement commending the commission "for ruling in favor of New York's efforts to prevent this project from moving forward," saying that "the Constitution Pipeline represented a threat to our water quality and our environment."

Last September, the commission ruled against the DEC on the same issue regarding the Millennium Pipeline, finding the agency had waived its authority by failing to act within the one-year time frame (CP16-17). (See *Environmentalists Denounce FERC Millennium Pipeline Ruling*.)

NYISO NEWS

New York Stakeholders Debate Carbon Policy 'Issue Tracks'

Continued from page 20

for carbon pricing as means to some end?" asked Benjamin Mandel, renewable energy policy adviser to New York City Mayor Bill de Blasio's Office of Sustainability. "We broadly suspect it relates to decarbonizing the energy supply, but as has been brought up multiple times by colleagues, there are concerns about whether this one policy instrument in isolation is sufficient to actually achieve that objective in certain locations within New York state."

NYISO Senior Vice President for Market Structures Rana Mukerji said he thinks the goal is for the state to get 50% of its power from renewable resources by 2030, which the status quo would attempt to achieve solely with renewable energy credits and zero-emissions credits.

"What we asked Brattle to do was to see, if we use carbon pricing in addition to REC and ZEC, whether you could get the same outcome in a more efficient manner," Mukerji said. "And you have the result of the Brattle analysis, which included impacts on a zonal basis. For Track 1 we'll have to see more questions on that, whether carbon pricing is indeed more efficient and cost effective when the [Brattle] study shows it was in the range of being cost-neutral."

Kelli Joseph, NRG Energy's director of market and regulatory affairs, said she was surprised by Mukerji's assessment "because if the goal is really [50% emissions reductions] by [2030], there are fundamental assumptions in that [Brattle] report that need to be challenged, including the marginal emission rate that is assumed over time. The state's goal of getting renewables on by 2030 will have much less carbon emission in the market and [Brattle is] assuming a 2015 system, and even in 2025 the system is not going to look like that."

Mark Reeder, an economist representing the Alliance for Clean Energy New York, said a much more detailed economic analysis would be needed: "We don't know what the price impacts are because we lack the analysis."

Sanity Check

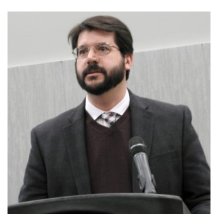
Bouchez hit the pause button, reminding meeting participants that "what started this was not the Brattle report [on carbon pricing], it was stakeholders asking if there was a better way of harmonizing wholesale electricity markets with state policy ... the fundamental question is, how do our wholesale markets interact with state policy and is there a way of making that a better interaction."

Greenberg Traurig attorney Doreen Saia said the Brattle report's limited review of the issues produced a favorable enough answer to compel NYISO and DPS to develop a proposal showing the benefits of carbon pricing.

"Is it fair to assume, to address the consternation of [stakeholders], that [when Track 1 is ready], you would start to look at the impacts associated with what the proposal does or does not produce, does or not provide, so that by June ... you can take a test — a sanity check — to see if where you're headed seems to be sufficient?" Saia asked.

Three Criteria and Transmission Need

Meeting participants also heard an evaluation of possible pricing mechanisms commissioned by DPS' Utility Intervention Unit (UIU).



Marc Montalvo | © RTO Insider

Speaking on behalf of the UIU, Marc Montalvo of Daymark Energy Advisors, who conducted the study, said the group determined three criteria for measuring the success of carbon pricing: strategic alignment, technical feasibility and cost effectiveness.

According to Montalvo, strategic alignment would ensure that a chosen approach furthers the overall public policy aims of reducing greenhouse gases and deploying new renewable energy resources. Technical feasibility would mean meeting minimum grid reliability standards, while cost effectiveness would yield the most benefit at the lowest cost.

The three criteria "allow you to whittle down through the potentially long menu of options in a very systematic way," Montalvo said.

The Brattle report wanted "to get a sense of [the] magnitude and direction if one were to implement a carbon charge with a certain structure, what would that mean for rate trajectory for consumers inside New York generally, as an aggregate," Montalvo said.

But now the exercise is to understand all the factors that actually contribute to the evolution of New York's power sector, the necessary investments in generation and transmission, the response of consumers to changing rates "and what … that [means] for the broader economic issues inside the state, and ultimately for the goals that we have around carbon dioxide emissions and renewable buildout," Montalvo said.

As a starting point, the UIU study ran a few sensitivities and hypothesized several scenarios in the years 2020, 2025 and 2030.

"One of the interesting things in looking at 2020 is that a lot of the dynamics that are built in to the model for 2025 don't show up by 2020 because it's two years away, so a lot of the market response is not yet motivated because there's not enough time for things to happen," Montalvo said.

Similarly, some of the issues around demand elasticity are a little different, depending on the year chosen, he said.

Under the model, 2020 is the year when prices tend to be highest and the impacts are greatest because the market has not had time to adjust to carbon pricing, Montalvo said.

"If one is to impose a carbon charge of this sort, is it appropriate and should one consider some kind of mechanism to transition the marketplace into it so you don't have a great disruption among certain sectors of the economy?" Montalvo asked.

"All other things being equal, there's a lot of economic interest in constructing a new plant, but there's really no way to connect that plant to load in the model," he said. "That's something to be aware of, that you can't just add generation to New York's power system without ever accommodating it with additional transmission and expect prices to go down uniformly across the region."

NYISO NEWS

FERC Grants NYISO 'Cold Snap' Offer Cap Waiver

By Michael Kuser

FERC last week allowed NYISO to temporarily waive energy offer caps in response to recent natural gas price spikes stemming from this winter's extreme cold snap in the Northeast.

The commission's order granted NYISO a limited waiver on incremental energy offer caps in both the real-time and day-ahead markets from Jan. 4 through Feb. 8, allowing generators to recover exceptional costs for procuring high-priced fuel (ER18-604).

"The waiver addresses the concrete problem that generators might be required to provide service to reliably serve load but without being able to recoup the incremental operating costs that they incur, which could discourage generators from offering service at a time when they are needed," the commission said.

In its Jan. 4 filing, the ISO noted that New York City temperatures were 24 degrees Fahrenheit below average early this month and that the resultant spike in natural gas prices could cause some generators' actual costs to exceed the offer restrictions.

In granting NYISO's request, the commission noted that such waivers will no longer be necessary at the end of this year when the ISO implements the reforms required by Order 831 "because these reforms are intended to provide for a long-term solution to the issues associated with NYISO's offer cap." Order 831, issued in November 2016, requires each RTO/ISO to cap a resource's incremental energy offer at the higher of \$1,000/MWh or its verified cost-based incremental energy offer, and cap verified cost-based incremental energy offers at \$2,000/MWh when calculating LMPs.

The commission said the ISO's Market Mitigation and Analysis Department will verify after-the-fact analysis of costs submitted by generators. It directed NYISO to file by March 28 the total amount of energy that received compensation under the terms of the instant waiver; the related costs in total and on a unit cost basis; and a list of rejected requests for compensation under the waiver and why the ISO rejected them.

Record Cold, Record Gas Pull

NYISO noted that Jan. 5 day-ahead natural gas prices at the Transco Z6 NY hub exceeded \$48.99/MMBtu, "more than double the highest price posted for that hub in 2016 and 2017, and more than five times the highest price seen at the Transco Z6 NY hub in January or February of 2017."

Gas prices at the hub exceeded \$100/MMBtu on Jan. 6, after NYISO submitted its filing.

John F. Kennedy International Airport set a record low of 8 degrees on Jan. 6 and several ski resorts in Vermont shut down that day because of wind chill factors as low as minus 50.

According to the Energy Information Administration, during the recent cold snap, more natural gas was withdrawn from storage fields around the country than at any other point in history: "Net withdrawals from natural gas storage totaled 359 Bcf for the week ending Jan. 5, exceeding the previous record of 288 Bcf set four years ago."

FERC Blocks FirstEnergy Sale of Merchant Plant to Affiliate

By Rory D. Sweeney

FERC last week denied FirstEnergy's request to transfer ownership of a struggling coal-fired merchant generator to a regulated affiliate, saying the deal isn't in the public interest because it resulted from an "overly narrow" solicitation (EC17-88).

The affiliates argued that the transaction was ostensibly exempt from meeting a rule prohibiting cross-subsidization because it must also be approved by the West Virginia Public Service Commission, but FERC said that didn't satisfy necessary standards.

"Applicants have provided no evidence that any ratepayer protections regarding cross subsidies are proposed in the proceeding before the West Virginia commission," FERC wrote.

RFP

The issue dates to March 2017, when FirstEnergy merchant affiliate Allegheny Energy Supply requested permission to transfer ownership of the 1,159-MW Pleasants Power Station to Monongahela Power, with the latter assuming a $142 million obligation for pollution controls Allegheny installed at the plant.

Mon Power is a regulated utility in northern West Virginia, where Pleasants is located. The utility issued a request for proposals to acquire approximately 1,300 MW of unforced capacity and up to 100 MW of demand response in PJM's Allegheny Power Systems zone after its 2015 integrated resource plan indicated it would begin having a capacity shortfall in 2016. Charles River Associates, which managed the RFP, identified 28 suitable prospects and recommended acquiring the Pleasants facility, located in Willow Island, W.Va.

Restrictive Requirements

FERC said the RFP was "overly narrow … because the stated objective could have been achieved if the RFP considered [power purchase agreements] and resources that were outside of the APS zone."

Mon Power's requirement that it acquire facilities — because of the "increased control and flexibility asset ownership affords," it said — could instead have been an evaluation factor, "rather than eliminating from consideration an entire class of offers that could have been used." The commission said two bids for PPAs that weren't evaluated showed "the desire of bidders to offer PPAs."

Pleasants Power Station

The utility had argued that getting a resource in the APS zone "eliminated" the risk of incurring Capacity Performance penalties because PJM allows resource performance to be netted within zones. But FERC called that risk "rare," making the limitation "overly restrictive."

FERC also criticized the RFP's evaluation method for lacking transparent scoring criteria; announcing a preference for facilities that "can be cost-effectively and efficiently incorporated" into Mon Power's existing "operating and corporate frameworks;" and using a 15-year net present value metric.

"While we acknowledge that the estimates of future expenses and revenues become more uncertain the further into the future that they are projected, and that the NPV contribution of the years beyond 15 is less important than those within the evaluation period due to discounting, ignoring those future years nevertheless would give advantage to a facility with a low purchase price and higher future costs, such as the affiliated Pleasants facility," the commission found. "An NPV calculation that calculates the total value of the proposal, including a terminal value, would more closely capture the comparable economics of each proposal."

Guidance

The commissioners also provided guidance for how Mon Power should have conducted the solicitation.

"While we appreciate and recognize Mon Power's legitimate need to address a potential capacity shortfall and to provide for its future capacity and energy needs, it should do so in a way that provides non-affiliate competing suppliers with the same opportunity as an affiliate to meet the utility's needs," the commission said.

It disagreed with arguments questioning the need for generation or the accuracy of the load forecasts in Mon Power's IRP, which it said is the role of the state PSC. FERC also dismissed concerns about Charles River's independence and the restrictiveness of submission timelines.

Consumer advocates and environmental activists had opposed the proposal.

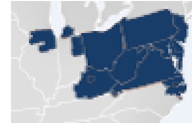
The West Virginia Consumer Advocate said the deal was an attempt to relieve Allegheny of "an aging coal plant that is no longer economic in the PJM" markets.

"In this decision, the FERC commissioners — four of whom were appointed by the current president — unanimously rejected a brazen attempt to force Mon Power … customers to guarantee profits for FirstEnergy and its shareholders," said Earthjustice attorney Michael Soules. "This is a major victory for West Virginia customers, who would have likely paid hundreds of millions of dollars if FirstEnergy's scheme had succeeded."

FirstEnergy spokesman Todd Meyers said the company believes "the decision does not recognize the benefits this vital transaction would bring to our West Virginia customers, including reliable electricity and reduced electric rates, along with creating additional benefits for West Virginia's economy."

"We will thoroughly review FERC's order and carefully evaluate our next options," Meyers added.

PJM News



OC Briefs

Grid Survives Cold Snap

VALLEY FORGE, Pa. — PJM's Chris Pilong and Joe Ciabattoni told the Operating Committee last week that the RTO's generation fleet passed muster during the recent cold snap despite several of the highest winter daily demand peaks it has ever seen.

Pilong reviewed operational events from last month, which included four high system voltage alerts in November and 11 cold weather alerts in December that began on Christmas morning and persisted through to this year. He said it was "probably the longest cold stretch ... I've seen," but that "everything went very smoothly."

"Our system operators were able to do a great job thanks to your operators," he said.

The evening peak load of 138,465 MW on Jan. 5 came within 5,250 MW of PJM's winter peak record set on Feb. 20, 2015. Throughout the first week of the year, coal generation accounted for nearly 40% of the output, with nuclear and gas each producing about a quarter of the supply, which Pilong called "a fairly consistent story for the fuel mix."

He acknowledged there was "a higher volume of oil than would typically be seen" at between 9,000 and 14,000 MW for the week, caused by gas-fired units switching to alternative oil supplies.

"The higher gas prices [were] making coal and oil a little more economic," he said.

Unplanned outages hovered around 8% until the wind picked up at the end of the week and unplanned outages increased to 22,906 MW, or 11.5%, on Jan. 6, Ciabattoni said. Of that, 9,220 MW (40%) were gas units with operating problems and 3,143 MW (14%) were gas units reporting supply issues. Except for Midwestern hubs around Chicago, gas prices throughout the RTO spiked to more than $80/MMBtu on Jan. 5, with some above $120/MMBtu. The data were preliminary and came from PJM's eDART self-reporting system. RTO staff communicate with unit operators to confirm the details of reported issues, Ciabattoni said.

PJM's Manual 13 anticipates that 8,000 to 10,000 MW of forced outages are expected during such conditions, Pilong said. There was a "similar uptick" during the 2014 situation often referred to as the "polar vortex," he said, but the difference was that there was really "no advanced notice" in 2014. Staff had to call on 2 MW of generation for every 1 actually needed, he said, because "it was a 50/50 shot that we would get it."

"So even two hours' notice allows us to change our plans," he said.

Ciabattoni noted that December outages — both generation and transmission — were down slightly year-over-year. The load forecasting error was higher than December 2016 — 2.54% on-peak and 2.18% off-peak compared to 2.09% and 2.14%, respectively — but the RTO average error of 2.36% was still within the 3% target. There was an outlier of nearly 5% on Dec. 22.

"Is 3% right [as the target]? I'm not sure that it is, but we've been using it for a while," PJM's Mike Bryson said in response to a stakeholder question, adding that "we're very open to using another metric."

Staff explained that the calculation is the compilation of the absolute value of the error between each day's hourly peak and the forecast from eight hours previous. Forecast development begins up to seven days ahead of time with wind chill and other weather expectations and can be adjusted up to an hour ahead of delivery.

Balancing authority area control error limit (BAAL) performance remained at 99.8% from November through December. Both the number and total time of excursions outside the target limits were near yearly lows in December.

> **"The higher gas prices [were] making coal and oil a little more economic."**
>
> **Chris Pilong, PJM**

Black Start RFP Opens in February

PJM's David Schweizer discussed the timeline for the RTO's five-year black start request for proposals, which will open Feb. 1 with a pre-bid web conference scheduled for Feb. 6. Participants will have until March 8 to submit basic proposals, on which PJM will provide responses by March 30.

"We're looking very heavily at fuel assurance as an evaluation component," Schweizer said.

Final proposals will be due May 31, and Schweizer said applicants should expect to start seeing awards soon thereafter.

"We're going to do a lot of this [analysis] in parallel, so we're not going to get to the end and post the awards," he said. "We will award the black start service as we run through the plans."

Generation Transfer Seen as Overly Lengthy

Stakeholders endorsed changes to how generation ownership is transferred despite a concern about PJM's requirement that owners submit initial information 45 days ahead of the transfer.

PJM's Rebecca Stadelmeyer, who is overseeing the proposed changes, estimated that the initial information is about 65% of the amount needed for the RTO to ensure "what the member is seeking to do is reflected in our systems." She said she wanted to avoid last-minute problems.

"That has occurred more than I want to count," she said.

Chris O'Hara, PJM deputy general counsel, said 45 days is "a rational amount."

"It's not as simple as switching a toggle switch on an account," he said.

Committee Changes

Ken Seiler, who chairs the OC, is switching jobs with Paul McGlynn, who chairs the Planning Committee. February will be Seiler's last month chairing the OC. Dave Souder will then run the committee until McGlynn takes over.

— Rory D. Sweeney

PJM NEWS

MIC Briefs

Fast-Start NOPR Changes

VALLEY FORGE, Pa. — PJM's Tim Horger provided an update on the RTO's efforts to comply with FERC's plan on fast-start pricing at last week's Market Implementation Committee meeting. The commission last month withdrew its Notice of Proposed Rulemaking on fast-start pricing because it said a uniform set of requirements isn't appropriate for all RTOs and ISOs. Instead, it called on PJM, SPP and NYISO to make changes. (See *FERC Drops Fast-Start NOPR; Orders PJM, SPP, NYISO Changes*.)

Horger said PJM's initial response is due Feb. 12 and that a final order is expected on Sept. 30. FERC indicated that PJM should:

- Allow for relaxation of all fast-start resources' economic minimum operating limits by up to 100%, such that the resources are considered dispatchable from zero to their economic maximum operating limit for the purposes of setting prices;
- Apply the relaxation of a resource's economic minimum operating limit to all fast-start resources, not just block-loaded fast-start resources;
- Consider fast-start resources within dispatch in a way that is consistent with minimizing production costs, subject to appropriate operational and reliability constraints;
- Modify pricing logic to allow the commitment costs of fast-start resources to be reflected in prices;
- Include in the definition of fast-start resources a requirement that those resources have a minimum run time of one hour or less;
- Include in the definition of fast-start resources a requirement that those resources be able to start up within one hour or less; and
- Set forth its rules and practices regarding the pricing of fast-start resources.

Horger said PJM plans to "generally support" the suggestions and provide additional feedback, including the definition of "fast start." It will also supply recommendations on the relaxation method between economic minimum and "integer relaxation" — a pricing method designed to minimize uplift costs.

Day-Ahead Market LMP Confusion

Horger also provided an explanation of a situation that created stakeholder confusion when PJM announced it planned to revise day-ahead market LMPs, then retracted that plan: The aggregate percentages for the IMO interface — the pricing point between PJM and Ontario's Independent Electricity System Operator — for Dec. 26 to 30 were "slightly off."

Upon further review, staff determined that the issue was minimal and didn't violate the Tariff, so they decided to retain the original values instead of disturbing the market.

Stakeholders pointed out that PJM's series of communications, which initially said a change would be made before later reversing that decision, was confusing.

> ***"Your feedback in on target. ... We probably caused some confusion by jumping the gun."***
>
> **Stu Bresler, PJM**

"Your feedback is on target. ... We probably caused some confusion by jumping the gun," PJM's Stu Bresler said.

The normal process would be to announce that an issue was found and then later announce revisions will be made once the determination is complete, he said, instead of announcing them both initially.

"Historically, when we think a situation is cut and dry, we combine the first two steps: announcing the issue and saying we're going to change things," he explained. "We should have issued the notification that we found something, but not" the announcement that changes would be made.

Market Impacts of Cold Weather

PJM's Joe Ciabattoni told stakeholders to expect more uplift from the cold snap that occurred over the holiday break, but "nothing near" the market impacts from the cold streak in 2014 known as "the polar vortex."

"We had a couple of $2 million days," he said, but "I don't think that the magnitude will be anything near what we saw in the polar vortex" when there were days of $86 million and $50 million. The difference this time, he said, was that the cold temperatures were sustained.

"In 2014 and 2015, the temperatures were more extreme, though not as long of a time frame," he said.

Unplanned outages began to "crop up" near the end of the cold period on Jan. 6, but conditions never triggered requirements that maintenance outages close out within 72 hours. Ciabattoni said there were "plenty" of new 30-minute reserves measurements developed to help address gas pipeline contingencies.

"We're getting [outage] tickets in early, as opposed to the polar vortex, when we were surprised by some outages," he said.

FTR Nodal Remapping

Stakeholders approved a problem statement and issue charge on remapping financial transmission rights nodes. PJM's Brian Chmielewski explained that the nodes where FTRs begin or end can be terminated based on changes in load, generation or system topology. When that happens, an "electrically equivalent" node must be identified to replace the terminated one. PJM's current process for that search "may not guarantee an optimum substitute" that provides the same economic value and might lack transparency.

Direct Energy's Marji Philips expressed concern with the wording of the problem statement.

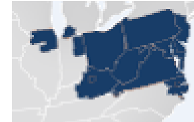
"The problem is if PJM can't find [an electrically equivalent node], it just flat out terminates the FTR," she said. "I'm not sure the statement actually captures that."

Rules Endorsed for Enforcing Regulator Requirements on EE

With three abstentions, stakeholders endorsed rule changes that will allow state and local regulators to manage energy efficiency participation within their jurisdiction if they receive FERC approval.

PJM's Pete Langbein explained the process, which stems from a December ruling in which FERC established its "exclusive authority" over EE participation in wholesale markets while also preserving a carveout it had previously approved for Kentucky utilities. (See *FERC Claims Jurisdiction on EE, OKs Ky. Opt-Out*.)

Continued on page 26



MIC Briefs

Continued from page 25

Under the new process, PJM must alert all affected electric distribution companies about the impact of any such FERC approvals. EE that cleared the auction but isn't allowed to deliver into a particular jurisdiction may be relieved of the commitment. EE providers will need to itemize deliveries in American Electric Power and Duke Energy zones whether or not they are in Kentucky. EDCs will review a list of whether that provider is allowed to deliver in Kentucky based on the relevant regulators.

Financial Traders Question IMM on Long-Term FTR Concerns

Seth Hayik of Monitoring Analytics, PJM's Independent Market Monitor, presented analysis of data that the Monitor argues show that long-term FTRs aren't improving the market. Financial stakeholders, who trade in the long-term FTR markets, questioned the findings.

Long-term FTRs, which are available for each of the next three planning years or a combination of all three, are intended to provide hedges for transmission congestion by reflecting the conditions expected in the future situations.

"They're not reliable," Hayik said. "What comes out of the long-term FTR modeling doesn't necessarily reflect what's going to" happen. PJM has taken steps to correct what it could in the model for the nearest planning year, but "I don't know that there is a solution for those models" for the subsequent years, he said.

Financial traders acknowledged that the risk of erroneous predictions is intrinsic to forward markets.

"Generally, forward markets are forward markets, and you buy in those markets without perfect vision of what will happen when those become spot markets," Vitol's Joe Wadsworth said. "That's true of any future market. You don't have foresight into what could go right or could go wrong in those markets. You make your decision on value."

"Look how competitive the markets have become," DC Energy's Bruce Bleiweis said. "That's the evolution of a market; they become more and more competitive over time."

The Monitor said prices have really been driven down by 50% reductions in line congestion, but Bleiweis said its data showed that market alignment has improved by 90%. He credited the long-term FTR market for the additional improvement.

Philips said it's too early to make conclusions.

"We support what [the Monitor] is doing," she said. "We would like to understand the impacts."

Monitor Joe Bowring said better market structure in the single-year products "doesn't mean the outcomes are competitive, and the outcomes are what we need to focus on."

"In a competitive market, we would expect to see the excess profits competed away, but that has not happened," he said.

Stakeholders Battle PJM, Monitor on Market Path Alignment

Stakeholders continued to criticize proposals by PJM and the Monitor on a rule for evaluating designated market paths for energy sales coming into the RTO. The members have called for caveats that would allow them to explain their reasoning for paths PJM or the Monitor find questionable.

Along with their existing joint proposal, PJM introduced one that didn't include Monitor endorsement. It excludes applying the rule to scheduled long-term path activity — annual, monthly or weekly — but allows for "potential referral" to FERC enforcement if "manipulative behavior" is suspected.

The proposal placated no one.

"The whole point of the original proposal was to have a rule. If there is no enforceable rule … then the rule is meaningless," Bowring said. "I think the point of the rule is clear: It's to prevent one participant from taking actions at the same time in different directions, explicitly manipulating the market."

"They're not reliable. What comes out of the long-term FTR modeling doesn't necessarily reflect what's going to" happen.

Seth Hayik, Monitoring Analytics

American Electric Power's Brock Ondayko complained that the proposals seemed to tell participants "you can't do this transaction because when we put it together with your other transactions, we see this grander transaction and that's not allowed even though it might make complete financial sense to do that."

"I don't think we're going to be very supportive of the idea of just prohibiting paths and referring people" or immediately resettling transactions because stakeholders could "get caught in a net," said Carl Johnson, who represents the PJM Public Power Coalition.

Bowring assured that there's no "automatic referring" in the joint proposal, but he reiterated that a definitive rule is necessary. "These can occur and will occur if permitted. We know that for a fact," he said.

"A lot of what PJM [and the Monitor are] suggesting they're going to do is discriminatory," said Stephen Kelly of Brookfield Energy Marketing. "Every other company in this room is able to do that transaction."

He called for allowing stakeholders "to present hard evidence … that these are separate transactions" based on different strategies. "We don't think that's asking too much."

Emergency Pipeline Switching Instructions Sparks Rights Debate

PJM's Rich Brown presented a proposed problem statement and issue charge on fuel switching that sparked pushback from stakeholders.

The proposal focuses on how gas-fired generators should be compensated if PJM orders them to switch to alternative fuel sources, such as backup oil or a different pipeline. Gas-fired operators argued that PJM's plan would disincentivize flexibility and fails to recognize or sufficiently compensate operators who have paid extra for guaranteed pipeline capacity.

Being forced to switch fuel sources can decrease unit performance and increase the risk of the plant tripping off, Calpine's David

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PJM NEWS

PC/TEAC Briefs

Cost Cap Discussion Continues

VALLEY FORGE, Pa. — Despite stakeholder requests, PJM remains disinclined to create procedures to analyze any other cost containment guarantees beyond construction cost caps, the RTO's Sue Glatz said at last week's Planning Committee meeting.

The issue arose during a discussion of proposed changes to Manual 14F that would allow PJM to consider construction cost caps, for which the RTO was seeking stakeholder endorsement. The position created an unusual endorsement vote, which had to be manually counted.

"This is representative of what we've decided we're doing now," PJM's Steve Herling said.

The proposal passed with 83 votes in favor, one abstention and 27 votes in opposition, the last of which included LS Power, the Consumer Advocates of the PJM States (CAPS), the PJM Industrial Customer Coalition, American Municipal Power and the Public Power Association of New Jersey.

LS Power's Sharon Segner was concerned that PJM seemed to have changed its stance from limiting itself to only enforcing construction cost caps because they provide the best opportunity for controlling costs, to deciding it doesn't have the legal authority to consider other parts of proposals, such as return on equity.

"We think that PJM does have the legal authority. It's really an issue of will," Segner said.

"We don't have the ability to enforce all those other elements. Those are regulatory decisions, and they have to be enforced through regulatory processes. We have the legal authority to do whatever FERC tells us to do," Herling said. "We believe … based on our perception and our opinion that the most value is in capping the construction costs. … We'll see what FERC says."

"Any limit to cost caps … limits the benefit that customers can receive," AMP's Ryan Dolan said.

"We certainly want [PJM] more involved in this process," said Greg Poulos, executive director of CAPS.

Planning Modeling Update

PJM's Alex Worcester informed stakeholders that the Trial 3B cases and contingency errors from the Regional Transmission Expansion Plan were sent to transmission owners Jan. 5 and that all "pre-final" RTEP cases will need to be delivered to the transmission planning division by Feb. 1. Pre-final cases for 2020 RTEP short circuits were sent to TOs on Dec. 22. Final cases will be sent today, along with draft 2023 cases. TO feedback is due Jan. 23, with the pre-final case sent back to TOs on Jan. 29.

Interconnection Agreements

PJM's proposal to add another installment to its Manual 14 series created concerns for some stakeholders. The RTO is planning to move some information from Manual 14A into a new Manual 14G focused on generation interconnection requests.

The RTO would also change some procedures, including adding a clarification that developers that subdivide a project into multiple projects behind a point of interconnection (POI) will have one interconnection agreement with PJM and a single entity controlling the POI. This change would require all projects to be grouped into a single company, or move the POI closer to each cluster of generating units, rather than grouping them all together.

"Moving the point of interconnection gives us pause in a couple of areas," said John Brodbeck of EDP Renewables. He noted additional construction work and coordination "that adds a whole series of risks," along with questions about who owns and operates the interconnection lines and whether that entity has regulatory obligations.

"We don't know why PJM wants to move away from the shared facilities agreement. It works for us, and it seemed to work for you," he said.

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MIC Briefs

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"Scarp" Scarpignato said, so "I'm actually being put in a worse situation for being more flexible."

PJM's Chantal Hendrzak acknowledged the RTO might need to identify other "attributes" for which generators should be compensated.

"There's a recognition to do that," she said. "It's something that we realize that we need to talk about, but not only talk about, but figure out how to do."

"In general, what you're trying to do is a good thing," said John Horstmann of Dayton Power & Light. "Given the fact that you've never done this before … what is the rush? … It looks like a short-term reaction with some big implications for generation-ownership rights and financial risk that are unresolved."

"We have learned a lot," Brown said. "As we educate ourselves, that has led us to operationalizing gas contingencies."

Putting it all together, Hendrzak said, "that conversation might take a while."

Bowring called the proposal "very reminiscent of cost-of-service in its worst sense. ... This approach relies on command and control rather than market forces."

"I would ask you to put the market design elements into this," he said. "How to get gas constraints into the market, that's the real issue."

Other stakeholders questioned who would pay for the additional compensation.

"We don't think the costs should be on load," said Dave Mabry, who represents the PJM Industrial Customer Coalition. The costs should be on the generators who don't have guaranteed service to ensure "we are incenting folks to get the fuel supply they need and firm that up if necessary."

Citigroup Energy's Barry Trayers noted that the Capacity Performance rules and payments were designed to handle those needs.

PJM staff said they are in contact with pipeline companies to discuss these issues but stopped short of confirming they will be involved in the stakeholder process.

"It would be great if we could get some participation in the stakeholder meetings," Hendrzak said. "I'm not sure if that will actually happen."

— Rory D. Sweeney

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PJM's Lisa Krizenoskas said the current process creates unnecessary complexity in the contracts and is administratively burdensome because all the agreements have to be updated to reflect later changes. There are also differences in requirements that can be hard to measure.

Brodbeck asked that PJM assure that requests already in the interconnection queue be able to retain their single interconnection agreement.

High-Voltage Solution in Dominion Zone Draws Questions

PJM's plan to address high-voltage issues in southern Virginia by installing two static synchronous compensators, known as STATCOMs, raised eyebrows among some stakeholders who questioned whether cheaper alternatives were available. A STATCOM is an AC network regulating device that can act as either a source or sink of reactive power.

"I'm just looking at it trying to determine if we are we adding options that we don't really need," said Dave Mabry, who represents the PJM Industrial Customers Coalition.

Dolan asked why "optimally" sized shunt reactors weren't used instead.

"Switching of reactors is a pretty disturbing system event," PJM's Mark Sims explained. "We don't consider the reactors in this situation to be a solution, which is why we're recommending STATCOMs."

"The bottom line is the reactor is not an acceptable solution," Dominion Energy's Ronnie Bailey said. "I don't care how many you want to put on the system. … Can it meet the performance required for the job? It cannot meet the performance."

Sims said that STATCOMs provide a "larger dynamically variable device." The project is expected to cost $100 million.

PSE&G Project Sparks Prudency Debate

A $546 million project from Public Service Electric and Gas to replace a 50-mile 230-kV line in western New Jersey continued to cause debate at last week's Transmission Expansion Advisory Committee meeting.

According to PSE&G, the facilities have reached their end of life based on FERC Form 715 criteria and condition assessments, but Dolan and Ed Tatum, also with AMP, questioned how those determinations were made. AMP argued that there's no standardized analysis for others to confirm PSE&G's findings, nor any scenario planning to determine if more or less construction is the best route.

PSE&G and PJM agreed the line can't be removed completely, nor can it be determined — with several southern New Jersey generator closures imminent — what the future power flow will look like.

"We're property constrained. We have a right of way. To do something out of that right of way would be cost prohibitive, and we can't do nothing," PSE&G's Alex Stern said.

"If it goes away, you could lose it forever," Sims said. "We're going to build it to double [circuit]; we're going to string one circuit, then we're going to wait and see."

"If we're accounting for scenarios, we should study for those scenarios," Dolan said. "If the line's loading [above its rating] … I'm not going to question that [prudence]. I'm just saying show it to us."

Other stakeholders agreed that the right of way must be maintained.

"I like scenario planning, but it's hard to get corridors, especially in New Jersey," Calpine's David "Scarp" Scarpignato said. "It seems prudent to me. I think it saves ratepayers money in the long run."

Dolan expressed concern that PSE&G is "gold plating" the system. PJM's Paul McGlynn said TOs have criteria that they build to.

"You can just thank me for my comment on this one and move on: My sense is you guys haven't gotten all your homework done on this one," Tatum said.

"OK. Thank you for your comment," Sims responded.

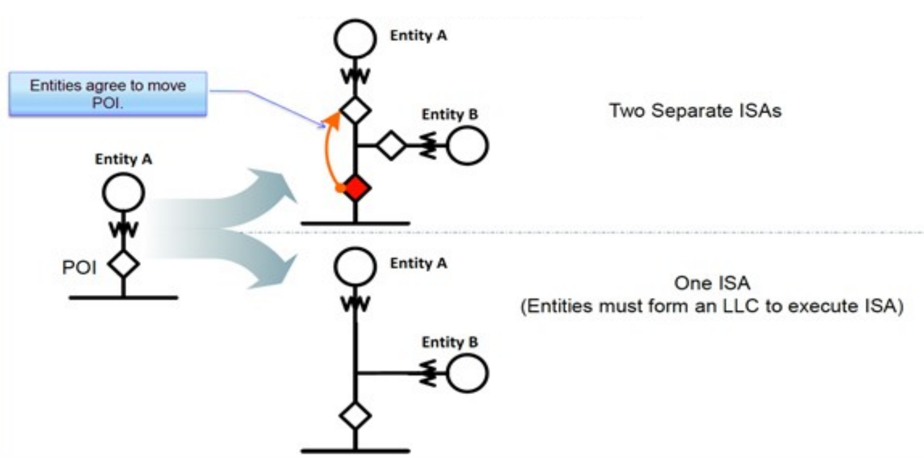
"This is a 90-year-old line," Stern said. "To say that it's not prudent, that we're gold-plating or that we haven't done our homework borders on the absurd."

PSE&G also addressed questions about whether it delayed presenting the project until it was needed immediately. The question arose from pictures of structural issues on the line that are dated from 2013. PSE&G said that year it did foundation-condition assessments in accordance with its maintenance practices. It reviewed the structure foundations and fixed any issues. However, the analysis confirming the end of life for the tower structures occurred after that and was only recently completed.

The project will be presented to the PJM Board of Managers for approval at its February meeting. Tatum asked if his remaining questions would get answered before the meeting. McGlynn said PJM would attempt to do so.

"I don't think there's any outstanding questions … is the facility at the end of its life or not," Sims said. "It doesn't change the need for the project or what we're going to present to the board."

— Rory D. Sweeney



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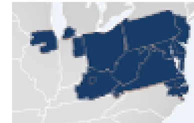
PJM NEWS



FERC: PJM Uplift Proposal for UTCs Falls Short

By Rory D. Sweeney

FERC last week rejected a key part of PJM's controversial proposal to reallocate uplift costs, saying it had failed to justify its plan to begin charging up-to-congestion (UTC) transactions (ER18-86).

The order addresses Phase 2 of a three-phase proposal by PJM to address how to spread the costs associated with uplift more equitably. PJM proposed allocating uplift to UTCs in the same way it is applied to incremental supply offers (INCs) and decrement demand bids (DECs). INCs receive balancing — or real-time — operating reserves. DECs, which are treated like demand, are allocated both balancing reserves and day-ahead operating reserves because they allocated equally to demand bids and exports.

UTCs aren't allocated any uplift because they were originally created as a way for market participants wheeling power through PJM to hedge against real-time congestion. They later evolved into purely financial products through a series of market rule changes, prompting FERC to open a Section 206 proceeding in 2014 to determine whether they were being improperly favored compared with other virtual transactions. (See *FERC Orders Review of UTC Rules*.)

Following a lengthy stakeholder proceeding that failed to produce a consensus proposal, PJM proposed treating UTCs as a separate INC and DEC, with the source side receiving balancing operating reserves and the sink side being allocated day-ahead and balancing operating reserves.

No Justification

PJM argued that although UTCs can change what resources are committed in the day-ahead market and therefore affect uplift, it was "effectively impossible" to measure the impact of individual transactions.

But FERC said because the RTO had "not attempted to quantify the approximate magnitude of UTCs' impact," the filing lacked justification for the proposed cost allocation.

"We find that PJM has not adequately justified its supposition that UTCs behave in the markets with sufficient similarity to paired INCs and DECs to support allocating uplift to UTCs in the same way it allocates uplift to INCs and DECs," the commission wrote. "While PJM claims that its proposal treats UTCs equivalently to INCs and DECs, we find that the proposal essentially allocates uplift to a UTC twice because the proposed allocation methodology would allocate uplift to a UTC as if it were instead a separate INC transaction and a separate DEC transaction."

Commissioners also questioned the argument that UTCs are identical to a combined INC and DEC because the latter clear the market separately — "allowing for the possibility that one side of a pair may not clear" — while UTCs clear as a whole.

Uplift Proposal not Dead

While FERC shut the door on this proposal, it remained open to an alternative method for allocating uplift to UTCs, saying, "We recognize that it may be appropriate to allocate some uplift costs to UTCs."

Proponents of the proposal, including PJM's Independent Market Monitor, had argued that UTCs carry comparatively lower costs per transaction than do INCs and DECs but are not exposed to the same energy pricing risk, fueling their growth to 80% of the virtual transaction market.

Reaction

Monitor Joe Bowring found hope in the commission's ruling.

"The IMM is disappointed in the commission decision but is encouraged by the commission's openness to UTCs paying uplift," Bowring said in an emailed statement. "It is clear that the current rules, which entirely exempt UTCs from paying uplift, provide a noncompetitive advantage to UTCs over other virtual trading instruments, as evidenced by the fact that UTCs have pushed the other instruments almost completely out of the market. Any proposal to continue a noncompetitive advantage for UTCs, even a reduced one, will not resolve the market design problem."

Ruta Skucas, who represents the Financial Marketers Coalition, said members are "thrilled" by the ruling but frustrated that PJM's stakeholder process did not pre-emptively address FERC's concerns. (See *PJM MRC OKs Uplift Solution over Financial Marketers' Opposition*.)

"We think FERC made the right call," she said. "We also wish that conversations with PJM and the stakeholders would have been more productive over the five years of the [Energy Market Uplift Senior Task Force]. We spent the better part of two years arguing that a double deviation could not possibly be just and reasonable, instead of working on more productive solutions."

COMPANY BRIEFS

SPP RE Trustee Burrows Dies


Burrows

Industry veteran Gerry Burrows, a trustee for SPP's Regional Entity, died Jan. 9 after a battle with cancer. Burrows, of Grain Valley, Mo., was re-elected to the RE's Board of Trustees in October. He had been a trustee since 2007, shortly after his retirement from Kansas City Power & Light.

A professional engineer, Burrows began his career in 1971 with KCP&L. Burrows served on several SPP stakeholder groups, and represented the RTO and the Edison Electric Institute on the NERC Operating Committee. He was also a member of NERC's Functional Model Working Group and Reliability Assessment Committee, and a standards drafting team leader.

"Gerry always represented his company, KCP&L, his regional association, SPP, and finally his position as a Regional Entity trustee with thoughtful and well-balanced inputs," said SPP RE President Ron Ciesiel, whose paths crossed with Burrows' for more than 25 years. "He was a friend to the SPP RE staff and we will miss him going into the future."

SCANA Seeks Dismissal of Lawsuits over Failed Nuclear Project

SCANA on Jan. 7 asked a South Carolina Circuit Court judge to dismiss five class-action lawsuits filed against it over its handling of the failed nuclear project at the V.C. Summer station.

The utility's attorneys argued that the lawsuits should be decided by the South Carolina Public Service Commission, which along with South Carolina's legislature are scheduled to deliberate who should pay for the $9 billion failure.

More: *The Post and Courier*

Eversource Completes Sale Of Fossil Plants in NH

Eversource NH said Jan. 10 that it has completed the sale of three fossil fuel generation plants and two combustion turbines in New Hampshire for $175 million.

Granite Shore Power, which is a partnership between Atlas Holdings and Castleton Commodities International, will continue to operate the plants and turbines.

Eversource is selling its New Hampshire generation assets to comply with an effort by regulators to split generation from distribution in the state.

More: *New Hampshire Union Leader*

Energy Storage Association Hires Gillett, Promotes Burwen


Gillett

The Energy Storage Association has hired Marissa Paslick Gillett to be its vice president of external relations and promoted Jason Burwen to vice president of policy.

Gillett comes from the Maryland Public Service Commission, where she was senior adviser to the chairman. Burwen was ESA director of policy.

More: *Energy Storage Association*

Fire Breaks out at FirstEnergy's Bruce Mansfield Plant

A fire at FirstEnergy's Bruce Mansfield Power Plant in Shippingport, Pa., drew crews from 20 fire departments the morning of Jan. 10. A FirstEnergy spokesperson said the fire didn't hurt anyone or create any environmental safety issues.

More: *WPXI*

Downed NIPSCO Transmission Line Shuts down Interstate Highway

A Northern Indiana Public Service Co. transmission line dropped onto Interstate 80/94 in northwest Indiana on Jan. 10, forcing the road to be shut and blacking out 5,000 customers in Gary and Hammond.

An investigation showed that an insulator failed because of severe weather, causing the line to drop. Investigators think a driver caught the line and dragged it down the road, breaking the pole to which the insulator was attached.

The highway was closed at 8:30 a.m. All lanes were reopened at 1:15 p.m.

More: *WLS*

Cold Snap Triggers New Winter Peak for Duke Indiana

Duke Energy Indiana on Jan. 10 reported an unofficial new winter peak of nearly 7.3 GWh, occurring in the hour ending 9 a.m. on Jan. 2, when much of the country was experiencing an arctic blast.

The company's previous winter peak of a little more than 7.2 GWh occurred on Jan. 6, 2014.

More: *Duke Energy*

NRC Says NuScale's Reactor Doesn't Need Safety Power

NuScale Power said the Nuclear Regulatory Commission has concluded that the design of its small modular reactor negates the need for safety power for the reactor.

The company said that the conclusion, which only applies to the design, is a key step in the agency's review of its Power Module design certification application.

The commission's review of NuScale's application began last March. NuScale expects the agency's final report approving the design of its small modular reactor to be completed by September 2020.

More: *NuScale Power*

EEI Promotes Three To Vice President

The Edison Electric Institute said its board of directors approved the promotions of three executive directors to vice presidents at its winter meeting.

Scott Aaronson was named vice president of security and preparedness. Aaronson had been executive director of security and business continuity. Stephanie Voyda, who had been executive director of communica-

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COMPANY BRIEFS

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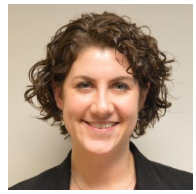
tions, was promoted to vice president of communications.

Lisa Wood was promoted to vice president of customer solutions. She had been executive director of the Institute for Electric Innovation and vice president of the Edison Foundation.

More: *Edison Electric Institute*

Byrnett Named Director Of NARUC's Research Lab



Byrnett

Danielle Sass Byrnett has been named director of the National Association of Regulatory Utility Commissioners' domestic grants and research department, also known as the Research Lab.

Byrnett will manage a three-person team that carries out grant-funded projects and provides training, technical assistance and research programs to NARUC and its members.

Byrnett had been a senior policy adviser to the Department of Energy's deputy assistant secretary for energy efficiency. Prior to that, she was a state climate and energy policy expert at EPA.

More: *NARUC*

FEDERAL BRIEFS

Former Armstrong Coal Exec Joins TVA Board

Allen

Kenneth Allen, who spent five decades in the coal industry, most recently as chief operating officer of Armstrong Coal, has joined the Tennessee Valley Authority Board of Directors.

Allen was confirmed by the Senate in December. Also joining the board were James "Skip" Thompson of Decatur, Ala.; Jeff W. Smith of Knoxville, Tenn.; and A.D. Frazier of Mineral Bluff, Ga.

More: *The Associated Press*

Fossil Fuel Plants Make Up Most Retirements

Nearly all the utility-scale power plants that were retired 2007-2018 in the U.S. were fossil fuel plants, the Energy Information Administration said Jan. 9.

Coal plants (47%) and natural gas steam turbine plants (26%) accounted for the highest percentages of retirements.

EIA said coal plants and natural gas steam turbine plants will account for the most retirements through 2020, based on information reported to it.

More: *Energy Information Administration*

Zinke Launches Biggest Reorganization in Interior's History

Secretary Ryan Zinke on Jan. 10 launched the largest reorganization in the Interior Department's history.

The reorganization would divide the country into 13 regions that would be defined by watersheds and geographic basins.

It also would include relocating the headquarters of some of Interior's bureaus, such as Land Management and Reclamation.

More: *The Washington Post*

States Asking FERC to Investigate Rates in Light of Tax Cut

A coalition of elected officials, consumer advocacy officials and utility regulators from 18 states has written FERC a letter calling for an investigation into the "justness and reasonableness" of utility rates in light of the Tax Cut and Jobs Act, which reduced the corporate income from 35% to 21%.

The coalition consists of attorneys general from 12 states — New York, California, Connecticut, Illinois, Kentucky, Maryland, Massachusetts, Nevada, North Carolina, Rhode Island, Texas and Virginia — and consumer advocacy officials and regulatory agencies from seven states — Connecticut, Florida, Maine, Nevada, New Hampshire, Rhode Island and Vermont.

Some utilities have said they will pass their gains from the tax bill through to their customers and some states are looking into or have initiated actions requiring them to do so. (See *Utilities Likely to Pass Tax Bill Gains to Customers*.)

More: *The Associated Press*

Coal Use for Power Generation Falling

Coal consumption by power generators fell an estimated 12 million short tons, or 2% last year, the Energy Information Administration said in its monthly short-term energy outlook.

The amount of coal used to produce power will fall 10 million short tons, or 1%, this year, and 27 million short tons, or 4%, next year, EIA predicted.

The agency said coal's use as a generation fuel is declining because of coal plant retirements and lower natural gas prices.

More: *Energy Information Administration*

WIRES Study Seeks to Improve Tx Benefit Calculations

WIRES last week published a white paper by London Economics that it hopes will give grid planners more confidence in making long-term projections on the "economic and societal benefits" from transmission investments. "Large transmission investments are often challenging for system planners and policymakers to assess," the study says. "The benefits of such projects can be widespread, but the regional nature of system planning often overlooks the full spectrum of wide-ranging benefits that emerge during different stages of a transmission project's life cycle."

The paper evaluates two hypothetical interregional transmission projects: one increasing transmission capacity between PJM and MISO to improve market efficiency through trade, and another running from the Rocky Mountains to deliver wind and solar power to Southern California.

WIRES is a trade association of transmission providers, transmission customers, regional grid managers, and equipment and service companies.

More: *WIRES*

STATE BRIEFS

ARKANSAS

Hutchinson Asks PSC to Pass on Benefits of Tax Cut to Customers

Gov. Asa Hutchinson on Jan. 11 asked the Public Service Commission to "take whatever steps are necessary" to pass the money that utilities save from the federal Tax Cut and Jobs Act on to their customers in the form of lower rates.

More: Arkansas Democrat-Gazette

KANSAS

Shari Feist Albrecht Elected Commission Chair


Albrecht

The Corporation Commission on Jan. 11 elected Shari Feist Albrecht as chair. Albrecht is president of SPP's Regional State Committee.

Gov. Sam Brownback initially appointed Albrecht to serve on the commission in 2012, then reappointed her for a second term, which ends March 15, 2020.

Albrecht previously was director and deputy director of the commission's Conservation Division, positions in which she chaired numerous committees, including the Oil and Gas Advisory Committee. She also has served as the commission's acting general counsel, its assistant general counsel and staff attorney for its transportation division.

More: Kansas Corporation Commission

KENTUCKY

AG Recommends Rate Decrease for Duke

Attorney General Andy Beshear said his Office of Rate Intervention is recommending that the Public Service Commission reduce Duke Kentucky's annual base revenue by $16 million. Duke is asking to increase its annual base revenue by $48.6 million, or about 16%.

Duke says it needs the increase because its return on investment is inadequate and it needs to recover costs related to the acquisition of the East Bend power plant, restoration efforts after Hurricane Ike in 2008 and the deployment of an advanced metering system.

The company's last rate increase occurred in 2007.

More: WTVQ; Public Service Commission

MAINE

PUC Seeks more Public Comment On Maine Aqua Ventus Contract

The Public Utilities Commission voted 3-0 on Jan. 9 to seek more public comment before deciding whether to give final approval to a power contract between a proposed demonstration floating wind farm and Central Maine Power.

The PUC in 2013 gave initial approval to a 20-year power contract with rates that begin at 23 cents/kWh and grow annually at more than 2%. In contrast, the commission recently approved a solar project with an initial price of 3.4 cents/kWh.

The project, Maine Aqua Ventus, would be the first floating wind farm in the U.S. and would be built by a consortium led by the University of Maine. A small-scale prototype of it has been tested, but construction on it hasn't started.

More: Portland Press Herald

MARYLAND

AG, Dem Assembly Leaders Hold Meeting on CPP Repeal


Frosh

Attorney General Brian Frosh and Democratic leaders of the General Assembly on Jan. 11 met with environmental, health and community advocates to hear their concerns about EPA's proposed repeal of the Clean Power Plan and forward them to the agency.

The politicians convened the meeting in response to EPA denying Frosh's request to hold a hearing on the possible impact of repealing the CPP in the state, saying residents could attend the hearing it held in West Virginia in December.

The administration of Gov. Larry Hogan, a Republican, didn't take part in the meeting. Department of the Environment Secretary Ben Grumbles previously sent a letter to EPA Administrator Scott Pruitt saying that the state opposes repealing the CPP unless the agency replaces it with an "effective and enforceable" alternative to cut emissions.

More: The Baltimore Sun; The Baltimore Sun

PSC Asks Utilities for Filings to Pass Tax Savings on to Customers

The Public Service Commission said Jan. 11 that it has asked utilities to file with it by Feb. 15 explanations of when and how they are going to pass the savings they realize from the Tax Cuts and Jobs Act on to their customers.

The PSC acknowledged that Baltimore Gas and Electric, Pepco and Delmarva Power and Light have made, or have said they soon will make, filings with it to pass their savings from the act on to their customers.

More: Maryland Public Service Commission

MISSISSIPPI

Cooperative to Build $36M Gas-fired Plant in Benndale

Cooperative Energy said Jan. 8 it intends to build a $36 million, 23-MW, two-unit, natural gas-fired power plant to replace an existing power plant in Benndale.

A spokeswoman for Cooperative Energy said the plant should have a "minimal" impact on customers' bills. The company expects it to start producing power next year.

More: The Associated Press

NEBRASKA

Renewables Grew to 30% Of OPPD's Sales Last Year

The Omaha Public Power District said renewable power, mostly wind, made up 30% of its retail energy sales last year, after only comprising 13% of its retail sales in 2016. The OPPD wants to increase that to

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STATE BRIEFS

Continued from page 32

50% by 2020.

At its Thursday meeting, the utility increased Vice President of Business Technology and Building Services Kate Brown's salary by 5% to $313,635. It also elected Mike Cavanaugh board chair and Anne McGuire vice chair for 2018.

More: Omaha World-Herald

NEW JERSEY

Bill to Increase Solar Requirement Passes Legislature

The Legislature on Jan. 9 passed a bill that would increase the solar requirement under the state's renewable portfolio standard to 5.3% in 2022, up from the current requirement of 4.1% in 2028.

The bill also calls for the creation of a 25-person commission to study solar energy in the state. It would also make recommendations on expanding the life of the state's RPS from 2028 through at least 2031; the state's interconnection policies; and the state's solar renewable energy credit system.

The bill still must be signed by Gov. Chris Christie, who has not supported renewable energy during his time in office, which ends today at noon.

More: pv magazine

NORTH CAROLINA

Duke Agrees to Pay Penalty, Work to Stop Leaks at Ash Pits

Duke Energy will pay an $84,000 penalty and work to stop potentially toxic waste from coal ash pits at the Rogers, Allen and Marshall power plants from leaking into groundwater and rivers under an agreement with the Department of Environmental Quality that was announced last week.

The agreement, which must still go through a state approval process, penalizes Duke for nearly two dozen leaky spots detected at the pits. In it, the company acknowledges leaks from the pits into the Catawba and Broad rivers.

An attorney for the Southern Environmental Law Center says the agreement marks the first time Duke has acknowledged that the coal ash pits at the power plants are leaking and that it has an obligation to stop the pollution the leaks are causing.

More: The Associated Press

OHIO

PUCO Seeks Comments on How Tax Law Affects Utilities Rates

The Public Utilities Commission on Jan. 10 has issued an entry seeking comments on the impact of the Tax Cuts and Jobs Act on utilities' rates.

Specifically, PUCO is asking stakeholders to identify the rate components it will need to reconcile with the changes to the federal tax code contained in the law, and how it should reconcile them. The commission said comments, which are due Feb. 15, should address the level of tax expense recovered through base distribution rates; the treatment of individual bill components; and deferred tax assets.

More: Public Utilities Commission

PUCO Approves Unknown Discount for Amazon

The Public Utilities Commission voted 5-0 on Jan. 10 to approve a discounted electricity rate for Amazon, but neither the total nor percentage amount of the discount is being disclosed because the company says they are trade secrets.

The rate was jointly proposed by Amazon and its electricity supplier, American Electric Power. It is linked to Amazon's stated intention of building up to a dozen more data centers in central Ohio, where it already has three.

Commission Chairman Asim Haque said after the vote that Amazon's discount won't increase consumers' power bills. Advocates for consumers, however, maintain it will boost their bills indirectly because AEP will be getting less money than it would have gotten otherwise from Amazon, meaning others will have to pay more to cover Amazon's share of the costs of AEP programs and services.

More: The Columbus Dispatch

VERMONT

State Agencies Could be Close to Agreement on Vermont Yankee

Three state agencies filed a motion Jan. 11 asking the Public Utility Commission to delay all hearings scheduled this month on the proposed sale of the retired Vermont Yankee nuclear power plant, a move that could mean they are close to an agreement with Entergy, which owns the plant, and NorthStar Group Services, which wants to buy the plant and its decommissioning fund.

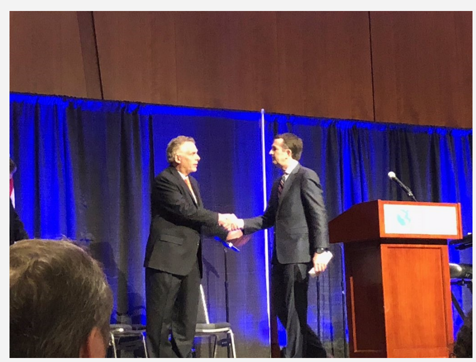
The Public Service Department, Agency of Natural Resources and Office of the Attorney General said the delay would allow them to review a financial proposal from Entergy and NorthStar and negotiate with the two companies.

An Entergy spokesman confirmed that the company and NorthStar have "made substantial progress" in their negotiations with the state agencies "and are now engaging the other parties to the [PUC's] docket" concerning the sale of the plant.

More: Brattleboro Reformer

VIRGINIA

McAuliffe and Northam Propose Legislation to Join RGGI



McAuliffe (left) and Northam at a state event | *Ralph Northam*

Gov. Terry McAuliffe and Governor-elect Ralph Northam on Jan. 9 proposed legislation that would make the state the first in the South to join the Regional Greenhouse Gas Initiative.

McAuliffe directed the Department of Environmental Quality in May to draft regulations enabling the state to develop a

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STATE BRIEFS

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carbon reduction program for power plants that would link to the carbon market established through RGGI, but the state can't spend the revenues the program would generate, or join RGGI, without the General Assembly's approval.

Northam was sworn in as governor on Saturday.

More: *Gov. Terry McAuliffe*

SCC Orders Utilities to Accrue Liability for Tax Savings

The State Corporation Commission has ordered utilities in the state to accrue a liability on their books to account for the money they save from the recent federal tax bill that reduces corporate tax rates from 35% to 21%.

The commission said the move will quantify the savings so the utilities can pass them on to customers in subsequent rate proceedings.

More: *State Corporation Commission*

WASHINGTON

UTC Asks Utilities to Report Expected Savings from Tax Bill

The Utilities and Transportation Commission last week released a directive asking utilities to report their expected tax savings from the Tax Cut and Jobs Act, which lowered corporate tax rates from 35% to 21%.

"Utilities are on notice that we expect customers will reap the benefits" from the tax bill, said Dave Danner, the commission's chair.

Puget Sound Energy, the state's largest utility, agrees it should pass its savings from the tax bill on to its customers.

More: *Seattle Times*

DOE NOPR Rejected, 'Resilience' Debate Turns to RTOs, States

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operators can measure resilience. There is no widely embraced equivalent to the one-day-in-10-years loss-of-load expectation used as a reliability benchmark.

Also unclear is how much it could cost to meet such a resiliency target; any proposal that increases costs is likely to face opposition from stakeholders serving load. In PJM, for example, load representatives — who have long complained of paying for excessive capacity reserve margins — are opposing the RTO's "price formation" proposal that could boost costs by as much as 5%.

In FERC filings in October, RTO officials and their Market Monitors unanimously rejected Perry's Notice of Proposed Rulemaking as expensive, inefficient and counterproductive. (See *RTOs Reject NOPR; Say Fuel Risks Exaggerated*.)

Predictions

ClearView Energy Partners said it is "skeptical of FERC making findings *within this docket* that lead to determinations that existing tariffs in particular RTOs are suddenly unjust and unreasonable on resiliency grounds."

"Substantive changes to energy market tariffs to increase compensation for 'baseload units'" are unlikely, ClearView added. FERC "may be more likely to pursue a rulemaking, or set of issue-specific rulemakings or policies, instead."

"I think it's safe to say that what comes of compensating resources for 'grid resiliency,' to the extent it occurs, will look little or nothing like what Secretary Perry had intended," wrote Jason Johns, a partner with Stoel Rives, in a blog post.

Prior Efforts

The commission started the grid operators' 60-day clock with the issuance of the order, making the deadline for their answers March 9. Responses to the filings will be due in an additional 30 days.

The new proceeding will be informed both by state initiatives to preserve in-state generation and RTO efforts that began before Perry's NOPR and the Department of Energy grid study that preceded it.

The coal and nuclear industries say the RTOs have not addressed market failures unfairly punishing their generators.

"The few revisions to existing RTO/ISO tariffs and related market structures and rules have so far been much too little and far too late," the American Coalition for Clean Coal Electricity (ACCCE) and the National Mining Association said in a joint FERC filing in October. "Without action by the commission to remedy these tariffs and market structures, the electric system will devolve to lose the value of fuel diversity and end up overwhelmingly dependent on intermittent renewable and natural gas generation."

Below is a summary of the RTOs' prior comments on their resilience efforts and issues that may factor in the new proceeding.

CAISO: Resilience 'Mechanisms in Place'

CAISO told FERC last year that Perry's proposed rule would not apply to it because it does not have a capacity market, nor coal or nuclear resources that would be eligible for compensation.

CAISO "already has mechanisms in place that ensure" its resilience, the ISO said. "Regional planning, procurement, coordination, programmatic and reliability efforts in the CAISO [balancing authority area] have produced a diverse infrastructure and 'set of tools' that have enabled the CAISO to operate a system that has remained both reliable and resilient in the face of significant threats to the loss of supply such as with the restricted operations of the Aliso Canyon gas storage facility, the unexpected shutdown of the San Onofre Nuclear Generating Station, fires affecting transmission lines, severe droughts and the solar eclipse."

ISO-NE: 'No Urgent Need'

ISO-NE told FERC in October that "New England has no urgent need to rush to a solution, given that the three-year Forward Capacity Market has ensured resource

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adequacy until at least 2021, and the region has already taken steps to improve operating procedures and generator incentives to secure firm fuel supplies."

Last week, the RTO asked FERC for approval of a controversial two-stage capacity auction intended to replace aging fossil fuel generators with renewable resources from state procurements. (See ISO-NE Files CASPR Proposal.)

The RTO says it has improved gas-electric coordination to mitigate supply problems arising from natural gas pipeline constraints. Its Pay-for-Performance program, which offers compensation for dual fuel generators and increases penalties for those who fail to meet capacity obligations, takes effect June 1.

But New England remains vulnerable to the limits of its gas pipeline system, leading some to suggest resilience measures should include contingency plans that consider the loss of a pipeline supplying multiple generators.

"You'd probably be the market that keeps me up at night," Commissioner Robert Powelson told ISO-NE Vice President of System Operations Peter Brandien in October, when RTO officials made their annual presentations on winter preparedness.

SPP, Exempt from NOPR, 'Will be Engaged'

SPP was not covered by Perry's proposal because the RTO lacks a capacity market. The RTO said last week it "applauds FERC's decision and appreciates [its] commitment, through the opening of a new docket, to continue to ensure our nation's electric grid is both reliable and resilient. As with all of FERC's efforts, SPP will be engaged in this new docket."

The RTO has been integrating increasing amounts of wind, thus far without reliability problems. Last month, the RTO set a new record for wind penetration (56.25%), lending credence to its claims that it can handle penetration levels as high as 75%.

SPP's 40% capacity margin is well above the 12% minimum required by the SPP Tariff, Keith Collins, executive director of SPP's Market Monitoring Unit, noted in comments to FERC in October.

| Department of Energy

MISO Welcomes 'Broader' Discussion

MISO spokesperson Mark Brown said last week the RTO is looking forward to a "broader industry discussion around resilience and its importance" with FERC, state regulators and other industry officials.

"As FERC noted in its order, MISO is involved in ongoing development of a long-term plan to address changing system needs as the resource mix evolves," Brown said in a statement to *RTO Insider*. MISO's plan involves multiple studies, including an analysis on the challenges of integrating growing volumes of renewable generation and how the natural gas supply affects its dispatch ability. (See MISO to Conduct Long-Term Renewable Integration Study and MISO in 2018: Storage, Software, Settlements and Studies.)

The RTO has been stymied in its attempts to address resource adequacy concerns in Zone 4 in Southern Illinois, where Dynegy has threatened to close some of its coal-fired generation, citing insufficient capacity revenues.

At the behest of Gov. Bruce Rauner, the Illinois Commerce Commission is conducting an inquiry on the issue, which included a workshop last month. (See MISO Zone 4 Players Still Divided over Resource Adequacy.)

The Illinois Clean Jobs Coalition responded to the FERC ruling by urging the ICC "follow the lead of FERC and reject Gov. Rauner's proposal to bail out uneconomic coal plants in Illinois."

The commission will hold another workshop today. Final comments on the issue are due Jan. 30, and the commission is expected to issue a summary report by Feb. 26.

PJM Price Formation Proposal Faces Opposition

PJM responded to the DOE NOPR by calling for rule changes that would allow inflexible generators, including coal and nuclear plants, to set LMPs. At its final stakeholder meeting of the year, the RTO won endorsement for a stakeholder task force to examine the current rules and recommend fixes.

PJM estimates the energy market changes will reduce capacity market costs but still increase overall costs between 2 and 5% ($440 million to $1.4 billion annually). (See Rule Changes Could Spur $1.4B Jump in PJM Market Costs.)

Monitors, regulators and other RTOs filed comments opposing PJM's proposal in November. PJM Independent Market Monitor Joe Bowring said the plan would undermine the RTO's markets and suggested that the RTO was acting in the interest of Exelon, which would be the biggest winner from a boost to nuclear plants. (See NOPR Reply Comments Bring More Criticism of PJM Proposal.)

Beginning in delivery year 2020/2021, all PJM capacity resources must meet the RTO's Capacity Performance requirements. The CP program employs performance penalties and bonuses like ISO-NE's Pay-

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for-Performance initiative.

ERCOT Joining with PUC on Response

At the Texas Public Utility Commission's open meeting Thursday, Chair DeAnn Walker said she is working with ERCOT CEO Bill Magness and General Counsel Chad Seely to prepare a response to FERC's order.

ERCOT's markets are not regulated by FERC, but the grid operator is subject to mandatory reliability rules overseen by the commission and NERC. The PUC has always aggressively defended ERCOT's independence from federal oversight.

Walker characterized the filing as informational, saying it would "explain how we do things here." She said she, ERCOT's leadership and Texas Reliability Entity CEO W. Lane Lanford "have similar thoughts about how broad" FERC's request is. She promised further details for a February open meeting.

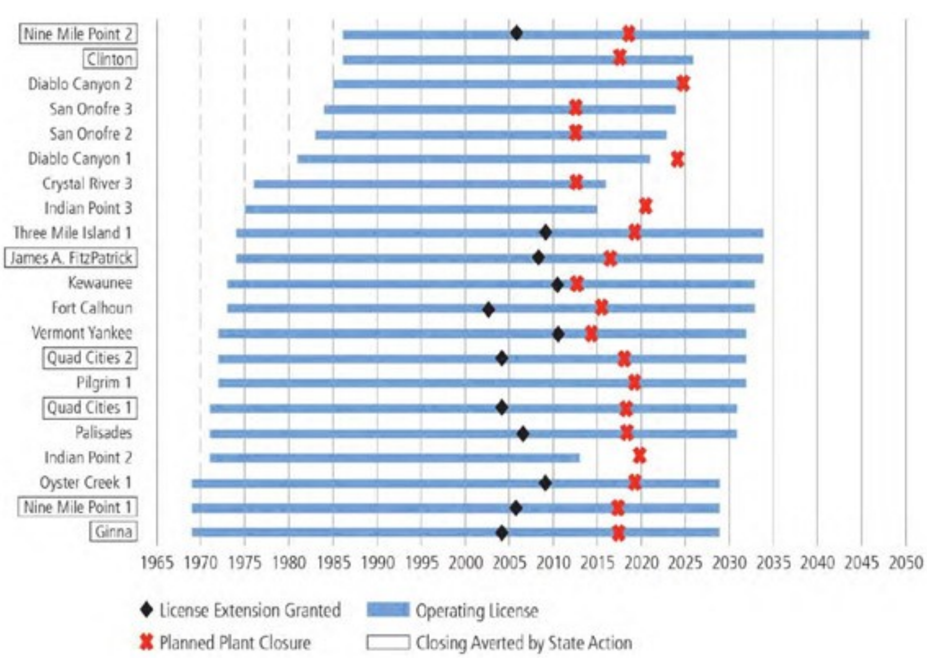
FERC's influence on the future of coal and nuclear generation will not be limited to the new docket. It may again be asked to weigh in on whether state efforts to support in-state generators violate federal jurisdiction. The Supreme Court has ruled on three cases concerning state-federal jurisdiction since 2015. (See Court's Reticence Frustrates Energy Bar.)

The commission already has pending a request from the Electric Power Supply Association to apply the minimum offer price rule to nuclear units receiving payments under Illinois and New York's zero-emission credit programs. The ZEC programs are also being challenged in federal court. (See Ill. ZECs Defenders Face Harsh Questioning on Appeal.)

NYISO Moving on Carbon Pricing

Despite the legal challenge to its ZEC program, New York officials last week continued working on their plan for funding the subsidies — integrating carbon pricing in NYISO's wholesale electricity markets. (See New York Stakeholders Debate Carbon Policy 'Issue Tracks'.)

"There is no imminent threat to reliability," NYISO told FERC in October. During the 2014 polar vortex, NYISO noted, it set a new record winter peak load and "met all reliability criteria and reserves requirements without activating emergency procedures at any time during the winter operating period. It did so despite significant generator capacity derates on some of the coldest days, including generation resources that would appear to qualify under the NOPR as 'eligible grid and reliability resources.'"



| Department of Energy

The ISO said it has made improvements to its energy, ancillary service and capacity markets, including basing the downstate installed capacity demand curves on peaking plant designs that include dual-fuel capability.

State Initiatives

Here are some of the state initiatives that could become factors:

- The New Jersey Legislature is expected to consider a ZEC-style plan in its 2018-19 session. ClearView analysts last week gave the plan a 65% chance of success, saying the Democrat-controlled legislature's refusal to consider the bill in the lame duck session was intended to deny outgoing Republican Gov. Chris Christie a policy "win." (See NJ Lawmakers Pass on Nuke Bailout in Lame Duck Session.)
- Ohio lawmakers last year proposed legislation (H.B. 381 and S.B. 128) that would create a ZEC-style program that would benefit First Energy Solutions' Davis-Besse and Perry nuclear plants, but the bills did not move out of committee. The term of Gov. John Kasich, who has opposed a nuclear "bailout," expires in January 2019. FERC last week rejected FirstEnergy's request to transfer a merchant coal plant to its regulated utility in West Virginia, ruling the company failed tests to prevent cross-subsidization.
- Connecticut is also considering whether it needs to sign a long-term power purchase agreement to keep the Millstone nuclear plant operating amid a dispute over the plant's profitability. (See related story, *Conn. Regulators Hear Conflicting Advice on Millstone*, p.10.)

"We applaud the commission for upholding the rule of law and taking the only appropriate actions under the circumstances," the National Association of Regulatory Utility Commissioners said in a statement last week.

"We also appreciate FERC's acknowledgment that resilience issues 'extend beyond the commission's jurisdiction' and its explicit encouragement for interested entities to engage with state regulators and others to address resilience at the distribution level."

Amanda Durish Cook and Tom Kleckner contributed to this article.

Wind, Solar, Gas, Storage Eye ‘Resilience’ Market Share

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posed by the secretary based on the record before them and thoughtfully determining a path forward — I think is encouraging," agreed Malcolm Woolf, senior vice president of policy for Advanced Energy Economy.

But while the coalition found unity in opposing Energy Secretary Rick Perry's price supports for coal and nuclear plants, their interests may diverge in the new docket the commission ordered.

FERC directed RTOs and ISOs to answer questions on how they assess and obtain resilience. The initiative could result in proceedings that pit renewables, natural gas and storage against each other — as well as nuclear and coal — in seeking compensation for their resiliency attributes. (See FERC Rejects DOE Rule, Opens RTO ‘Resilience' Inquiry.)

Seeking Market Solutions, Fair Competition

FERC made clear in its ruling that it did not agree with Perry's embrace of onsite fuel storage as a resiliency panacea.

"That's maybe one element, but it's certainly not the only element," Woolf said. "What really matters is overall system reliability and resilience. We saw from the bomb cyclone of the last week that a nuclear plant — Pilgrim, otherwise perfectly reliable — was forced to shut down because of transmission issues.

"We're confident [that] as they do this, [FERC] will recognize that advanced energy technologies, including distributed energy resources, energy efficiency, demand response, storage, renewables [and] natural gas … all have a role to play in making a robust system and that the market needs to value the attributes of all of those different technologies."

Jason Burwen, vice president of policy for the Energy Storage Association, said at the press conference that his group will be watching "whether there will be an opportunity for market mechanisms to be employed such that the full range of resilience attributes — not just a single one like fuel assurance — can be valued and compensated. … Additionally, we look forward to seeing whether there will be a discussion of the infrastructure component of this — not simply the generator resources or demand resources side of this."

	CAISO	ERCOT	ISO-NE	MISO	NYISO	PJM	SPP
Product name – ramp reserve	Flexible Ramping Product			Ramp capability			
Ramp reserve – when procured	FMM and RTM (not DAM)			DAM and RTM			
Voltage control – payment mechanism provision and capability	Provision payment based on lost opportunity cost or contract	Lost opportunity cost for provision	Lost opportunity cost and American Electric Power (AEP) method	Lost opportunity cost and AEP method	Lost opportunity cost and fixed tariff rate	Lost opportunity cost and AEP method	Compensation rate for provision
Black start service payments	Contracted through reliability contracts	Procured through bi-annual competitive process	Paid standard black start rate or station-specific rate	Receive cost-based rate after committing to 3-year period	Paid cost-based rates	Paid cost-based rates	Not procured through SPP

Ancillary service products by RTO/ISO | *Department of Energy*

"Storage is certainly a part of making electric infrastructure more resilient," he added. "We are already seeing distribution utilities deploying storage as a complement to their wires infrastructure, and we're aware of at least one transmission proposal in PJM that includes storage, as well as storage solutions CAISO has identified in its transmission planning. For that reason, we think that explicit inclusion of storage in transmission planning is a critical next step in the conversation."

The California Public Utilities Commission in 2013 ordered the state's three large investor-owned utilities to add 1.3 GW of energy storage by 2024. The order implemented Assembly Bill 2514, in which the legislature ordered procurement of storage to reduce investments in new fossil fuel plants, integrate renewables and minimize greenhouse emissions. Massachusetts officials in July ordered the state's electric distribution utilities to procure a combined 200 MWh of energy storage by 2020. (See *Massachusetts Underwhelms with 200-MWh Storage Target*.)

Dena Wiggins, CEO of the Natural Gas Supply Association, said her group was "relieved" by FERC's decision. "What we were looking for all along was a robust discussion that would value the attributes of all of the fuels. All of the fuels … bring something to the conversation."

"It's not only valuing those essential reliability services but … making sure there's no discrimination as to who can actually compete to provide those services," said Amy Farrell, senior vice president of government and public affairs for the American Wind Energy Association. "The market should reward the desired resilience attributes in a resource-neutral manner, with every provider being paid the same price for providing the same unit of service," she added afterward.

"I think we're all in violent agreement," said Dan Whitten, vice president of communications for the Solar Energy Industries Association. "What we want is the opportunity to compete, and we think the FERC decision … presents that opportunity."

Essential Reliability Services: Who's in? Who's out?

The new proceeding ordered by FERC will require the RTOs to show how they are obtaining what NERC has named "essential reliability services," including frequency and voltage support, ramping capability, operating reserves and reactive power. (See *NERC Report Urges Preserving Coal, Nuke ‘Attributes'*.)

Last August, the American Coalition for Clean Coal Electricity (ACCCE) released a PA Consulting Group study it commissioned that ranked generation resources on 11 attributes, giving coal high marks in all but black start capability. (See *Echoing DOE Report, Industry Study Touts Coal ‘Resiliency'*.)

The report followed a study done by The Brattle Group for the American Petroleum Institute (API), which concluded that gas-fired generation is "relatively advantaged" in all but one of the 12 attributes it identified. (See *NG Lobby Goes on Offensive vs Coal, Nukes*.)

The next best alternative source, according to Brattle, was pumped hydro with 10. Nuclear and coal, the potential beneficiaries of policies favoring traditional "baseload" generation, fared far worse at five and four respectively, as did wind (one) and solar (two).

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Wind, Solar, Gas, Storage Eye 'Resilience' Market Share

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	Nat Gas	Coal	Nuclear	Wind	Solar	Pondage Hydro	Run of River Hydro	Demand Response	Storage
Generation	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	N/A	N/A
Dispatchability	Relatively Advantaged	Relatively Advantaged	Neutral	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Advantaged	Relatively Disadvantaged	Relatively Advantaged	Relatively Advantaged
Security of Fuel Supply	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Relatively Disadvantaged	Neutral	Relatively Advantaged	Neutral	Neutral	Neutral
Start Times	Relatively Advantaged	Relatively Disadvantaged	Relatively Disadvantaged	N/A	N/A	Relatively Advantaged	N/A	Relatively Advantaged	Relatively Advantaged
Ramp Rates	Relatively Advantaged	Neutral	Relatively Disadvantaged	N/A	N/A	Relatively Advantaged	N/A	Relatively Advantaged	Relatively Advantaged
Inertia	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Neutral	Relatively Disadvantaged	Relatively Advantaged	Relatively Advantaged	Relatively Disadvantaged	Relatively Disadvantaged
Frequency Response	Relatively Advantaged	Neutral	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Advantaged	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Advantaged
Reactive Power	Relatively Advantaged	Relatively Advantaged	Relatively Advantaged	Neutral	Neutral	Relatively Advantaged	Neutral	N/A	N/A
Minimum Load Level	Relatively Advantaged	Neutral	Relatively Disadvantaged	N/A	N/A	Relatively Advantaged	N/A	Relatively Advantaged	Relatively Advantaged
Black Start Capability	Relatively Advantaged	N/A	N/A	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Advantaged	Relatively Advantaged	N/A	Neutral
Storage Capability	N/A	N/A	N/A	N/A	N/A	Neutral	N/A	N/A	Relatively Advantaged
Proximity to Load	Relatively Advantaged	Neutral	Neutral	Neutral	Relatively Advantaged	Relatively Disadvantaged	Relatively Disadvantaged	Relatively Advantaged	Relatively Advantaged

Legend: Relatively Advantaged; Neutral; Relatively Disadvantaged; N/A

| *The Brattle Group*

The API-Brattle report ranked coal as "neutral" on two categories for which ACCCE claimed a full score — frequency response and ramp rates (referred to as "ramp capability" by ACCCE). API did not score three categories in which ACCCE said coal had an advantage over gas: on-site fuel supply, reduced exposure to a single point of disruption and price stability.

AWEA said the API-Brattle findings are "largely consistent" with those of the Analysis Group in a report the organization commissioned. But the wind group disputed Brattle's designation of wind as "relatively disadvantaged" in frequency response, saying wind turbines "can provide frequency response that is an order of magnitude faster than conventional power plants."

The Nuclear Energy Institute (NEI) responded that "the Brattle study reinforces the conclusion that grid reliability would be hopelessly compromised without nuclear energy."

NEI CEO Maria Korsnick said last week that RTOs must take "prompt and meaningful action, including on issues such as price formation."

"The status quo, in which markets recognize only short-term price signals and ignore the essential role of nuclear generation, will lead to more premature shutdowns of well-run nuclear facilities," she said.

GHG Emissions and Resilience

Some say resilience efforts also should consider the impact of fossil fuel generators' emissions.

In his concurring opinion last week, new Democratic Commissioner Richard Glick noted the "irony that the [Department of Energy's] proposed rule would exacerbate the intensity and frequency of … extreme weather events by helping to forestall the retirement of coal-fired generators, which emit significant quantities of greenhouse gases that contribute to anthropogenic climate change."

Last month, fellow Democratic Commissioner Cheryl LaFleur said FERC's environmental reviews of natural gas pipeline applications should consider "the downstream impacts on greenhouse gases."

None of the three Republicans on the commission has publicly indicated they agree with the Democrats' concerns, however. As a member of the Pennsylvania Public Utility Commission, Commissioner Robert Powelson was a strong supporter of the state's shale gas development. Commissioner Neil Chatterjee, of Kentucky, is an unapologetic booster of coal.

"The fact is that we need an electric grid regulatory agency which prioritizes a rapid shift from dirty and dangerous fossil fuels to renewable energy and energy efficiency," Ted Glick (no relation to Commissioner Glick), an organizer with the anti-gas group Beyond Extreme Energy, said after FERC's rejection of the NOPR. "We doubt that FERC can become such an agency."

Coal interests are certain to resist any new FERC rules that speed the erosion of their generation market share.

Robert E. Murray, CEO of coal producer Murray Energy, said FERC's ruling was a "bureaucratic cop-out" that exposed consumers to high costs and service interruptions.

"If it were not for the electricity generated by our nation's coal-fired and nuclear power plants, we would be experiencing massive brownouts and blackouts," he said, citing power prices that peaked at more than $500/MWh and natural gas prices that hit $175/MMBtu during the cold snap in early January. "At least 37,000 MW of supposedly natural gas-powered electricity were entirely unavailable due to the priority for home heating use and the inability of natural gas to flow at cold temperatures."

Attribute	Coal	Natural Gas	Wind/ Solar	Nuclear	Demand Response
Dispatchability	✓	✓		✓	
Inertia	✓	✓	✓ (wind)	✓	
Frequency Response	✓	✓	✓*		
Contingency Reserves	✓	✓			✓
Reactive Power	✓	✓		✓	
Ramp Capability	✓	✓			✓
Black Start		✓			
Resource Availability	✓	✓		✓	
On-Site Fuel Supply	✓			✓	✓
Reduced Exposure to Single Point of Disruption	✓		✓	✓	✓
Price Stability	✓		✓	✓	✓

*Although most wind does not provide frequency response, newer vintage wind resources with integrated storage can do so. Some solar depending on the type of inverter also supports frequency response.

| *PA Consulting Group*