RTO Insider
Your Eyes and Ears on the Organized Electric Markets
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# Chatterjee Named Acting FERC Chair as Quorum is Restored

By Rich Heidorn Jr.

FERC's quorum was restored Thursday as former Pennsylvania Public Utility Commissioner Robert Powelson was sworn in, joining former Senate Republican aide Neil Chatterjee, whom President Trump named acting chairman.

The filling of the third seat allows FERC to issue rulings in contested cases, which had come to a standstill when former Chairman Norman Bay resigned in February after Trump named Commissioner Cheryl LaFleur acting chair.

Chatterjee (left) and Powelson | *FERC*

Chatterjee will serve as acting chair pending the confirmation of Republican attorney

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# ERCOT, Regulators Discuss Need for Pricing Rule Changes

By Tom Kleckner

AUSTIN, Texas — Industry experts and ERCOT stakeholders and staff jammed the Texas Public Utility Commission's hearing room Friday for the first of several discussions on scarcity pricing and other price-formation issues in the grid operator's energy-only market.

Susan Pope, of FTI Consulting (left), and William Hogan, of Harvard University. | *© RTO Insider*

The PUC workshop was called to discuss a report commissioned by independent power producers NRG Energy and Calpine, which asserted that subsidized renewable resources, socialized transmission planning and the lack of local scarcity pricing have "exposed areas where there is a need for adjustments" to the ISO's pricing rules. (See PUCT Workshop to Address ERCOT Market Improvements.)

Some participants were not convinced of the need for the session.

Amanda Frazier spoke for Luminant, the state's largest generator, when she wondered aloud what ERCOT market problem needed to be solved. "We don't believe the question was answered," said Frazier, vice president of regulatory policy for Luminant parent Vistra Energy.

The report, "Priorities for the Evolution of an Energy-Only Electricity Market Design in

*Continued on page 8*

# NYISO Study Sees Little Cost Impact from Carbon Charge

By Michael Kuser

A $40/ton carbon charge in New York state would have "a relatively small impact" on customer costs, ranging from a −1% to +2% change in total customer electric bills, according to an analysis released by NYISO and the state Department of Public Service on Friday.

The much-anticipated report by the Brattle Group on pricing carbon into generation offers and reflecting it in energy clearing prices was prompted by the Public Service Commission's decision to subsidize upstate nuclear plants through zero-emission credits (ZECs) . Fossil fuel generators would incur a penalty based on their level of carbon emissions.

The study is meant to develop an approach to value carbon in the wholesale energy market as an instrument of state policy while "providing appropriate price signals to incentivize investment and maintain grid reliability," NYISO CEO Brad Jones and PSC Chairman John B. Rhodes said in the preface.

### Costs and Benefits

Although average wholesale energy prices would increase under a $40/ton carbon adder, about 50% of the cost could be offset by returning carbon revenues to customers; another 18% by reduced prices for renewable energy credits and ZECs; and an

*Continued on page 19*

## Also in this issue:

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## Corrections

An article in the Aug. 8 *RTO Insider* incorrectly quoted Chris Rauscher, director of public policy at Sunrun. The correct quote is: "As my company and others deploy more storage paired with PVs, are we going to do that in states that already have open access to markets, or are we going to other states that have incentives, for example?" Rauscher was quoted as saying, "compared with PVs." (See *NY DER Question: Deployment or Markets First?*)

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A photo in last week's newsletter mistakenly identified New York Offshore Wind Alliance director Liz Gordon as Sierra Club Senior New York Representative Lisa Dix.


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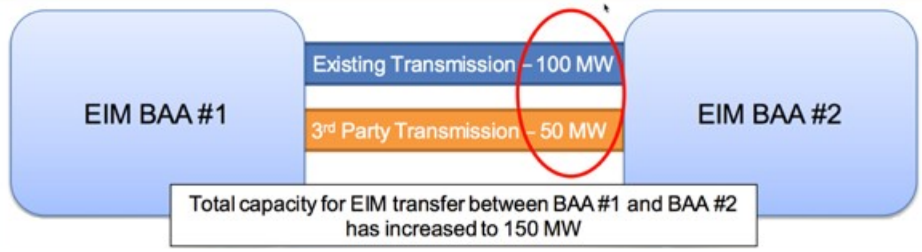
## CAISO NEWS

# CAISO Drops EIM Third-Party Transmission Plan

*By Jason Fordney*




*CAISO*

CAISO has dropped a proposal that would have allowed third-party transmission providers to participate in the Western Energy Imbalance Market (EIM) after getting negative feedback on the plan — but also said it might revisit the idea in the future.

The grid operator proposed that transmission owners outside the EIM be permitted to provide service between EIM balancing authority areas (BAAs) and receive congestion revenue for increasing the market's transfer capability. But CAISO determined that the TOs would be decreasing their own potential for collecting congestion revenue by providing the increased capacity, resulting in inadequate compensation. In addition, the ISO cannot pay directly for transmission service.

"There were concerns that implementing this would outweigh the benefits," CAISO Senior Policy Developer Megan Poage said in an Aug. 2 call. "Many parties were not sure this would be fully used." But she asked for more comment, saying that CAISO wanted to ensure that all stakeholders were on board with removing the proposal. While the ISO said the plan could be revisited, EIM entities were generally uninterested in using the functionality.

The grid operator floated the third-party transmission idea as part of its Consolidated EIM Initiatives straw proposal being developed with market participants. The initiative also includes new wheeling policies and tools to manage changes in bilateral schedule changes. (See *Consolidated EIM Proposal Effort Gets Underway*.)

### Imbalance Risks

Regarding the management of bilateral schedule changes, CAISO is trying to address the fact that EIM participants are exposed to unknown imbalance settlement payments for making changes not reflected in their base schedules. Prior to the development of the EIM, firm transmission holders could make schedule changes without facing later settlement payments, CAISO said.

CAISO Senior Market Designer Don Tretheway said that a stakeholder workshop on intertie bidding unearthed concerns that, prior to the EIM, transmission holders could make schedule changes up to a certain point without being exposed to later settlement payments. He said that EIM participants through their transmission tariffs could manage the exposure, and part of it could be solved through the wheeling functionality.

Some EIM participants said that bilateral schedule changes should be subject to imbalance energy charges because they can cause the BAA to incur redispatch costs, CAISO said. However, most feedback on the proposal was neutral. Some stakeholders did say the proposal does not address fundamental issues about the inability to hedge imbalance settlement charges.

### Sharing Benefits

The consolidated initiative also aims to correct an inequity that occurs when an EIM BAA wheels power between other BAAs. Wheel-throughs are on the increase as the EIM footprint expands, but wheeling entities only receive congestion revenue.

"The entity in the middle right now receives no direct financial benefit for facilitating a wheel" if there is no congestion, Poage said. But "without them being there, that transfer would not have occurred."

The issue will become increasingly important when Powerex is integrated into the EIM in April 2018, with Puget Sound Energy positioned to wheel power from British Columbia to the south. (See *Powerex Slated to Become First Non-US EIM Member*.) Wheel-throughs could also start occurring in more than one BAA.

The benefit-sharing is seen as essential for some to recover costs of power flows caused by EIM dispatches, and preventing perceived price distortions and free riders. CAISO is also paying attention to cost-shifting between TOs and customers because of the loss of transmission revenues, but it said the issue will not be considered in this initiative. Others say that BAAs doing the wheeling share in other benefits and that the benefit-sharing might reduce incentive to invest in EIM-dispatchable resources. Stakeholders also expressed concerns over rate pancaking and reduced liquidity.

CAISO compiled data on EIM transfers and BAA imports and exports within the market, and asked for help in determining the net benefit of facilitating a wheel-through transaction to better quantify the benefits of the proposal. The grid operator said that net wheeling will increase as the EIM footprint expands.

For more equitable sharing of wheeling benefits, CAISO proposed either an after-the-fact payment based on the amount of net wheeling, or a market-based method that allows for competition.

As part of the Consolidated EIM Initiatives, CAISO proposed a series of new functionalities including automatically adjusting schedules of non-EIM entities to eliminate the need for physical dispatch instructions, which also facilitates management of changes to bilateral schedules.

The EIM Governing Body has primary authority for approving the changes because the market rules would not be proposed absent the existence of the EIM. The body is due to review the proposals Oct. 10, which then go before the ISO Board of Governors on Nov. 1. CAISO is taking comments until Aug. 17.

## CAISO NEWS

# CAISO Resettling 2016 DR Results

By Jason Fordney

SACRAMENTO, Calif. — While CAISO has in recent years made strides in incorporating demand response into its wholesale market, it was forced to recalculate its 2016 DR settlements because of missing performance data, the grid operator said last week.

ISO representatives, DR companies, utilities and others industry participants met with state regulators to discuss the challenges associated with implementing more DR into grid operations and markets.

CAISO Infrastructure and Regulatory Policy Manager Jill Powers said the grid operator last year altered its market models to make DR registration and ISO modeling more efficient. But problems within the legacy DR system resulted in settlements that relied on incomplete and missing performance data.

The ISO reprocessed all 2016 DR performance data, which will be reflected on the next settlement recalculation statements for DR providers. Full resettlement is due to be completed by October. The ISO will next year replace its legacy DR process with "more robust systems," she said.

"We have taken corrective actions for all the dates identified," Powers said.

CAISO in 2015 implemented a program that allowed emergency-triggered DR to offer spinning reserve services into the ISO market. San Diego Gas & Electric began providing non-spin and spinning reserve market services through the program that same year.

The grid operator is currently managing a number of initiatives regarding integration of DR and distributed energy resources. The ISO's Board of Governors last month approved a package of market rules that included new baselines to better reflect the performance of various types of DR. (See *New CAISO Rules Spell Increased DER Role*.) The ongoing Flexible Resource Must Offer Obligation 2 initiative also includes new flexible capacity categories available to DR. (See *CAISO Flex Capacity Effort Targets Increased Variability*.)

CAISO's 2016 enhancements significantly reduced processing timelines and management of new DR resources. They also implemented new sub-load aggregation point boundaries and relaxed telemetry requirements, which lengthened the scan rate when providing telemetry to help lower costs for DR.

An uncertain market structure and frequent rule changes are inhibiting expansion of DR, as well as increasing complexity of integration, EnerNOC Director of Regulatory Affairs Mona Tierney-Lloyd said. There are inconsistencies between CAISO rules and Public Utilities Commission rules and frequent changes in program requirements, she said. EnerNOC supplies DR services around the world.

California Energy Commission Chair Robert Weisenmiller said that integrating DR is "a very challenging area."

"We are moving to a system that is going to be highly decentralized, and we are going to need visibility and automation to manage it," he said.

On Wednesday, the commission adopted new guidelines for ensuring that publicly owned utility resource plans comply with requirements from SB 350, the 2015 law that included new greenhouse gas emission reductions and increased renewables procurement for utilities.

# CAISO Launches Generator Interconnection Effort

By Jason Fordney

CAISO said it will kick off an initiative to refine its generation interconnection process later this year as part of an ongoing effort to accommodate renewables and keep its rules updated.

The grid operator is in the beginning stages of its Interconnection Process Enhancements 2018 program but wants to hear from stakeholders about what its scope should be. CAISO spokesman Steven Greenlee told *RTO Insider* that the enhancements are part of an open interconnection initiative that began in 2013. The initiative in the past has led to minor but useful modifications in the generator interconnection process, and is meant to ensure the process reflects current grid conditions and that rules are updated appropriately.

"It's not that we have found anything major and are looking to broaden the scope; it's just an opportunity for stakeholders to bring up things that may need tweaking or exploring more," Greenlee said.

CAISO said that a future market notice will outline a schedule for the new enhancements, leading up to filing at FERC. In a January 2016 update filed with the commission, the ISO said its "overriding goal has been to tailor its procedures to promote California's energy goals while ensuring that they continue to be grounded in principles of cost-causation, fairness and non-discrimination."

The state's renewable portfolio standard and rapid changes in generation development make it increasingly important to have an efficient interconnection queue process. As a single-state ISO, CAISO must adhere to a more unified set of policy goals compared with other ISOs and RTOs across the country — specifically, the State Legislature setting aggressive renewable generation goals to combat climate change.

Generation developers that want to connect to the CAISO grid must submit an interconnection request that triggers an ISO interconnection study. One of the most significant problems with the process is that many projects sit in the queue for up to a decade after slowing or stopping their progress. While some of the delays are outside the developer's control, they can result in the holding of capacity, transmission, deliverability and bus positions that hinder other projects.

In March 2016, FERC approved 10 changes to the interconnection process, including new timelines for projects in the queue. Last year CAISO had 44 projects in its queue — representing 17% of the total — with commercial operation dates more than seven years from their interconnection requests.

The ISO is seeking comments on the scope of the new initiative by Aug. 30.

## CAISO NEWS

# Wary FERC Approval for Powerex EIM Agreement

*By Jason Fordney*

FERC staff have accepted CAISO's implementation agreement for Canadian energy marketer Powerex to join the Western Energy Imbalance Market (EIM) but cautioned that the arrangement could be subject to further scrutiny once the commission meets after restoring its quorum.

"Preliminary analysis indicates that CAISO's proposed implementation agreement has not been shown to be just and reasonable and may be unjust, unreasonable, unduly discriminatory or preferential, or otherwise unlawful," FERC staff said in its delegated order (ER17-1796).

The order's language suggests that the commission could compel the ISO to address certain EIM stakeholder concerns about the agreement. FERC's quorum was restored Thursday with the swearing in of former Pennsylvania Public Utility Commissioner Robert Powelson, joining former Senate Republican aide Neil Chatterjee, whom President Trump named acting chairman. (See *Chatterjee Named Acting FERC Chair as Quorum is Restored*.)

Powerex, which markets hydroelectric generation from parent BC Hydro, finalized the agreement with CAISO in May after announcing its intention to join the West's only real-time energy market. (See *Powerex Slated to Become First Non-US EIM Member*.) The company's membership would provide the EIM increased access to about 17,000 MW of generating capacity, about 12,000 MW of which is flexible hydro. Powerex currently markets power across the U.S. and as far south as Mexico.

In filings with the commission, some commenters raised concerns about "the principles set forth to guide the negotiation and implementation of additional agreements necessary for Powerex's EIM participation," as well as potential changes to the EIM framework that would be required to integrate the company into the market, FERC said.

CAISO said that the specifics of Powerex's participation in the EIM will be detailed in a separate filing to FERC before the company is integrated. The ISO has told FERC that concerns about the way Powerex is integrated are beyond the scope of the proceeding and can be addressed in future filings.

"The implementation agreement does not establish binding terms for Powerex's participation in the EIM but merely commits the CAISO and Powerex to work in good faith to reach agreement on an acceptable framework," CAISO said in a July 14 answer to filed comments. As a Canadian entity, Powerex has unique legal and regulatory circumstances, but that does not mean that it will be subject to a different set of rules than other EIM participants, CAISO said.

EIM participants Pacific Gas and Electric and Southern California Edison did not oppose the Powerex integration and did not ask for it to be modified.

Market participants are concerned, however, about a provision in the agreement that allows it to be modified to include additional parties, which they say is unique to the Powerex integration. CAISO would be required to make additional filings to explain why the agreement should be modified to allow additional parties, which the grid operator said is not currently being contemplated.

Powerex markets BC Hydro output from assets such as the Mica Dam on the Columbia River.

In a joint filing with FERC, EIM participants — including PacifiCorp, Idaho Power, Portland General Electric, Puget Sound Energy and NV Energy — said that Powerex's entry is a new model because it is a merchant market participant that is not located within or pseudo-tied with any EIM participant. They were concerned about provisions in the agreement that enable Powerex to enter into non-EIM transactions after submitting its base schedules to the market.

EIM entities that enter into transactions after the submission of base schedules can be subject to energy imbalance charges. The companies said CAISO should explain whether Powerex will be subject to the same bidding deadlines and charges, "or will be the only merchant participant permitted to enter modifications to base schedules as if it were an EIM entity." They said they "look forward to the development of subsequent agreements with Powerex and BC Hydro that demonstrate uniform (not just compatible) market rules are applied to all market participants."

The implementation agreement becomes effective Aug. 15, with Powerex slated to join the EIM in April 2018.

## ERCOT NEWS

# Board of Directors Briefs

### Rising Gas Prices Lead to Higher Energy Prices

Rising natural gas prices will likely mean an end to ERCOT's all-time low energy prices, according to the Independent Market Monitor's midyear review of the Texas grid operator's market.

IMM Director Beth Garza told the ERCOT Board of Directors last week that real-time prices are up almost 40% over the first half of 2016, averaging $28.50/MWh, compared to $20.41/MWh during the same time last year.

The load-weighted average for all of 2016 was $24.62/MWh — the lowest ever since the nodal market's implementation in late 2010. (See "IMM Year in Review: Low Prices, Windy, Lots of RUC," *ERCOT Board of Directors Briefs*.)

Garza said the rise in prices is linked to a corresponding increase in gas prices, which have gone from less than $1.70/MMBtu in early 2016 — "The lowest gas prices I've certainly seen in my career," Garza said — to pennies shy of $3/MMBtu this month. Gas prices averaged $2.45/MMBtu in ERCOT last year.

The Energy Information Administration has attributed the rising prices to an increase in exports to Canada and Mexico. The Mexican energy market in recent years has been replacing coal- and oil-fueled generation with natural gas.

The increasing cost of gas has also resulted in a decrease of its use for generation. Gas accounted for 35% of ERCOT's fuel generation during the first half of the year, down from 44% for all 2016. Coal and wind sources have picked up the slack, increasing to 32% and 21%, respectively, through June, up from 29% and 15% last year.

Garza also noted that price spreads between ERCOT's cheapest (West) and most expensive (Houston) zones have been increasing as well, from a $4 spread in the first half of last year ($18 to $22/MWh) to $11 through June 2017 ($23 to $34/MWh), because of increased congestion. ERCOT's top 10 constraints have accumulated approximately $375 million in congestion costs, more than halfway to last year's total of about $500 million.

"So, [there is] more frequent, more costly congestion going along with those higher prices," Garza said in summation.

Much of that congestion occurs in the Houston zone. A constraint on a path that imports energy from the north has incurred more than $90 million in costs through the first six months, almost double its $49 million in congestion costs for all of 2016.

The Houston Import Project, a $590 million project scheduled to be completed by summer 2018, is expected to resolve much of the congestion. In the meantime, however, lines being taken out of service to enable construction of new facilities has exacerbated the problem, Garza said.

"I think that's what we're seeing this year," she said.

ERCOT CEO Bill Magness said higher-than-expected congestion in the day-ahead market also resulted in a surplus in the congestion revenue rights (CRR) balancing account. The unexpected balance resulted in a $24.2 million credit to load in June.

Warren Lasher presents to the board. | © *RTO Insider*

### Gas Production Affects Texas Grid

Todd Staples, president of the Texas Oil & Gas Association, said fracking and improved technologies that have reduced the cost of natural gas have also made the U.S. the largest producer of natural gas in the world.

Natural gas production has grown almost 30% since 2010, Staples said, with Texas leading all states by accounting for more than 27% of U.S. marketed natural gas production in 2015. The Lone Star State also has 90 Tcf of proven natural gas reserves, 26% of the nation's total.

"Low-cost natural gas is the reason you're seeing billions of dollars of capital investment in Texas for today and the long haul," Staples said. "This capacity is the reason you see the strength of continued planned investment and development in Texas. This infrastructure, what we have in place today and what is planned for the future, is the reason we think we'll have this continued growth."

Much of the production takes place in the Permian Basin of West Texas. Staples said he expects "the Permian will be active no matter the highs and lows of the investment market."

Warren Lasher, ERCOT's senior director of system planning, said natural gas production, consumption and exports are causing localized growth in electric demand. He pointed to the natural gas extraction in the Permian Basin but also noted industrial demand near Houston and the several LNG facilities being built on the Gulf of Mexico.

"We're working with providers in the area to ensure we're meeting their demand," Lasher said.

He said ERCOT is beginning a study to ensure the existing pipeline capacity can meet demand, given recent changes to both the natural gas system and the ISO's grid. A 2012 assessment of the Texas region's natural gas infrastructure found the existing

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## ERCOT NEWS

# Board of Directors Briefs

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pipeline capacity was sufficient to meet demand, even with the expected growth of natural gas generation capacity.

Recent staff planning studies have not identified any single points of disruption on the natural gas system that would have a significant impact on ERCOT generation capacity, Lasher said.

"It's not an issue now," he said, "because there's so much pipeline capacity in Texas."

### ERCOT on Track to Finish 2017 $5M Under Budget

Magness said the ISO is projecting a $4.5 million favorable variance in net revenues at year's end, based on current balances and the load forecast for the remainder of 2017. A $3.1 million savings in interest expenses for project funding is $3.1 million under budget because of minimal use of revolving lines of credit.

July's record-breaking demand helped ERCOT erase $1.3 million of a $2.1 million unfavorable variance in system administration fees. The Texas grid has yet to break 70 GW this summer, "but there's a lot of August yet," Magness said.

Staff has forecasted a peak demand of 72.9 GW this summer, which would break last August's record peak of 71.1 GW. (See *Texas Heat Leads to more ERCOT Demand Records*.)

While Texas has sufficient capacity to meet demand, more is on the way. Magness said ERCOT had received 306 active generation interconnection requests totaling 67.6 GW — including 30.2 GW of wind generation — at the end of June. The ISO had 19.3 GW of wind capacity in commercial operation as of July 1.

Magness also said the Aug. 21 solar eclipse will have a "likely minimal" impact on the ERCOT region, with much of it in North Texas. Ancillary services and the solar forecast will address the expected effects, he said.

However, the April 8, 2024, eclipse's line will pass over the middle of Texas. "So that's something to look forward to," Magness said.

### Board OKS 2 Revision Requests, SCR

The board's unanimously approved consent agenda included two nodal protocol revision requests (NPRRs) and a system change request (SCR):

- NPRR822: Designates the procedure for identifying resource nodes as an "other binding document" instead of a "business practice manual." It also adjusts the process for handling a retired resource's nodes by allowing ERCOT to convert CRRs at that node to a different, nearby settlement point.
- NPRR833: Adjusts NPRR827's language to account for the base-case model when ERCOT implements the long-term, automated change affecting point-to-point (PTP) obligation bid clearing. The NPRR updates the day-ahead market optimization engine to address situations where a contingency disconnects a resource node. The engine will pick up the PTP megawatts and distribute them to other nodes, instead of ignoring them in contingency analyses if that PTP sources or sinks at the disconnected point.
- SCR792: Allows ERCOT to send consecutive clock-minute average exceedances of balancing authority area control error limits to appropriate entities, and creates a situational awareness display in the information system's public area showing the exceedances.

*— Tom Kleckner*

## ERCOT NEWS

# ERCOT, Regulators Discuss Need for Pricing Rule Changes

*Continued from page 1*

ERCOT," recommends several market improvements, including adjusting the operating reserve demand curve (ORDC) and adding local scarcity pricing, to address intermittent renewables and improve incentives for generators.

"Fundamentally, we don't see the system as broken," said Harvard University's William Hogan, who cowrote the report with FTI Consulting's Susan Pope. "We tried to look at those issues … scarcity pricing and related subjects, that might be considered further. They've been discussed in the past and postponed, but now might be a good time to look at them."

Commissioner Ken Anderson agreed with the report's conclusion that the ERCOT system isn't broken.

"It's been six years since we went to the nodal system," Anderson said. "I think it's a good time to see whether we need any material improvements to the system, and what the costs and benefits to the system are."

Unlike RTOs in the East, ERCOT does not run a capacity market, which pays generators to keep their plants ready to run. The Texas grid relies on price spikes during scarcity events — currently capped at $9,000/MWh — to incent the construction of new plants and maintenance of aging facilities.

However, ERCOT's nearly 20 GW of wind generation and an expected wave of solar generation threaten to push the grid's coal- and nuclear-fired generation out of the market. Investment firm Tudor, Pickering, Holt & Co. has said all but two of Texas' 15 coal plants are losing money.

Still, scarcity pricing is "working just as designed," Hogan told the commissioners as he and Pope reviewed their report with the PUC.

"You've been fortunate in that you have a lot of capacity and short-term load growth," Hogan said. "Scarcity pricing has been pretty small, which should happen. It's working … but the other side of story is it's not been severely tested."

"If someone asked me today what's the biggest problem with our market, it would be that we have too much power," Commissioner Brandy Marty Marquez said. "We do have so much surplus."

David Patton, president of Potomac Economics, ERCOT's Independent Market Monitor, cautioned against relying on the generation surplus. The ISO has said it has 81.6 GW of capacity available this summer, more than enough to meet a projected demand peak of 72.9 GW.

"It can be easy to have a false sense of security and think you have this big surplus. Then, all of a sudden, a couple of units retire and there's no surplus any more, in the span of a year," Patton said. "It's pretty clear to me there are resources in Texas under extreme economic pressure. If operators decide it's not worth it to continue losing money, you'll see the surplus disappear."

Patton reminded the commission of the Monitor's recent State of the Market report, which listed co-optimizing energy and ancillary services among seven proposed market improvements. The report suggests using a local reserve product, such as the 30-minute reserves used by other RTOs, and considering including marginal losses in LMPs. (See *ERCOT Monitor: Optimizing Energy, A/S Top Priority*.)

"Implement software to better commit peaking resources more economically," Patton said. "Whatever you do to try and solve the RUC [reliability unit commitment]

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# ERCOT NEWS

## ERCOT, Regulators Discuss Need for Pricing Rule Changes

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problem with regard to pricing, it's probably much less if you economically commit those units and assist participants with committing those units in a short time frame."

Patton has a supporter in Golden Spread Electric Cooperative's Mike Wise. The co-op's s senior vice president of regulatory and market strategy, who has railed against the use of RUCs in both ERCOT and SPP, said it has supported a local reserve product since 2013.

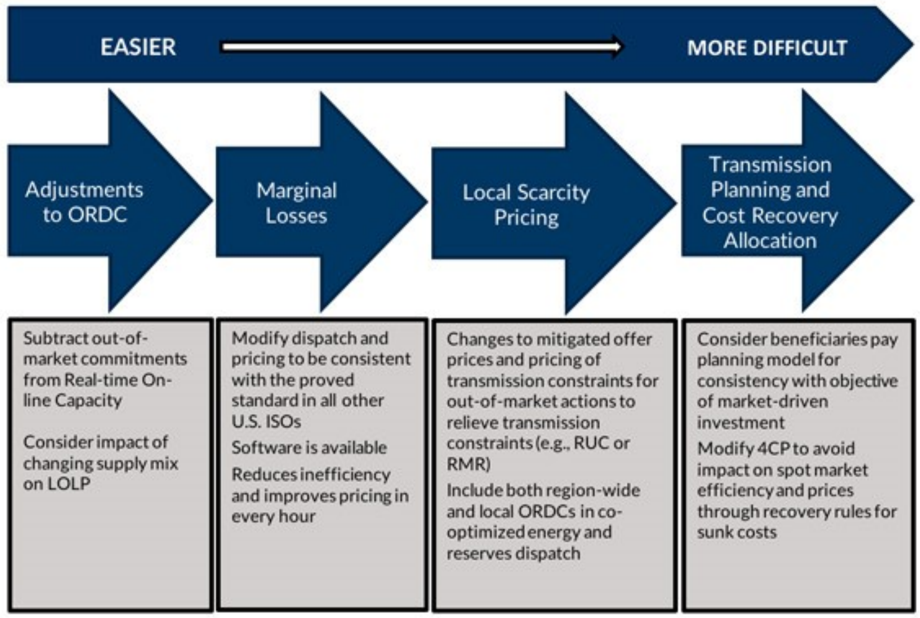
"Additionally, Golden Spread has had positive experiences with real-time co-optimization in [SPP] and is optimistic ERCOT can realize significant benefits from implementation of that feature as well," Wise said. "An effective marginal-loss methodology helps achieve the best price signals in an organized wholesale electric market."

Vistra's Frazier disagreed.

"We're concerned with Dr. Patton's suggestions that we should make major changes to the wholesale market just because economists generally think they are good ideas, without assessing the costs and benefits of those changes," Frazier said. "This is particularly the case since all three experts admitted that they had not performed any studies to evaluate the impacts of implementing marginal losses in ERCOT," she said, referring to Patton and the study's authors.

Assessing the costs and benefits of implementing real-time co-optimization and scarcity pricing has been left to the ISO. Staff has already estimated it will take at least $40 million and up to five years to deploy co-optimization, citing the project's complexity and scope: It would affect 13 ERCOT systems. Staff have yet to define requirements or develop a design, and face months of testing and market trials.

"It's a large-scale, high-impact project. It impacts multiple core systems of ERCOT," said Chad Seely, ERCOT's general counsel and corporate secretary. "A large assumption here is if the commission decides to move forward with real-time co-optimization, we would still work on other projects while also working on real-time co-optimization."




Price formation reforms | *"Priorities for the Evolution of an Energy-Only Electricity Market Design in ERCOT" by William Hogan and Susan Pope*

"I had hoped this was a simpler process, given that other RTOs have done it," Anderson said.

Seely told the commissioners ERCOT would likely have to rely on outside consulting to quantify the benefits of the proposed market improvements.

"I'm not sure how I think about that," Anderson said. "I'm a little hesitant to launch off on a project of this magnitude and complexity, particularly based on ERCOT's view that this is a four- or five-year project and a $40 million cost."

"On the other hand, if you have too many more $50 million [reliability-must-run contracts], that load could have already bought [the project]," Marquez pointed out, referring to a costly RMR contract in Houston that recently ended. (See *ERCOT Ending Greens Bayou RMR May 29*.)

Implementing scarcity pricing would be a project similar in cost and scope as the co-optimization initiative, staff said. Kenan Ögelman, ERCOT's vice president of commercial operations, said staff have discussed marginal losses and locational reserves with NYISO and ISO-NE. ERCOT has promised further information on co-optimization and scarcity pricing before the PUC's Oct. 12 open meeting.

Anderson also asked Patton to file with the PUC a document that would put "meat on the bones" of his proposal to address RMR issues with a local reserve product.

The workshop was the first of at least two, although the next session has yet to be scheduled. Several stakeholders took advantage of the opportunity to question Hogan, Pope and Patton. Stakeholders also have been promised a chance to present their cases for and against the market recommendations.

The two commissioners — a third is not expected to be appointed until Texas' current special legislative session ends — will take up the issue again at their next open meeting Thursday. PUC staff said they would resubmit their May 31 request for comment, which includes a list of questions for stakeholders, as a starting point in the docket (No. 47199).

"I want to chew on this cost and benefit analysis," Anderson said. "I'm inclined to believe there are proposals, or changes or modifications, that make a lot of sense. The question is, what foundation do we need to build or support a decision like that?"

## ISO-NE NEWS

# NEPOOL Markets Committee Briefs

### CASPR May Exclude New Resources from Substitution Auction

ISO-NE last week advanced the idea of excluding competitive new resources from functioning as demand in a proposed "substitution" capacity auction, which is designed to enable generators with retirement bids that cleared in a primary Forward Capacity Auction to transfer their obligations to subsidized resources that did not clear because of the must-offer price rule.

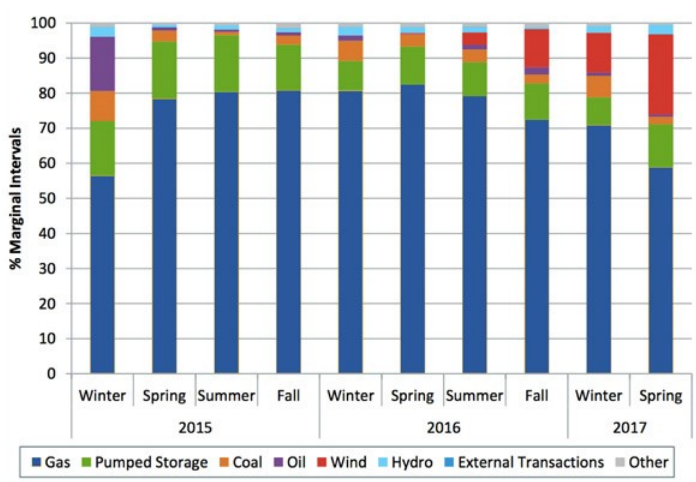
The grid operator proposed the exclusion to help keep Forward Capacity Market prices competitive and maintain its "cash for clunkers" framework for retiring aging fossil fuel generators.

ISO-NE economist Christopher Geissler presented the RTO's conceptual approach to Competitive Auctions with Sponsored Policy Resources (CASPR) to the New England Power Pool Markets Committee, which met Aug. 8-10 at Cape Neddick, Maine.

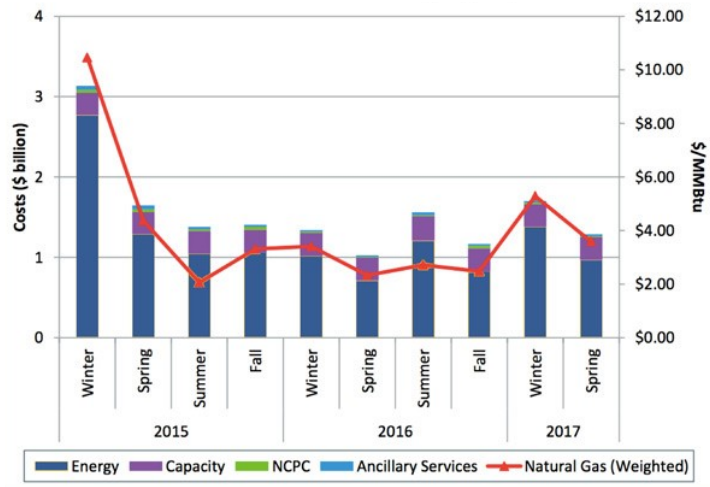
CASPR is designed to accommodate the entry of "sponsored" resources — such as resources mandated by a renewable portfolio standard or other state policy — into the FCM over time, while maintaining competitively based capacity prices for other resources. The RTO's latest proposal comes in response to stakeholders concerned that sponsored policy resources could unfairly reduce primary FCA prices and crowd out competitive generation. (See *Public Power Skeptical of ISO-NE Two-Tier Capacity Auction*.)

Part of the grid operator's Integrating Markets and Public Policy (IMAPP) initiative, the latest proposal is intended to head off stakeholder concerns about competitive resources "walking down the demand curve" of the FCA by ensuring that the substitution auction coordinates entry of sponsored resources and exit of older generators.

To limit the potential ability of public entities to reduce consumer costs by sponsoring lower-cost (e.g., combined cycle/combustion turbine) resources, stakeholders had suggested imposing additional restrictions on the types of capacity eligible to participate as supply or requiring additional documentation to show that the resource




ISO-NE marginal units by fuel type | *ISO-NE*




ISO-NE market costs through spring 2017 | *ISO-NE*

was being built to meet a public policy need.

ISO-NE said it does not plan to propose rules that would require the RTO to evaluate whether a sponsored resource meets public policy needs. The grid operator said its two-tier auction proposal "incents the continued participation of competitive new resources in the FCM, when market conditions allow."

### IMM: Spring 2017 Energy Costs up on Gas Prices

Higher natural gas prices drove ISO-NE wholesale market costs up 26% this spring compared with a year earlier, to $1.3 billion.

ISO-NE Director of Market Monitoring and Compliance Robert Laurita presented the Internal Market Monitor's Spring 2017 Quarterly Markets Report, attributing most of the gas price increase to March, when gas prices jumped 127% from the same month in 2016 because of significantly colder temperatures.

Gas prices averaged $3.59/MMBtu, up 54% compared with spring 2016, which saw unusually low prices because of increased production, above-average storage and low heating demand during the winter. Spring 2017 gas prices were 18% below 2015 levels.

Hourly electricity demand averaged 12,853 MW, comparable to last spring because of similar weather conditions, the report said. March was unseasonably cold, while April and May saw slight reductions in load compared to the same months in the previous year.

Day-ahead and real-time energy market prices at the New England Hub averaged $30.78/MWh and $31.92/MWh, respectively, up 32% and 44% from last spring. Energy prices continued to closely track underlying natural gas prices. The positive deviation in real-time prices for the period was driven by several days with high loads and unit outages during early April, as well as two days in mid-May when high temperatures resulted in higher loads than forecasted. In addition, several units experienced forced outages.

#### Northern Discounts

Energy prices among the load zones deviated only in Maine, New

*Continued on page 11*

## ISO-NE NEWS

# NEPOOL Markets Committee Briefs

Continued from page 10

Hampshire and Vermont, which had lower average prices than the hub. These discounts were the largest — in both dollar and percentage terms — over the two-and-a-half-year period assessed by the Market Monitor. Discounts from the hub ranged from 6% in Vermont to 16% in Maine.

The report attributed the differentials to the prevalence of renewable generators in those export-constrained areas, as well as "various planned and unplanned line reductions or outages during the period that further reduced the transmission capability available to export power to the rest of the system." The discounts were "less pronounced" in the day-ahead market.

Real-time reserve payments for the season totaled $8.9 million, well more than last spring's total of $700,000 and 33% above the 2015 total of $6.7 million. This spring's payments primarily accrued over May 18-19, which accounted for 54% ($4.8 million) of the credits. Those two days saw the grid operator frequently redispatch generation to maintain reserves. Deficiencies several times triggered the reserve constraint penalty factors for 10-minute spinning reserves and 30-minute operating reserves.

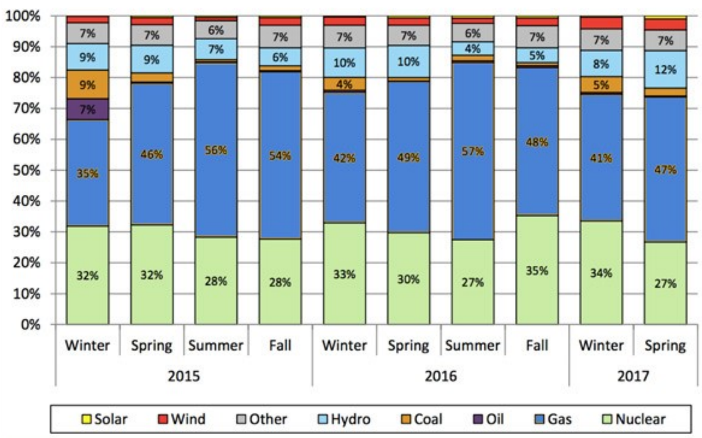
### FCA Payments Stable

Spring 2017 coincided with the last three months of the commitment period associated with FCA 7, in which the NEMA-Boston zone cleared at $15/kW-month for new resources and $6.66/kW-month for existing resources, while Rest-of-Pool cleared at the floor price of $3.15/kW-month. Capacity payments for the season totaled $287 million and were within 1% of spring 2016 payments.

Peak energy rent adjustments remained relatively high at $26 million because of the high real-time energy prices occurring in August 2016.

ISO-NE in April held the forward reserve auction for the summer 2017 delivery period, which saw supply offers exceed the requirements for both the 30-minute operating reserve and 10-minute non-spinning reserve, with no pivotal suppliers. The clearing prices for offline 30- and 10-minute reserves for the control area were $1,000/MW-month and $2,000/MW-month, respectively. Summer 2016 10- and 30-minute reserves cleared at $2,000/MW-month and $2,498/MW-month, respectively. Of the three local reserve zones, only NEMA/Boston had a different price than the control area. Because of inadequate supply (meaning all suppliers were pivotal suppliers), the 30-minute reserve price for NEMA/Boston was set to the auction's offer price cap of $9,000/MW-month, the same outcome as the summer 2016 auction.

*— Michael Kuser*




ISO-NE generation by fuel type | *ISO-NE*

## MISO NEWS

# MISO Bolsters Case for External Resource Zones

*By Amanda Durish Cook*


*MISO*

CARMEL, Ind. — Market participants remain skeptical of a MISO plan to integrate external resource zones into its annual capacity auction, employing single clearing prices for each balancing authority, even as the RTO is introducing changes and speaking one-on-one with stakeholders about the proposal.

MISO Executive Director of Strategy Shawn McFarlane has initiated about "20-odd" conversations with stakeholders to explain the proposal and hear suggestions after last month's stakeholder motion to delay its implementation. Market participants instead favor a more immediate capacity transfer rights proposal that would give equal treatment to long-term supply arrangements involving both external and internal planning resources. MISO is under no obligation to honor the July motion. (See *MISO Members: Court Rebuff May Reduce External Zone Chances*.)

"Our reaction was, 'Let's go have some conversations with people one-on-one,'" McFarlane said during an Aug. 9 Resource Adequacy Subcommittee meeting. "We probably understand some concerns that we didn't understand before."

The RTO plans to make final modifications at the Sept. 13 RASC meeting and continue stakeholder outreach, he said.

"The bottom line is we're still not where we'd like to be in terms of stakeholder alignment," he added.

MISO has changed its original proposal in an attempt to address some stakeholder questions, including about how it will treat border external resources and how excess auction revenues will be doled out to external resources with historical capacity arrangements.

The proposal now says that an external resource bordering the RTO that qualifies in more than one local resource zone must designate its zone two years in advance of a capacity auction and keep that designation and its associated pricing for two years.

Rauch

"That's not something we expect to see a lot of. MISO doesn't have a lot of border resources," said Laura Rauch, MISO manager of resource adequacy coordination.

For external resource zones that connect to more than one MISO local resource zone and require a blended price, shift factors will be calculated annually and posted in the second quarter ahead of next year's auction, Rauch said.

MISO is also proposing to scrap a pecking-order approach to distributing excess auction proceeds to historical capacity arrangements to cover generation-to-load price separation. Under the plan, agreements initiated before the impending creation of external resource zones and resources impacted by zonal boundary changes will be just as eligible for credits as older, grandfathered contracts made before the start of the MISO capacity market.

Indianapolis Power and Light's Ted Leffler asked if essentially all external resources are eligible to receive historical supply arrangement credits as a refund for price separation, what was the point of external pricing at all?

MISO will distribute revenues only to "long-term and consistently used" agreements, Rauch answered. The goal of external zone pricing will be the same as the Planning Resource Auction overall: to minimize total system costs, she said.

Last month, stakeholders warned MISO officials that if there isn't consensus on the proposal, a recent appellate court ruling banning FERC's suggested changes on PJM's 2013 minimum offer price rule could adversely impact the commission's ability to approve the changes.

## MISO NEWS

# Market Subcommittee Briefs

### Stakeholders Give Energy Storage Top Spot in Roadmap

MISO stakeholders last week laid out what they think are the top issues the RTO should tackle in the next year.


Adams

A "Top 10" project list emerged after stakeholders ranked 34 market modification proposals in the RTO's annual Market Roadmap process, MISO Senior Manager of Market Strategy Mia Adams said during an Aug. 10 Market Subcommittee meeting.

Stakeholder scoring results still have to be tallied alongside staff weightings to arrange what market projects the RTO will eventually undertake first.

"This is not a prioritization yet. We'll come back again this fall with an updated work plan," Adams said. "However, it does look like [staff and stakeholders] are in pretty good alignment this year, more so than last year."

This year, MISO limited stakeholders' scoring to a maximum of four "high" and six "medium" priority designations, with an unlimited number of "low" and "do not pursue" designations. This year's market project candidates included proposals outlined in the Independent Market Monitor's annual State of the Market report. (See MISO, Stakeholders Embark on Market Roadmap Rankings.)

Rising to the top of stakeholder priorities: energy storage. Sixty-one market participants with voting rights determined that the most pressing issue for the market is defining a new resource type to accommodate the unique qualities of energy storage. During a special storage workshop last month, stakeholders asked MISO for a storage market definition. (See MISO Rules Must Bend for Storage, Stakeholders Say.)

Three other issues earned high priority from stakeholders:

- Creating an automatic generation control software enhancement that deploys fast-ramping resources more quickly. MISO currently estimates that software can be operational in late 2019;
- Introducing multiday financial commitments (See MISO Exploring Multiday Market.); and
- Better modeling of MISO's approximate 40 combined cycle generators worth 29 GW, which was first requested by market participants in 2011 and is currently in a benefit analysis and design option phase. The new modeling could save an annual $14 million to $34 million in production costs, according to MISO's Yonghong Chen, but won't be ready until 2020.

Market improvements recommended by Monitor David Patton took four of the six medium-priority designations in final stakeholder scoring:

- Setting up short-term capacity pricing and reliability standards so energy can be provided within 30 minutes when needed to manage capacity needs;
- Factoring seasonal needs and risks into the capacity auction;
- Refining modeling and rules so demand response and storage resources "operating across multiple buses" can aggregate to meet a minimum megawatt participation limit;
- Expanding conditions and temperature-adjusted transmission ratings into MISO's Energy Management System;
- Creating a virtual spread product; and
- Incentivizing frequency response service.

MISO will release its final Market Roadmap by December.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### Five-Minute Settlements Delayed?

Several stakeholders have asked MISO to consider pushing back the March 1, 2018, target for implementing the five-minute settlements calculation. (See "Five-Minute Settlements BPM due in Summer," MISO Market Subcommittee Briefs.)

Northern Indiana Public Service Co.'s Bill SeDoris said his company is still awaiting Business Practices Manual language while it works to implement five-minute settlements, and could miss the deadline while still making software and mechanical adjustments. DTE Energy's Nick Griffin agreed.

"We are hearing from folks the same concern," said MISO Executive Director of Market Design Jeff Bladen. "We are still subject to a FERC order. … We can ask for an extension, but we have a FERC order that we have to comply with. That said, we can only do what everyone is feasibly capable of."

Bladen said MISO has already requested a later implementation date than other RTOs, but it will further discuss the possibility of an extension during the September Market Subcommittee meeting. He said MISO still has a team working to create five-minute settlements rules, but the work, originally due in early summer, has been delayed. It is

Continued on page 14

## MISO NEWS

# FERC Conditionally OKs MISO's Pseudo-tie Pro Forma

By Amanda Durish Cook

FERC staff on Wednesday accepted MISO's *pro forma* pseudo-tie agreement with a warning that a full-strength commission could in the future reject the proposal.

MISO's accepted filing fleshed out details in response to multiple questions posed by FERC staff in May regarding the original proposed agreement.

Still, FERC staff said the updated agreement could still be found to be discriminatory by the commission and is subject to refunds (ER17-1061). (See *FERC Seeks More Details on MISO Pseudo-Tie Proposal*.) The *pro forma* became retroactively effective March 15.

In answer to FERC staff's question about the extent of MISO's coordination with PJM in developing the agreement, MISO said the two RTOs engaged in ongoing discussions through MISO's Pseudo-Tie Issues Task Team "over several months in 2016 and restarted again in first quarter of 2017."

"These discussions are continuing today," MISO noted.

MISO also cited the RTOs' recent, twin filings to alter their joint operating agreement to better manage pseudo-tied resources. (See "MISO and PJM File JOA Pseudo-Tie Rules," *MISO Reliability Subcommittee Briefs: Aug. 3, 2017*.)

MISO also defended its stance on excluding PJM as a signatory on the *pro forma*, contending that the agreement should be strictly between MISO and the market participant.

"While the agreement is between the market participant and MISO, the relevant RTOs will coordinate to ensure that the pseudo-tie is implemented safely and reliably and in a manner consistent with applicable regulatory requirements," MISO said.

MISO's filing clarified that it will pull the plug on a pseudo-tie upon termination of an agreement or a lapse in firm transmission service without identical service replacement. The RTO also vowed that it worked with PJM to arrive at a practice of terminating new and existing pseudo-ties when a market-to-market flowgate is not within a 2% generator-to-load distribution factor within either MISO or a neighboring market. MISO said it would revisit that value with PJM as needed.

Additionally, MISO told FERC that it does not intend to retain operational responsibility of a pseudo-tied resource, saying that the attaining balancing authority is responsible for the dispatch and operational control.

The mandatory agreement requires pseudo-tie owners to provide congestion, settlement, deployment and load data to MISO and maintain firm transmission service from the source to the sink for the life of the pseudo-tie. It also makes pseudo-ties subject to the approval of transmission providers and stipulates that pseudo-tie owners must register as MISO market participants and provide six months' notice to terminate the agreement.

MISO also retains "final authority to establish and enforce protocols" for any pseudo-ties and "make all final determinations whether to implement or terminate" them, according to the agreement. Additionally, the RTO can suspend the pseudo-tie if it determines that a pseudo-tie owner has failed to provide necessary data.

FERC staff's measured approval of the *pro forma* comes after MISO asked FERC to convene a pseudo-tie technical conference to clear up several lingering issues industry-wide. (See *MISO Asks FERC for Pseudo-Tie Technical Conference*.)

# Market Subcommittee Briefs

Continued from page 13

also working on identifying units that habitually deviate from setpoint instructions, he said.

### Mississippi Trading Hub

MISO has used geometric analysis to identify 159 electrical pricing node candidates to comprise Mississippi's own commercial trading hub, said Michael Robinson, principal adviser of market design.


Robinson

The nodes are located in both the MISO South and Southern Mississippi Electric Power Association territories, Robinson said. All other MISO trading hubs contain at least 100 electric pricing nodes, and the RTO's analysis considered 622 possible nodes.

The proposed hub, the first MISO hub in the state, will be rigorously stress-tested over the next two months before final recommendation is made at the October MSC meeting, Robinson said. The RTO hopes the new hub will go live before the end of the year. (See *MISO Examines Potential Mississippi Trading Hub*.)

### Market Reopen Incident

Stakeholders also asked why MISO had to briefly reopen its day-ahead market after market close on July 26.

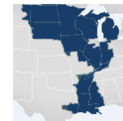
MISO Executive Director of Strategy Shawn McFarlane called the reopening a "market participant issue."

"To not correct this issue would have caused all other sorts of issues in the market," McFarlane said, adding that the error fell into the "broad category" of data-entry errors. He declined to provide any other details.

Tariff changes made last year enable MISO to extend or reopen the day-ahead market to address technical problems. (See "Day-Ahead Market Extension to be Written into Tariff," *MISO Market Subcommittee Briefs*.) Stakeholders asked MISO officials for a future presentation describing under what scenarios MISO may reopen the market. Bladen said MISO could put together a presentation for the September MSC meeting.

*— Amanda Durish Cook*

## MISO NEWS



# Status Quo Kept for MISO Steering Committee Selection

*By Amanda Durish Cook*

MISO's Advisory Committee sectors voted against a proposal to allow stakeholders to annually elect leaders of the RTO's Steering Committee through an independent nomination and voting process.

The outcome of the email ballot will keep intact MISO's eight-year-old practice of automatically appointing the chair and vice chair of the Advisory Committee to serve in their opposite capacities on the Steering Committee. The motion, which failed 7-11 with two abstentions, would have permitted Steering Committee leaders to be selected in a process identical to that of the Advisory Committee.

MISO's Transmission Owners sector had requested the vote to grant the Steering Committee greater independence from the Advisory Committee, which in June decided to delay action on the proposal. (See *MISO Steering Committee Elections Decision Delayed*.)

"There is an interlocking nature between the Advisory Committee and the Steering Committee," current Steering Committee Chair — and Advisory Committee Vice Chair — Tia Elliott said during a July 26 Advisory Committee conference call. She said both committees receive stakeholder committee reports and work together to select topics to discuss before the Board of Directors.

MISO Stakeholder Relations Specialist Alison Lane said the Steering Committee began as an *ad hoc* group to assist the Advisory Committee in "managing the many different topics and charters of the many working groups and task forces" that existed at the start of the RTO's market.

Ameren's Ray McCausland said MISO at that time was "a small, start-up RTO" and the "flip-flop" leadership was put in place because there weren't many stakeholder volunteers from which to choose.

With the stakeholder redesign two years ago, the Steering Committee took on an expanded role, with more authority to update MISO's Stakeholder Governance Guide, which provides the governing guidelines to stakeholder committees. The redesign also dictated that issues must first be submitted to the Steering Committee for committee assignment in order to be discussed in stakeholder meetings or added to the Market Roadmap list of market improvements.

"The genesis of this proposal really goes back to the stakeholder redesign effort," said Entergy Vice President of Federal Policy Matt Brown, whose TO sector submitted the unsuccessful motion. "We think it would be more effective and an improvement to directly elect those leadership positions. It's really just house-keeping — or routine maintenance might be a better way to put it — to improve Steering Committee leadership. It's anomalous right now. Every other MISO stakeholder committee leadership is elected."

Brown pointed out that under the proposal, Advisory Committee leadership would still be eligible to run for Steering Committee leadership, albeit alongside any other interested stakeholders. "There's no reason to restrict anyone from running for the office," he said.

## NYISO NEWS

# Solar Powers New York City Council Candidate

*By Michael Kuser*

NEW YORK — Keith Powers attracted attention in energy circles last month when he wrote an op-ed in *Crain's New York Business* advocating that solar panels be floated on the Central Park reservoir.

The park abuts the 4th City Council District — the "Silk Stocking District" — from which Powers is running for a seat. He faces eight rivals in a Democratic primary Sept. 12.

When he spoke to *RTO Insider* at Times Square early this month, Powers had just been endorsed by the New York League of Conservation Voters, a statewide environmental organization that advocates for clean water, clean air, renewable energy and open space through political action.

"I've had very good feedback on my idea to put solar panels in Central Park," Powers said. "There was a discussion on Mayor Bill de Blasio's plan, which he calls 80 x 50, to tackle climate change, a very ambitious plan whereby New York City's greenhouse gas emissions will be 80% lower by 2050 than in 2005. The mayor talks about environmentalism and has big ideas and a plan, so if I'm going to be down at City Hall, I need to be working to make that plan a reality."

Can New York City on its own create a plan and follow through to reduce its carbon footprint?

"Not only create and follow through," Powers answers, "but also show the world that a big city can achieve it, can think outside the box, can very realistically help the world tackle climate change."

### Why Floating Solar Panels?

Powers gained government experience working for the State Senate and serving as chief of staff for a member of the State Assembly. Before running for City Council, he was a vice president at Constantinople & Vallone Consulting, a lobbying firm.

He said his point in writing the op-ed piece was to propose something that had not been spoken about so far.

"The district I'm running in includes parts of Times Square, Bryant Park and Museum

Keith Powers | © *RTO Insider*

Mile, all the way up to the Upper East Side, so it truly is the world's city council district," he said. "It's important that the person representing it thinks bigger than just local politics. New York City on its own can be both a global leader on particular issues, but also can solve certain issues just based on the density of the population."

Solar panels would not detract from the recreational role of the reservoir in Central Park, while their presence would send a powerful signal on the city's commitment to renewable energy, Powers said.

California is also considering floating solar panels on reservoirs because, aside from the power generation, they also decrease water loss through evaporation and prevent the kind of algae blooms currently afflicting the Central Park reservoir. The cooling effect of the water also increases the efficiency of the panels.

### Steal My Idea

"We haven't seen floating solar in New York yet, but at this moment, when we have a federal government that's not looking to tackle climate change — in fact doing the opposite — we have cities that are trying to do that work on their own," Powers said. "We have a very uncertain future in terms of the planet we live on, so not to put all ideas forward would be a missed opportunity."

Powers wants people to visit New York City and say "our city should be doing that."

"Philadelphia has a website that features what's going on in other cities and it's titled 'Ideas We Should Steal' — and I wanted this to be an idea other people would want to steal," he said. "And many of the ideas featured on that website are from New York City. We learn from each other. I learned of floating solar because I saw that China was doing it. Ideas adapt and migrate, just like birds."

A lifetime resident of the city, Powers looks to young people to bring about change over the long term — especially to public schools to equip youth with the tools to generate ideas.

"One in 300 Americans are in the New York City public school system, and solving issues like poverty or creating a cure for the next disease can come directly out of our schools," Powers said.

"When we talk about environmental issues, there's no better way than schools for getting both our students and our city better equipped to deal with the future in terms of climate change."

### Better Buildings

Powers noted that his district has some of the poorest air quality in the city, mainly because its buildings are big polluters.

"We don't think of buildings that way; we think of vehicles and factories, but our worst polluters in this city are the buildings that we live in," Powers said. "With new development, we have an opportunity to change the standards and make them more eco-friendly. But with our aging infrastructure, many of the buildings are polluters, so we have bad air quality in Manhattan, period, and my district ranks badly because we're so dense and have so many big buildings. A lot of the new office buildings are LEED-certified and very progressive in terms of their standards, but old residential buildings keep burning that dirty fuel oil."

Changing human behavior is the most difficult part, he said.

"We can build nice buildings with the newest technology, but we still have to change human perceptions of what is right," Powers said. "There is social pressure, the 'do-good factor.' And I think it's great if a company thinks it can win public favor by being a better corporate citizen. But we all go home somewhere every day, and I think a lot of homes are still five to 10 years away from the technology that can really make them energy efficient."

# Business Issues Committee Briefs

## Committee Advances Interconnection Queue Improvements

RENSSELAER, N.Y. — NYISO's Business Issues Committee on Wednesday approved steps intended to improve the efficiency of the interconnection queue process while maintaining needed reliability evaluations. The committee voted to recommend that the Management Committee approve the changes at its next meeting on Aug. 30. NYISO foresees filing associated Tariff changes with FERC in late September following Board of Directors approval next month.

Thinh Nguyen, NYISO interconnection projects manager, led an Aug. 9 presentation detailing changes to increase administrative efficiency and speed up the interconnection study process. Those changes should allow developers to move through the queue more quickly, particularly the Class Year Study phase, which evaluates the cumulative impact of a group of projects that have reached similar milestones. New rules that bifurcate the class year to allow some projects to advance have the potential to shave nine months off the phase.

The proposed changes clarify and update existing practices and procedures, except for the transmission interconnection procedures, which have already been filed with FERC and are still pending acceptance.

NYISO proposed effective dates and transitional rules that would allow projects currently in the interconnection process to benefit from the proposed changes. Proposals requiring Tariff revisions will become effective the date of the FERC order accepting the revisions, unless otherwise specified.

Market mitigation analyst Lorenzo Seirup assisted with the presentation, as did Market Manager Gregory R. Williams and Zachary T. Smith, installed capacity (ICAP) market operations supervisor.

## ICAP Manual Changes for Demand Curve Reset Updates

The BIC approved ICAP manual revisions needed to reflect the process changes stemming from the ISO's demand curve reset.

Smith presented the proposed revisions, which reflect Tariff changes that lengthen the period between demand curve resets and implement an annual update process.

The initial updates to the manual include quadrennial reviews of both the demand curve adjustment process and the annual update process. NYISO also removed language that merely repeated what is stated in the Tariff.

Changes also indicate that the results of each annual update will be posted on or before Nov. 30 of the year prior to the start of the capability year for which updated ICAP demand curves will apply. Based on a stakeholder comment at the July 27 ICAP Working Group meeting, language was added stating that NYISO will present the results to stakeholders.

## NYISO Prepares DER Pilot Program Framework

The BIC also heard about NYISO's pilot program to test the ability of the Bulk Electric System to adapt to distributed energy resources. The two-year pilot is slated to begin in April 2018.

NYISO Market Design Specialist Brian Yung presented a DER Pilot Program framework, which aims to assess the capability of DER to provide benefits to the wholesale market, develop performance measurement standards and establish and evaluate coordination between the ISO and DER aggregators.

The ISO's DER Roadmap outlines its plans for integrating DER into its ancillary services, capacity and energy markets over the next five years and also pledges the grid operator to establish pilot programs. (See *NY DER Question: Deployment or Markets First?*)

The framework sets a statewide enrollment limit of 50 MW at any one time, with a maximum of 10 MW in enrolled capability serving a single transmission node. The limits are intended to minimize market and operational impacts at the node. NYISO also proposes a maximum of five individual pilot projects at any one time but will consider adjusting this limit based on staffing requirements and other factors.

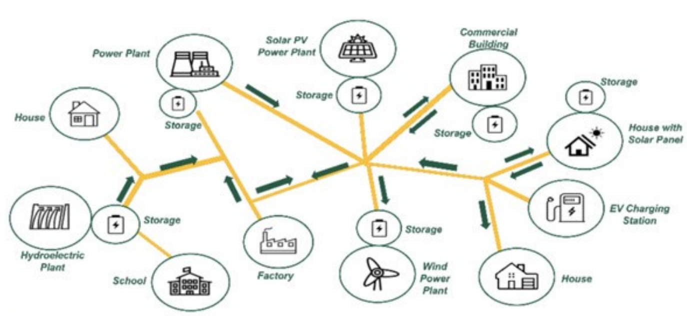
The program limits individual pilot projects to a minimum of 100 kW of aggregated capability for energy and reserves, 200 kW for regulation service and a maximum of 10 MW of aggregated capability — and sets a 12-month cap on project duration. NYISO can either extend or stop an individual project to meet program objectives.

Resources participating in the wholesale markets — except for demand-side resources — will not be eligible to participate in the pilot program. NYISO will review wholesale market demand-side resource participation on a case-by-case basis to ensure the resource can meet its existing wholesale market obligations while participating in the pilot.

The ISO will select proposed pilots based on how well they can demonstrate energy and/or ancillary services, blend of resource types, technology maturity, DER and aggregation deployment experience, and testing availability. Preference will be given to proposals that can meet the desired six-second telemetry scan rate. The program will focus on testing the technical capabilities of aggregations rather than price signaling, NYISO said.

One market participant recommended that the grid operator work with the New York State Energy Research and Development Authority to market the program. Others said that a highly public rollout would improve the success of the program, and that the ISO should make clear whether the program includes aggregated storage.

*— Michael Kuser*




Bidirectional power flow grid schematic | *NYISO*

## Infocast New York Energy REVolution Summit

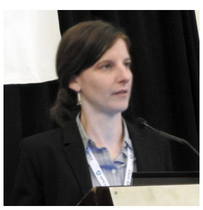
# New York City Ramps up Community Solar

*By Michael Kuser*

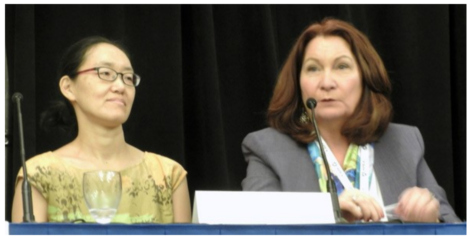
NEW YORK — New York must improve its policies and regulations around distributed energy resources in order to ensure that community solar can help meet Gov. Andrew Cuomo's goal of 325 MW installed solar capacity in the city and nearly 3,000 MW statewide by 2023.

That was the perspective of participants on a community solar development panel at the Infocast New York Energy REVolution Summit held Aug. 1-3 at Times Square.

"The community solar programs in New York were slow to start, much slower than we originally anticipated because the market signals weren't quite there for a while," said Cynthia Christensen of Namaste Solar, an employee-owned cooperative with headquarters in Boulder, Colo., and an office in New Paltz, N.Y. "Investors always like certainty. Good, bad or indifferent, give them certainty."



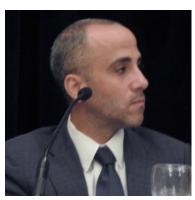
Panel moderator **Valessa Souter-Kline**, policy coordinator for the New York Solar Energy Industries Association said, "Community solar is still fairly new. The order authorizing it [Reforming the Energy Vision (14-M-0101)] came out in 2015, and it's had a slow start because when the CDG [community-distributed generation] order came out, the state also started digging into some other policy issues, including the value of DER. So there has been some policy and regulatory uncertainty."



Jung (left) and Christensen | © *RTO Insider*

### The Value Stack

The state's Public Service Commission in March issued a Value of Distributed Energy Resources (VDER) order (15-E-0751) that began the transition away from net energy metering and toward an approach that aggregates specific value components. (See *NYPSC Adopts 'Value Stack' Rate Structure for DER*.)



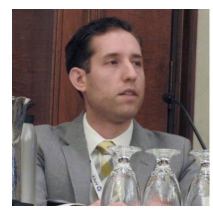
**Drew Warshaw**, vice president of community solar for NRG Energy, said that the VDER order differed significantly from its draft form.

"As a result, the slow ramp-up that we've had is going to continue unless some of the economics around that problem change. In terms of the governor's and the administration's goal of 325 MW of community solar — we don't see that happening without significant changes around the program economics," Warshaw said.

To incent community solar, "there are any number of levers on the revenue side that the state can pull," Warshaw said. "I think the [New York State Energy Research and Development Authority] block program is certainly one — and the market transition credit, which is one of the pieces in the value stack of the VDER order."

### City Goals

Mayor Bill de Blasio in 2015 launched the OneNYC climate change program, which aims to lower the city's greenhouse gas emissions to 80% below their 2005 levels by 2050, achieve the best air quality of any large U.S. city and send no waste to landfills by 2030.



**Benjamin Mandel**, renewable energy policy adviser with the mayor's Office of Sustainability, said the city is working to ensure that as the market moves beyond net metering, it "has the right kind of signals both in terms of where it benefits utilities and also where does policy benefit and where we want to see DER projects going, including community solar."

In terms of the installed capacity needed to meet its greenhouse gas mitigation goal, the mayor's office estimated it would need 7 GW of solar citywide, which is "our entire technical potential," Mandel said. "For reference, we've probably got between 110 and 120 MW installed citywide right now ... a stretch goal is to reach 1,000 MW of installed solar capacity citywide by 2030."

The mayor's office works with Sustainable CUNY and the NYC Economic Development Corporation to expand access to the benefits of solar energy and other forms of renewable energy. Programs include Solarize NYC — for community group purchasing — and a related program called Shared Solar NYC.


The community solar panel at Infocast's New York Energy REVolution Summit (left to right): Tom Hunt, Clean Energy Collective; Drew Warshaw, NRG Energy; Benjamin Mandel, New York City Mayor Bill de Blasio's Office of Sustainability; Bomee Jung, New York City Housing Authority; Cynthia Christensen, Namaste Solar; and moderator Valessa Souter-Kline, New York Solar Energy Industries Association. | © *RTO Insider*

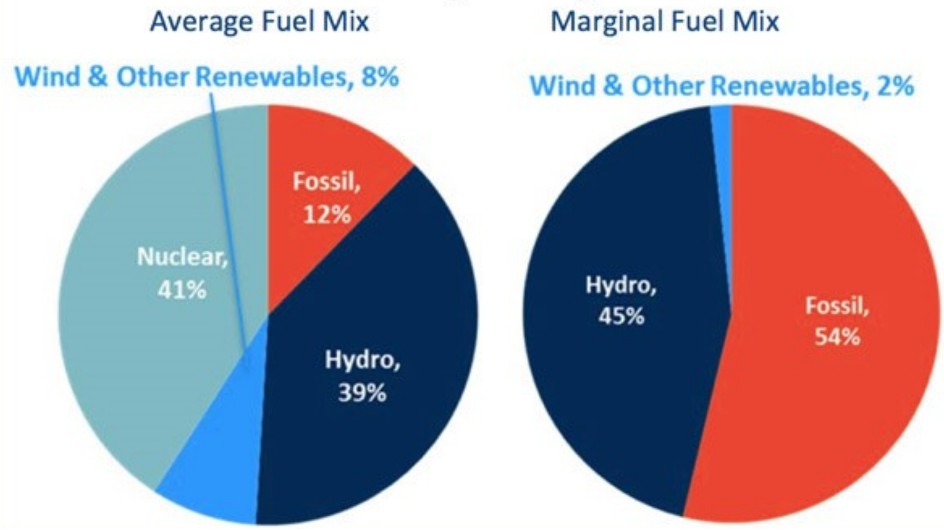
*Continued on page 19*

# NYISO Study Sees Little Cost Impact from Carbon Charge

Continued from page 1

additional 23% by "dynamic effects on investment signals," the report said.

While more economic gains from the program would go to producers than to consumers, customer costs would not rise significantly, the report said. A supplemental carbon charge would increase wholesale electric energy prices beyond the rises prompted by New York's Clean Energy Standard and the Regional Greenhouse Gas Initiative. However, "returning carbon revenues to customers and other factors would offset most of the customer cost impact. The exact magnitudes are uncertain, but the net impact on customer costs remains relatively small under all assumptions considered."




2016 upstate average vs. marginal fuel mix | *NYISO*

The $40/ton adder would reduce $CO_2$ emissions by 2.6 million tons per year, or 8% of today's emissions, by incentivizing cost-effective market responses not available through the CES and RGGI alone — and the analysts said the estimate of $CO_2$ emission reduction "is probably conservatively low."

Gavin Donohue, CEO of the Independent Power Producers of New York, lauded the report in a statement: "Incorporating the value of carbon into the marketplace ultimately benefits ratepayers and demonstrates that private investment is best for the continued success of New York's energy markets. Though this process is only in the early stages, what we accomplish here could be a model on the national stage."

In a blog post, Jackson Morris of the National Resources Defense Council said, "The concept of a carbon adder is laudable

Continued on page 20

# New York City Ramps up Community Solar

Continued from page 18

Since 2006, the NYC Solar Partnership program has connected government and industry with oversight agencies that permit rooftop solar projects and with the interconnecting utility, Consolidated Edison. This "has greased the skids" and allowed the city to narrow the disparities in solar adoption between the five boroughs and less dense areas like Westchester or Long Island, Mandel said.

And the city has its own large constituents. Bomee Jung, vice president of energy and sustainability for the New York City Housing Authority, said, "If NYCHA doesn't meet its goals, it's not likely that the city's going to get there without us."

The housing authority serves about 400,000 people in 176,000 apartments and another 200,000 people through its voucher program, the largest numbers of any city in the country.

## Near Future

"You're going to have a fairly limited market here in the near future for a few reasons," said Tom Hunt, vice president of corporate development for Clean Energy Collective, which licenses community solar software to developers and utilities.

"You have economics under Phase One [of New York's Clean Energy Standard] that probably don't work in at least a few different load zones ... and in those load zones where the economics do work, you're going to have some pretty significant interconnection issues, or siting issues for here in the city," Hunt said.

"The math will work, the economics will work in Con Edison Zone J [NYC], but the challenge there is siting," Warshaw said.

"We have a service area that produces an amount of community solar at scale that's really going to make an impact. So that's the challenge that a company like NRG sees, which is very focused on building out community solar, has the money to invest in New York and feels like a lot of positive things are happening in New York in terms of the climate, the horsepower and the brain power in Albany focused and wanting to do this."

Some solar developers claim that there's going to be 2 GW of community solar built in the next 12 months in load zones A through C, but Hunt is doubtful.

"I don't know that there's 20 MW within all that that have figured out how you deliver a full program in terms of bringing customers in and billing them, invoicing them, let alone getting utilities on your side so you can bill credits," Hunt said. "While we're certainly optimistic about the order and what it means, there's a lot of work left to be done, and which we think needs to be done in order to make this market sustainable."

## NYISO NEWS

# NYISO Study Sees Little Cost Impact from Carbon Charge

Continued from page 19

and worth exploring. And it has clear potential to cut carbon pollution — but only if the state and NYISO get the design right and, in the process, avoid some important legal and policy pitfalls."

The report concludes by suggesting topics of further study. For example, market design affects carbon charges, and different designs create new models of revenue allocation and border adjustment. Also implied are potential refinements "to REC and ZEC procurement for allocating the risk of future changes in carbon prices between customers and suppliers," the report said.

NYISO and the DPS will hold a conference on Sept. 6 to solicit stakeholder feedback on the reasonableness of modeling assumptions, especially their dynamic effects. The report said that although New York has no specific emissions reduction target for the electricity sector, the state's commitment to reducing carbon emissions from power generation "is expressed monetarily in its ZEC payments to upstate nuclear plants ... starting at $43/ton $CO_2$ today and rising to $65/ton by 2029."

The ZECs are part of the CES, which mandates reducing greenhouse gas emissions by 40% by 2030, from a 1990 baseline, and by 80% by 2050. It also calls for renewables to meet 50% of the state's energy needs by 2030.

### ZEC Challenges

The Electric Power Supply Association and several of its members had filed suit against New York's ZEC program, claiming that it intruded on FERC's authority over interstate electricity sales. A federal judge in New York on July 25 dismissed all claims in the suit, finding the state's ZEC program constitutional. Earlier in July another federal judge had dismissed similar challenges to Illinois' program. (See New York ZEC Suit Dismissed.) EPSA has appealed the Illinois ruling and plans to challenge the New York dismissal as well.

Jones previewed the Brattle report in May at a FERC technical conference devoted to the issue of reconciling public policy and wholesale electricity markets in New England, New York and PJM, and also at a congressional energy hearing in July. He said New York hoped to implement the plan in the markets within three years. (See NYISO Sees Carbon Adder as Way to Link ZECs to Markets and RTOs to Congress: Don't Lose Faith in Markets.)

PJM also is considering a similar mechanism, while New England has rejected carbon pricing as impractical and overly expensive. (See ISO-NE Two-Tier Auction Proposal Gets FERC Airing.)

Some stakeholders who oppose NYISO's carbon pricing plan have already questioned the current market design, particularly regarding capacity markets. Before and after the technical conference in May, FERC asked for comment on five potential paths toward harmonizing public policies and wholesale electricity markets, including the path chosen by New York. (See We Read 79 FERC Comments so You Don't Have to.)

Economist James F. Wilson said the commission should eventually phase out the capacity constructs or convert them to voluntary mechanisms. Cliff Hamal, managing director of Navigant Economics, said "the most fundamental assumption" underlying capacity markets — setting capacity prices based on the cost of building new gas-fired generation — may no longer be valid.

# NYISO NEWS

## Court Blocks NYPSC Order Barring ESCO Contracts with Poor Residents

*By Michael Kuser*

Robert Abrams Building for Law and Justice, home of the New York Appellate Division Third Judicial Department | *New York Supreme Court*

A New York appellate judge on Wednesday blocked the Public Service Commission from limiting energy service companies' (ESCOs) ability to contract with low-income people in the state.

The temporary restraining order from Justice Christine Clark, of the Appellate Division's Third Judicial Department, continues the legal see-sawing on the commission's efforts to protect poor New Yorkers from paying excessive rates for electricity.

The restraining order will remain in effect pending the court's ruling on a motion to stay a July 5 state Supreme Court order. Clark ordered the PSC to appear at a show cause hearing on Aug. 23. (New York's Supreme Court is the trial-level court in the state, with the Appellate Division hearing appeals of its decisions. The state's highest court is the Court of Appeals.)

Craig Goodman, president of the National Energy Marketers Association, said that Wednesday's ruling paved "the way for appellate review of the PSC's efforts before they are implemented. We look forward to participating in the process to gather real data and analysis that can drive policy to achieve New York's energy goals as opposed to restricting consumer choice based on unsupported claims and faulty numbers."

"We look forward to the opportunity to be heard by the Appellate Division justices as New York continues to protect consumers and ratepayers from paying too much for their electric and gas service," PSC spokesman James Denn responded in a statement.

On June 30, Supreme Court Justice Henry Zwack ruled that the PSC has "the very broadest of powers" to regulate ESCOs and utility rates, especially when seeking to prevent the overcharging of low-income customers, dismissing a case filed against the commission by NEMA and three ESCOs, as well as a similar suit by the Retail Energy Supply Association. That was the decision referred to in Wednesday's restraining order. (See *Court Backs NYPSC on Regulating Retail Sales*.)

The PSC on Aug. 2 had rebuffed a trade group seeking to head off upcoming evidentiary hearings related to the commission's ongoing investigation of ESCOs. (See *NYPSC Pushes Ahead with ESCO Investigation*.)

## PJM News

# OC Briefs

## 'Pop-Up Storms' Affect Forecast

VALLEY FORGE, Pa. — Unpredictable rainstorms throughout PJM in the middle of July resulted in overestimated load forecasts last month, the RTO's Chris Pilong told members during an Aug. 8 Operating Committee meeting.

"Just about every afternoon, we had rainstorms that were possible … and just about every day, those storms did hit," he said, noting that they reduced temperatures and caused daily forecasts to exceed actual load by as much as 6,000 MW.

One example: While the RTO forecast peak demand of approximately 150,000 MW on July 20, early afternoon storms capped load at about 145,000, Pilong said. That allowed the summer peak so far to remain the previous day, July 19, when demand hit 146,635 MW, he said.

PJM's peak load forecasting error for the month was 4.58%, 0.79 percentage points above July 2016, PJM's Joe Ciabattoni said. The overall forecasting error was 3.13%, just above PJM's 3% target. Ciabattoni attributed the deviation to the "pop-up storms" on the western side of the footprint. The errors were highest in the distribution territories of Dayton Power & Light, Duquesne Light, FirstEnergy's American Transmission Systems Inc. and Duke Energy Ohio/Kentucky.

The monthly balancing authority area control error limit, which measures how well the RTO maintains constant frequency control, was 99.9%, with total excursions and excursion minutes at their lowest levels in at least the past year.

## The Anatomy of a LMP Spike

LMPs jumped to about $900/MWh around 10:30 a.m. on July 27, Pilong said. An outage the previous evening on the Black Oak-Hatfield 500-kV line created increased flow on the Conastone-Peach Bottom 500-kV line. PJM had been controlling flow over the latter segment to roughly 93% of its limit, but flow levels on the line can be volatile, as they are sensitive to load or generation movements. Moves from hydro units and shifting load increased flow over the line by about 5%, Pilong said.

Operators directed PJM's security-constrained economic dispatch (SCED) engine to reduce flow over the line by 6%, but the demand was too great and sent the engine into a "relaxation mode" in which it doesn't attempt to control the flow. Pilong said that in those instances, SCED just fails to solve the case and moves on to resolve the rest of the system.

Operators reduced their request to 2%, which SCED could perform but only by raising the LMP to about $900/MWh. The price spike caused generation to respond, which reduced the strain on the line and allowed SCED to realign prices.

GT Power Group's Dave Pratzon asked if such short-term and unexpected fluctuations were caused by PJM's move from 15-minute to 10-minute dispatch settlements. He also questioned whether generators will be expected to follow PJM's dispatch signals during those periods and how signal deviations will be handled.

Pilong said that with the shorter look-aheads, larger transmission changes will create greater price separation. Part of the issue, he said, is the response time of low-cost resources.

"If the low-cost generation isn't able to move as rapidly as we need it to, we may need to reach out to more costly resources for a short period time," he said.

## Reserve Differences Explained

In response to a stakeholder data request, PJM's Lisa Morelli described differences that might account for why the real-time SCED engine has not priced for shortages that stakeholders have observed in published data. (See "Stakeholders Challenge PJM Decisions on Reserve-Shortage Identification," *PJM OC Briefs*.)

Morelli

The public data come from PJM's emergency management system (EMS), Morelli said, which has more conservative estimates than SCED. The most significant difference for this was a 2% "back off" in which the EMS system assumes resources will only achieve 98% of their stated capability. This assumption was removed in changes made on July 11, Morelli said, and immediately resulted in a 300-MW increase in the EMS synch reserve.

There are also differences between real-time SCED's 10-minute lookahead and EMS' real-time data. Additionally, real-time SCED uses units' SpinMax (the reserve maximum) to estimate reserves, while the EMS uses the lesser of the SpinMax or the EcoMax (the economic maximum).

Exelon's Sharon Midgley noted that the data request also asked for all of the unapproved real-time SCED cases, which she said would provide more clarity on whether PJM operators are being presented with real-time SCED cases that include shortages but are declining to select them.

Midgley and Old Dominion Electric Cooperative's Adrien Ford said they had not been aware of the removal of the 2% back off and asked that PJM be more communicative with such changes in the future.

Morelli said there has been a 12% improvement in the alignment between the two measurements since PJM moved to the 10-minute settlement.

*— Rory D. Sweeney*

Dave Pratzon (left) and Tom Hyzinski | *© RTO Insider*

## PJM NEWS

# MIC Briefs

Staff from PJM and its Independent Market Monitor huddle during a break in last week's Market Implementation Committee meeting to agree on a plan for proposing revisions necessary to implement intraday offers by the FERC-imposed Nov. 1 deadline. | *© RTO Insider*

### Stakeholders Push PJM and IMM for Consensus on Intraday Offers Rules

VALLEY FORGE, Pa. — Going into last week's Market Implementation Committee meeting, it appeared that PJM and its Independent Market Monitor would not find common ground regarding several changes to Manual 11 in preparation for implementing intraday offers on Nov. 1. (See "Revision on Intraday Offers Postpones Vote," *PJM MIC Briefs: July 12, 2017*.)

"I don't believe we are going to come to agreement on [the differences], so even if we delay the vote until next month, there is still going to be a difference of opinion," said PJM's Lisa Morelli.

But stakeholders pressed the sides to coalesce around a proposal, which resulted in PJM and Monitor staff — along with Calpine's David "Scarp" Scarpignato — huddling during a break to hash out their dispute. The outcome is expected to be available for the Markets and Reliability Committee meeting on Aug. 24.

The issues were twofold: first, whether or not generators' ability to "opt in" to utilizing intraday offers must be enunciated in their fuel-cost policies; and second, how to apply offer caps when a unit decides to change its offer after it has already received a commitment and failed the three-pivotal-supplier test.

Later in the meeting, IMM staff member Joel Romero Luna detailed differences with PJM on the triggers for updating price- and cost-based offers. The Monitor argued that they need to be updated simultaneously, even if the generator only wishes to update one, and the fuel-cost policy must specify the events that will trigger an update. If both offers did not have to change at the same time, it would permit the exercise of market power, the Monitor said.

"The point of intraday offers is to ensure that the current market value of gas is reflected in power prices. If the cost of gas goes down during a day and the generation owner does not have to reduce the offer, then the result is the exercise of market power," Monitor Joe Bowring said. "If the generation owner opts for flexibility, which we think is a good idea, flexibility must reflect both increases in gas costs and decreases in gas costs."

The Monitor also argued that all market-power mitigation analysis and approval should keep up with offer updates, but PJM said those revisions would require additional Tariff changes that might not receive FERC approval by the necessary Nov. 1 implementation date. PJM's revisions, staff argued, could be implemented immediately. The Monitor's changes would also require additional software changes, Morelli said.

PJM hoped to have its revisions approved and then work with the Monitor on its revision requests, but stakeholders asked that the two staffs resolve their differences before taking a vote.

"Get it together now before we need to go straight to 'guns and lawyers,'" said Ruth Ann Price of the Delaware Division of the Public Advocate office. She expressed worry that no process had been defined or agreed upon to address the Monitor's concerns if the PJM revisions were endorsed, about the costly and time-consuming process involved in filing an action at FERC that could impede the smooth implementation of intraday offers.

Scarp said it was important that any additional changes be discussed through the stakeholder process and not be a "grand bargain" between PJM and the Monitor. Morelli said any changes would be presented as an expedited problem statement and issue charge.

The Monitor's position received some pushback from generation owners.

"I think that if [an offer is] not mitigated, I shouldn't have to have people sitting around, making work for them, just to appease [the Monitor] just because we made a market decision," American Electric Power's Brock Ondayko said.

UGI's Gil Crystle questioned why price- and cost-based offers should be linked in the fuel-cost policy for simultaneous updating, as price-based offers can be adjusted for little more reason than just trying to get dispatched. "My price-based offer, I can change that all day long for no apparent reason, right?" he asked. "There can be a scenario where I don't even care. … I'll take whatever the market bears."

Following the conclave, the sides agreed to defer the MIC vote until September's meeting but work together to have the single proposal prepared for the August MRC meeting. The MRC vote will be held at the September meeting. The proposal will include all revisions that both sides agree can be implemented by the Nov. 1 deadline. They will also present Tariff and manual changes that both sides agree on, but that PJM believes will require FERC approval for implementation. The Monitor will present a problem statement and issue charge in September or October for the "opt in/opt out" changes on which PJM does not agree.

In a related disagreement, PJM and the Monitor also outlined their differing Manual 11 revisions for energy market offer verification. PJM's revisions would limit offers to a hard cap of $2,000/MWh for dispatch and setting LMPs. Only cost-based offers would be allowed to exceed $1,000, and all but those that set LMPs would require verification. The Monitor acknowledged that verification is essential and raised a list of issues with PJM's proposal, focusing on the inade-

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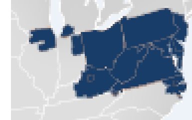


## PJM NEWS

# PC/TEAC Briefs

### 'Wheel' Replacement Reduces Transmission Limits

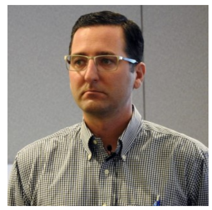
VALLEY FORGE, Pa. — PJM's Michael Herman told members at last week's Planning Committee meeting that proposed Manual 14B updates to incorporate modeling changes reflecting the cancellation of the Con Ed-PSEG "wheel" would include reductions in emergency transmission limits.

The capacity emergency transfer limits (CETLs) would be reduced in certain load deliverability areas (LDAs), including by 500 MW in EMAAC, 1,100 MW in MAAC, 1,527 MW in PSEG and 1,309 in PS North.

At PSEG, that would put the CETL at just 574 MW above the capacity emergency transfer objective (CETO), the threshold for necessary transfer capacity to ensure reliability in an emergency. In PS North, the difference between CETL and CETO would be just 335 MW.

The modeling adjustments come in response to Consolidated Edison's decision to end a decades-long agreement with PJM to route 1,000 MW from upstate New York to New York City through Public Service Electric and Gas' northern New Jersey territory. The change necessitated reanalysis of regional power flows, which eventually identified that continuing an "operational base flow" of 400 MW would be the most reliable solution. (See Analysis Recommends Continuing Reduced Con Ed-PSEG 'Wheel' for Grid Stability.)

In the updated CETL calculations, PJM removed any non-firm energy transfers. However, it kept them in its updated capacity import limit calculations. Stakeholders questioned why non-firm was removed from the CETL.



Sims

"If it's a non-firm product, we just can't depend on it during these critical times," PJM's Mark Sims said. "There could be a time when our system is stressed, the neighboring system is stressed, and then to depend on non-firm energy to support your system … just doesn't make sense."

The revisions were approved by acclamation with one objection and 14 abstentions.

PJM has scheduled a webcast on Aug. 30 from 1-3 p.m. to address questions about the CETL procedural changes.

### Resilience Planning to Recognize Outage Propagation Potential

Sometimes, resilience means knowing when to give up.

In analyzing its planning criteria, PJM will be considering what is likely to happen downstream when a piece of equipment fails. Sometimes, this will mean the equipment simply collapses at that point. But it could also open a pathway for cascading failures further throughout the system and a larger collapse. (See "Resilience to Become Planning Driver," PJM PC/TEAC Briefs: July 13, 2017.)

"If you had an existing station where you improved the strength of it such that during an event, where normally it would be lost very quickly and cleanly, it's now hanging on," Sims said.

As a result, the grid operator could face a scenario "where the system collapsed instead of being bounded because you actually have a stronger part of the system which allows the event to propagate further and in the end the result is worse," he said.

To prepare for such a contingency, PJM is developing appropriate metrics and criteria for factoring resilience into planning.

"These are not events that happen often. I can't pull data on voltage collapses," Sims said. "We have to do our best to make some valid assumptions."

Stakeholders have previously asked how PJM plans to address the subjectivity of the topic.

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# MIC Briefs

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quacies of the RTO's approach to verification.

PJM is also removing references to offer capping and market-power mitigation from Manual 28, as they are now in Manual 11.

### Fuel-Cost Policy Update

As part of the preparation for implementing intraday offers on Nov. 1, PJM and IMM staff have been working with generators to get fuel-cost policies reapproved. Policies were submitted in May to conform with recently implemented analysis changes. (See PJM Monitor Rejects Fuel-Cost Policies for 11% of Units.)

Romero Luna said 56% of units passed Monitor evaluation for Nov. 1. Among the failed submissions, some only required minor changes such as formatting, while others required major changes to conform with the new rules regarding intraday offer updates. The policies requiring major changes are "all gas units, basically," Romero Luna said.

PJM's Jeff Schmitt also outlined changes that the RTO is requesting for fuel-cost policy submissions, such as indicating if the variable operations and maintenance, emissions or 10% adders are used in cost-based offers.

"You've got to think through how you're going to create a $1,000 offer and above," he said.

### IMM Problem Statements Approved

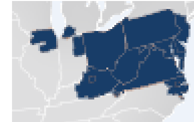
Stakeholders endorsed by acclamation two problem statements and issue charges proposed by the Monitor. (See "IMM Presents Problem Statements on Transmission," PJM MIC Briefs: July 12, 2017.)

The first set addresses what the Monitor believes is the need for clear rules governing the use of transmission penalty factors in setting prices in the PJM energy market when there is locational scarcity.

The second addresses market path/interface pricing point alignment, calling out situations that can arise when market participants submit transactions that are not consistent with actual physical power flow. Market manipulation results when scheduling is inconsistent with actual power flows, Bowring said. "There's not an explicit rule" covering the issue, he said. "There needs to be a clear rule for the benefit of those entering transactions, for other market participants and to ensure that market power is not exercised."

*— Rory D. Sweeney*

## PJM NEWS



# PC/TEAC Briefs

Continued from page 24

"To PJM, megawatts would just be load, but to others, megawatts are customers," said John Farber with the Delaware Public Service Commission. He asked if PJM plans on considering the amount of load that would be impacted by a piece of equipment failing.

"I don't know if you're suggesting that some load is perhaps more critical than others, [but] I think many people would generally agree with that," PJM's Paul McGlynn said.

"I salute your eagerness to swim with the alligators," Farber replied.

### Market Efficiency Analysis Ongoing

Staff have completed analysis of market efficiency projects in the Reliability Pricing Model and are nearly finished examining interregional projects, Sims told members at last week's Transmission Expansion Advisory Committee.

The RTO is currently reviewing projects from PPL's zone.

The analysis identified six projects to be recommended for approval by the Board of Managers, including four in Commonwealth Edison's LDA and one in Duke Energy Ohio/ Kentucky. Two of the ComEd projects were proposed by American Electric Power.

Six other proposals — two from AEP and Exelon, one from Transource Energy and three from Northeast Transmission Development — were not recommended. PJM is expecting to seek approval on recommended projects at the board's October meeting.

### Reliability Analysis for 2022 Finds 190 Violations

PJM's reliability analysis of the Regional Transmission Expansion Plan for 2022 conditions found violations at 190 flowgates.

The majority (115) were generation delivery issues, with most of those (50) being on 138-kV lines on the western side of the RTO's footprint. Overall, the 138-kV system had the most issues, with 77 violations identified.

The runner-up was the 345-kV system, with 46 violations identified. That system also had 35 of the 37 overall total high-voltage violations. All 35 were in the MAAC region.

Of the total 190 flowgates identified with violations, 41 will be included in the 2017 RTEP proposal window: 33 in the West region, five in the South region and three in MAAC. Generation delivery issues account for 35 of the available projects and six are N-1 thermal violations.

The remaining 149 flowgates were excluded because they were either "immediate need" projects or under 200 kV, which are expected to be addressed by the incumbent transmission owner.

*— Rory D. Sweeney*

# SPP NEWS

## NERC Webinar to Aid Transition from SPP RE

NERC will host a webinar Aug. 25 to help the current members of SPP's Regional Entity (RE) transition to new compliance authorities.

SPP said last month it would dissolve its RE, addressing NERC and FERC concerns about the RTO's dual roles as a grid operator and reliability coordinator. Pending approval by the two regulatory bodies, the SPP RE will cease to exist by the end of 2018. (See *SPP to Dissolve Regional Entity*.)

The SPP RE's trustees sent a letter to its members Friday, advising them that NERC will issue a formal announcement about the webinar "shortly."

The trustees said NERC will "improve the quality of the information you are receiving" by managing the transition process going forward. The letter alludes to "confusion and perhaps inconsistent information flowing between you and the other regional entities involved in this transition."

NERC is working with the 120 registered entities within the SPP footprint to transfer to other REs. It has asked the entities to select a new RE by Sept. 29. All changes must be approved by NERC's independent Board of Trustees, then filed with FERC for its approval.

## Committee Recommends Interregional Project Approval

The Seams Steering Committee last week recommended that SPP's Economic Studies Working Group (ESWG) approve an interregional project with MISO in South Dakota, following a regional review.

The project, which loops a Split Rock-Lawrence 115-kV circuit into Sioux Falls to relieve congestion on the Lawrence-Sioux Falls 115-kV line, has been endorsed by the RTOs' Interregional Planning Stakeholder Advisory Committee. The project is shared by the Western Area Power Administration in SPP and Xcel Energy in MISO. (See "Interregional Project Begins Regional Review," *SPP SSC Briefs: June 14, 2017*.)

MISO would pay 81.48% of the project's estimated $6.15 million in engineering and construction costs, with SPP covering the remainder.

Staff said the scope of the ESWG regional review was amended to evaluate opening the 115-kV line between Sioux Falls and Lawrence. However, staff's analysis found that option did not provide SPP with positive benefits across all sensitivities and could potentially create congestion on different constraints in the area.

The SSC refrained from voting on the project during its Aug. 9 meeting and will wait until the ESWG conducts its vote when it meets this week in Denver.

The SSC and ESWG are directing the regional review. They plan to make a final recommendation to the Markets and Operations Policy Committee in October.

## Staff Addressing Historical Congestion on MISO Seam

The SSC also discussed staff's early draft of a business practice to address historical market-to-market (M2M) congestion on the SPP-MISO seam.

Staff's proposal, based on SPP's business practice for non-FERC Order 1000 seams projects, would create a new project type for small, low-cost interregional upgrades with short lead times. These targeted market efficiency projects (TMEPs) would address locations with consistent congestion limiting the ability of lower-cost generation to reach load.

The TMEPs' benefit determination method would avoid complicated production cost models and simulations, significantly reducing the analysis period and potentially allowing faster project implementation.

Stakeholders noted transmission owners could simply undertake the projects themselves as sponsored projects and suggested aligning the study timeline with the integrated transmission planning process or joint coordinated system plan, as MISO has done.

Staff said it would develop a list of the top 10 flowgates that could potentially qualify for TMEP treatment.

## M2M Payments Reverse in MISO's Favor

Continuing a summer trend seen since SPP and MISO began their M2M process in March 2015, payments between the two RTOs reversed themselves in June, with SPP paying its neighbor almost $644,774 for congestion on flowgates between the two.

Temporary flowgates accounted for most of the congestion, binding for 315 hours. That resulted in almost $1.1 million in M2M settlement charges to SPP, balanced somewhat by $453,321.84 in its favor for 190 hours in binding on permanent flowgates.

SPP has collected $21.7 million in M2M settlements from MISO, with much of that coming during the winter and shoulder months. MISO has collected payments during summer months, although in minimal amounts.

*— Tom Kleckner*

## The *RTO Insider* Top 30

# Q2 Good Collectively for Top 30, but Only Half Post Income Gains

*By Peter Key*

The *RTO Insider* Top 30 collectively had a good second quarter, but nearly half the companies turned in worse bottom-line performances than a year ago.

The Top 30's total income rose 18.1% to $5.9 billion on an 8.2% increase in revenue to $75.4 billion. In all, 26 companies were profitable in the quarter, but only 16 saw their income rise from a year earlier. Eleven posted income declines, one — Great Plains Energy — swung to a loss, and two saw their losses increase.

Sempra Energy posted the largest percentage increase in net income, earning $248 million in the quarter, up from only $27 million the year prior.

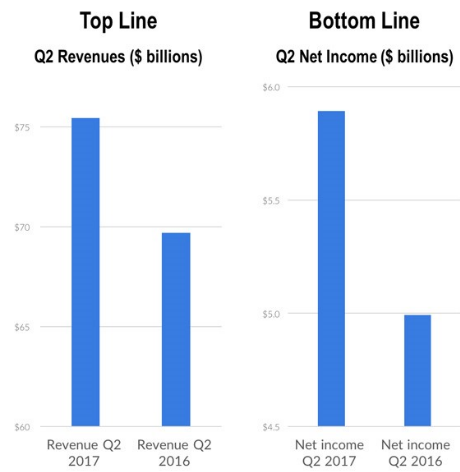
On an adjusted basis, Sempra's earnings increased to $276 million from $200 million the year before. Excluded from the calculations for the last quarter were a $47 million impairment of Sempra Mexico's Termoeléctrica de Mexicali assets and $28 million in recoveries related to a permanent release of pipeline capacity. Also excluded were $123 million in losses from the release of pipeline capacity at Sempra LNG & Midstream and about $60 million in deductions related to a 2016 rate case at its California utilities.

Pacific Gas and Electric posted the second largest percentage increase in net income, nearly doubling profits to $406 million. In its earnings press release, the company attributed the gain to two rate cases.

NextEra Energy had the third largest percentage increase at 47%, as its net income rose to $793 million. CEO Jim Robo attributed the gain primarily to new investments at the company's Florida Power & Light and NextEra Energy Resources subsidiaries.

All wasn't tangerines and cream for NextEra during the quarter, however, as the company had its attempt to acquire Oncor rebuffed a third and final time by Texas regulators. (See *NextEra-Oncor Deal Meets Third Denial*.) Robo said during the company's earnings call that it would "vigorously" pursue a $275 million termination fee. (See *NextEra Seeks $275M Fee for Failed Oncor Bid*.)

FirstEnergy posted the largest earnings gain in dollars during the quarter, rebounding from a loss of $1.1 billion in the second quarter of 2016 to post a net income of $174 million. Despite the improvement, CEO Chuck Jones declared during the company's earnings call that he thinks the "country is heading for a disaster" because of its heavy reliance on natural gas for power generation. (See *FirstEnergy CEO Says Country Heading for Natural Gas 'Disaster.'*) FirstEnergy's large loss last year was

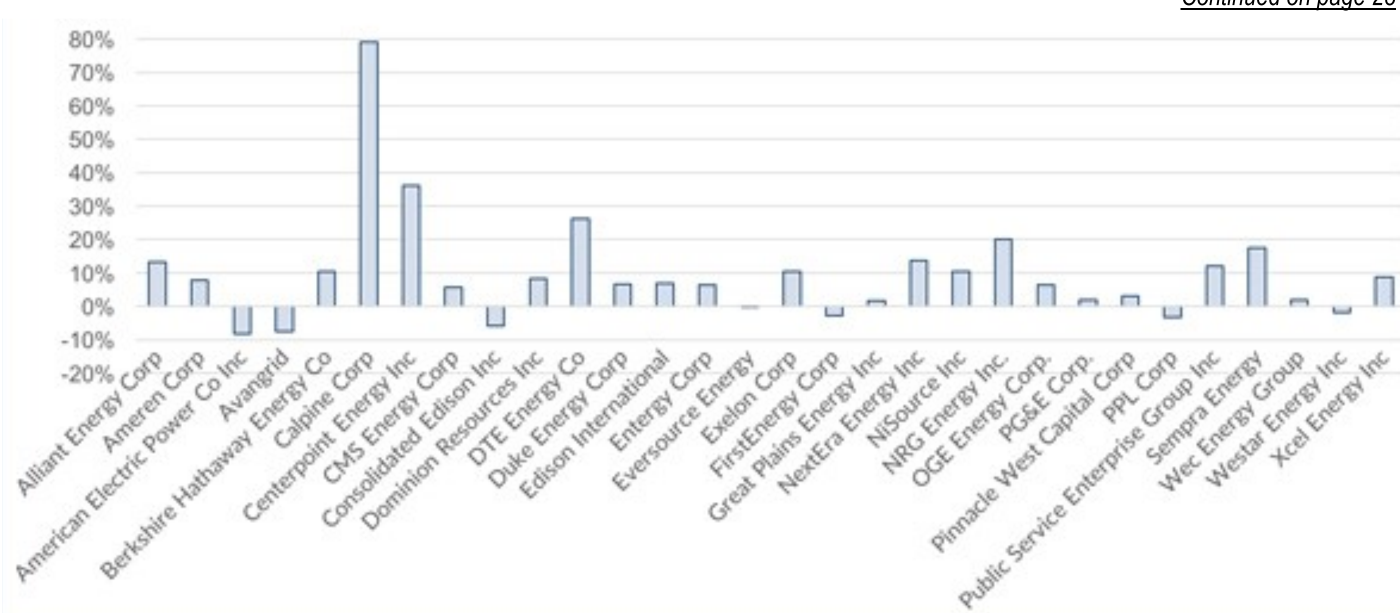



*company filings*

because of the closure of five uneconomic coal plants; it says it is getting out of the competitive generation business.

NRG Energy lost the most money ($626 million) in the quarter and saw its loss increase the most ($433 million). It actually earned $93 million from continuing operations, however, and in its earnings conference call, CEO Mauricio Gutierrez expressed optimism about the lawsuits against the zero-emission credit programs in New York and Illinois in which the company is a plaintiff, even though both were dismissed last month. Appeals are pending. (See NRG

*Continued on page 28*




Q2 2017 revenue % change vs. 2016 | *company earnings*

# The *RTO Insider* Top 30

| Rank | Company | Market Cap ($ billions) | Revenue Q2 2017 ($ billions) | % change vs. 2016 | Net income Q2 2017 ($ millions) | % change vs. 2016 |
|---|---|---|---|---|---|---|
| 1 | NextEra Energy | $ 69.1 | $ 4.40 | 13.77% | $ 793.00 | 46.85% |
| 2 | Duke Energy | $ 60.0 | $ 5.56 | 6.56% | $ 686.00 | 34.77% |
| 3 | Dominion Resources | $ 49.7 | $ 2.81 | 8.28% | $ 390.00 | -13.72% |
| 4 | Exelon | $ 36.0 | $ 7.62 | 10.32% | $ 80.00 | -70.04% |
| 5 | PG&E Corp. | $ 35.4 | $ 4.25 | 1.94% | $ 406.00 | 97.09% |
| 6 | American Electric Power | $ 34.7 | $ 3.58 | -8.13% | $ 375.00 | -25.31% |
| 7 | Berkshire Hathaway Energy | N/A | $ 4.55 | 10.51% | $ 574.00 | 7.09% |
| 8 | Sempra Energy | $ 29.0 | $ 2.53 | 17.49% | $ 248.00 | 818.52% |
| 9 | PPL | $ 26.4 | $ 1.73 | -3.36% | $ 292.00 | -39.54% |
| 10 | Edison International | $ 25.9 | $ 2.97 | 6.77% | $ 278.00 | -0.71% |
| 11 | Consolidated Edison | $ 25.3 | $ 2.63 | -5.76% | $ 175.00 | -24.57% |
| 12 | Xcel Energy Inc | $ 24.5 | $ 2.66 | 8.78% | $ 227.26 | 15.48% |
| 13 | Public Service Enterprise Group | $ 23.0 | $ 2.13 | 11.97% | $ 109.00 | -41.71% |
| 14 | WEC Energy Group | $ 20.1 | $ 1.63 | 1.84% | $ 199.10 | 9.76% |
| 15 | Eversource Energy | $ 19.6 | $ 1.76 | -0.25% | $ 230.75 | 13.31% |
| 16 | DTE Energy | $ 19.4 | $ 2.86 | 26.22% | $ 177.00 | 16.45% |
| 17 | Avangrid | $ 14.4 | $ 1.33 | -7.51% | $ 120.00 | 17.65% |
| 18 | FirstEnergy | $ 14.3 | $ 3.31 | -2.71% | $ 174.00 | N/A |
| 19 | Ameren | $ 14.1 | $ 1.54 | 7.78% | $ 193.00 | 31.29% |
| 20 | Entergy | $ 13.7 | $ 2.62 | 6.33% | $ 409.92 | -27.74% |
| 21 | CMS Energy | $ 13.3 | $ 1.45 | 5.69% | $ 92.00 | -25.81% |
| 22 | Centerpoint Energy | $ 12.4 | $ 2.14 | 36.15% | $ 135.00 | N/A |
| 23 | Pinnacle West Capital | $ 9.9 | $ 0.94 | 3.19% | $ 167.44 | 38.03% |
| 24 | Alliant Energy | $ 9.6 | $ 0.77 | 13.23% | $ 94.30 | 12.40% |
| 25 | NiSource | $ 8.6 | $ 0.99 | 10.37% | $ (44.40) | N/A |
| 26 | NRG Energy | $ 7.8 | $ 2.70 | 20.15% | $ (626.00) | N/A |
| 27 | Westar Energy | $ 7.2 | $ 0.61 | -1.95% | $ 72.07 | -0.38% |
| 28 | OGE Energy | $ 7.1 | $ 0.59 | 6.35% | $ 104.80 | 46.57% |
| 29 | Great Plains Energy | $ 6.7 | $ 0.68 | 1.76% | $ (22.10) | N/A |
| 30 | Calpine | $ 5.0 | $ 2.08 | 79.04% | $ (216.00) | N/A |
| | **TOTAL** | | **$ 75.4** | **8.24%** | **$ 5,894** | **18.56%** |

NOTE: No % change is listed for net income if either the current quarter or previous year was a loss.

## Q2 Good Collectively for Top 30, but Only Half Post Income Gains

*Continued from page 27*

*CEO Hopeful About ZEC Suits, Company Future*.)

Calpine posted the second largest loss, $216 million, after losing $29 million in the second quarter of last year. The Houston-based merchant generator had an adjusted profit of $419 million in the quarter, and Bloomberg reported that it was in talks to be acquired. (See *Q2 2017 Earnings Briefs*.)

Exelon, which stands to benefit from the ZEC programs if they are upheld, posted the largest decrease in net income, dropping 70% to $80 million, because of a $250 million loss from its generation division. (See *Exelon Confident on ZECs; Will Seek PJM Changes*.)

# DTE Initiates Last-Ditch Effort in Clean Air Act Case

By Amanda Durish Cook

DTE Energy is making its last stand in a seven-year battle to avoid paying out millions of dollars in penalties after being found to have improperly accounted for emission increases stemming from upgrades performed at a coal plant.

The Michigan-based utility filed a writ of certiorari asking the U.S. Supreme Court to review a lower court's ruling in favor of EPA in the case, in which the agency argued that the company upgraded Unit 2 at its Monroe plant without considering the resulting increase in emissions.

The 6th U.S. Circuit Court of Appeals declined to rehear the decision, upholding EPA's power to halt construction at power plants the agency believes have not properly accounted for possible added air pollution (14-2274 and 14-2275).

"Left standing, the decision … threatens to paralyze substantial maintenance projects throughout the nation," DTE said in its petition. The company filed successfully in May to delay the issuance of a mandate in the case while it petitioned the high court.

EPA sued DTE in 2010 after the utility replaced boiler components at the Monroe plant without installing additional pollution controls. The agency alleged that DTE violated the Clean Air Act's New Source Review (NSR) provision, which is designed to protect air quality when industrial facilities are newly built or modified.

DTE maintained that the higher emissions from the Monroe plant were a product of demand growth and not caused by the boiler improvements. The company also claimed the $65 million project was routine maintenance exempted from NSR permitting.

EPA called the project a major overhaul that should have included new pollution controls and asked for civil penalties of up to $37,500 per day. By 2014, DTE had installed four selective catalytic reduction units and four flue gas desulfurization units at the plant for a total of about $2 billion.

The company maintains that it properly evaluated whether the upgrade would trigger the "costly and time-consuming" NSR permitting process, but it found no projected emissions increase.

"To add insult to injury, the government seeks to penalize DTE for failing to make that demonstrably inaccurate preconstruction emissions projection," the company said in the petition. The utility also called EPA's suit "an Orwellian type of enforcement action."

In a late July earnings call, DTE CEO Gerard Anderson reaffirmed the company's recent public announcement to reduce its carbon emissions by more than 80% by 2050 by eliminating coal generation. Under the plan, the 46-year-old Monroe station would cease operations in 2040. DTE has not said how it plans to replace the generation.

# COMPANY BRIEFS

## LeeRoy Wells Named VP of Operations at Consumers

Wells

Consumers Energy has announced that LeeRoy Wells Jr. will be named vice president of operations support, effective Aug. 16.

Wells, who joined Consumers in 2006, presently serves as executive director of electric systems operations and maintenance.

In his new role, he will be responsible for the company's supply chain, corporate safety and health, fleet, facilities, and real estate departments.

More: *Consumers Energy*

## Dairy Farmer Could Get Up to $13.5M from Xcel

A Wisconsin dairy farmer could be awarded up to $13.5 million after winning a lawsuit against Xcel Energy over stray voltage that caused illness and decreased milk production in his herd of nearly 1,000 cows for more than a decade.

According to the lawsuit, Xcel subsidiary Northern States Power found excessive voltage in one of the farmer's barns in 1996 but didn't report it. After the farmer hired a consultant and discovered high levels of electricity were coming from the utility's distribution system, Xcel installed equipment to reduce stray voltage.

A jury awarded the farmer about $4.5 million, but the court may triple the award because the company was found in willful, wanton or reckless violation of statutes.

More: *The Associated Press*

## Engineer Files Whistleblower Suit over Kemper Plant

A former Southern Co. engineer who reported safety concerns and falsification of operational reports at the company's Kemper plant has filed a federal whistleblower lawsuit against Southern and its CEO.

Brett Wingo, who worked for Southern from 2007 to 2016, alleges violations of the Sarbanes-Oxley Act, the Dodd-Frank Act and Mississippi state law after he repeatedly alerted management in 2013 and 2014 about concerns, including that the company's reported commercial operations date was too optimistic.

In January 2017, the U.S. Occupational Safety and Health Administration, after investigating claims that Wingo was subjected to retaliatory treatment, ordered Southern to reinstate him and pay him back pay and damages. To date, Southern has not done so.

More: *Doyle*

## Tesla Plans to Raise $1.5B for Model 3 Production, Gigafactory Build-out

Tesla announced last week it is turning to the junk bond market to raise $1.5 billion to fund production of its Model 3 electric sedan and the expansion of its Gigafactory facility in Nevada.

Tesla's $1.5 billion offering of unsecured senior notes, due in 2025, marks the first time it has used traditional debt markets to fund its expansion.

In March, Tesla raised $1.15 billion through equity and convertible debt, including $250 million of common stock and $750 million of convertible senior notes due in 2022.

More: *Greentech Media*

# Federal Briefs

## Vogtle Nuclear Plant Backers Ask Trump for Help

Backers of the Vogtle nuclear plant are asking the Trump administration for financial support to build the project's two reactors in the wake of Westinghouse Electric's bankruptcy. The request comes after Energy Secretary Rick Perry turned down a request for $3 billion in aid for SCANA's V.C. Summer nuclear plant.

A Georgia regulator was in D.C. to make a case for the Vogtle project, which Southern Co. estimated would cost it at least $11.5 billion to complete, excluding $1.7 billion in guaranteed payments from Westinghouse parent Toshiba. Southern has hosted congressional staff members at the construction site.

Southern is set to tell Georgia regulators by the end of the month whether it will continue with its construction plans for the plant.

More: Bloomberg

## EPA Collecting Less Money from Polluters than Prior Administrations

EPA under Administrator Scott Pruitt has collected 60% less in civil penalties from polluters compared with the previous three administrations, according to a report released Thursday by Environmental Integrity Project.

The nonprofit, nonpartisan watchdog group found the Trump administration has collected $12 million so far, compared with the Obama administration's $36 million, the Bush administration's $30 million and the Clinton administration's $25 million at this point in their terms.

Under Pruitt, EPA is waging 26 lawsuits, compared with the previous three administrations' respective 34, 31 and 45.

More: Business Insider

## EPA Chief Information Security Officer Leaving

Kelley

EPA's chief information security officer, Sean Kelley, is leaving his job of only a few months to take a position in the private sector.

Kelley's departure follows those of three chief information officers from the Department of Homeland Security, the Navy and the Office of Personnel Management.

Ann Dunkin, the CIO of EPA under President Barack Obama who was asked to leave by President Trump's transition team, said the four departures in such a brief time raise red flags. "There appears to be a concerted effort to remove the career CIOs who were there during the Obama administration," said Dunkin, who is now CIO for Santa Clara County, Calif.

More: BuzzFeed

## DOE Recommends Permit Approval for Northern Pass

The Department of Energy issued a report Thursday concluding the Northern Pass project in New Hampshire wouldn't have a significant impact on the environment, recommending approval of a permit.

The department issued a draft environmental impact study two years ago but re-evaluated the project after Eversource Energy changed its proposal to call for burying 60 miles of the line instead of 8.

The project, which would run a 192-mile transmission line from Pittsburg to Deerfield would require permits from the Forest Service and Army Corps of Engineers. New Hampshire's Site Evaluation Committee will vote on the project later this year.

More: The Associated Press

## DC Circuit Hits 'Pause' Again on Clean Power Plan

The D.C. Circuit Court of Appeals last week granted a petition to hold litigation over the Clean Power Plan in abeyance for another 60 days.

In April, the court granted a 60-day pause in the litigation to allow the Trump administration to consider whether to roll back the rule. In June, EPA sent its Clean Power Plan review proposal to the Office of Management and Budget.

In a statement concurring with the order,

Continued on page 31

# Chatterjee Named Acting FERC Chair as Quorum is Restored

Continued from page 1

Kevin McIntyre, whom Trump selected to hold the gavel and direct the commission staff. McIntyre and Democratic Senate aide Richard Glick are scheduled to have confirmation hearings before the Senate Energy and Natural Resources Committee on Sept. 7.

"I want to thank Chairman LaFleur for the tremendous work she's done in guiding the agency," Chatterjee said in a statement. "The absence of a quorum was unprecedented, yet she rose to the challenge and created stability through her unwavering leadership.

"I look forward to working with Commissioner LaFleur and Commissioner Powelson on behalf of the American people. And I hope that we will have all five commissioners here soon with the confirmation of Kevin McIntyre and Rich Glick."

Chatterjee and Powelson were confirmed by the Senate on Aug. 3. Chatterjee was sworn in Aug. 8. (See FERC Quorum Restored as Powelson, Chatterjee Confirmed.)

The new commissioners were not immediately available for comment.

FERC also announced that it will resume its monthly open meeting schedule next month, with the first meeting set for Wednesday, Sept. 20.

With the quorum restored, Chatterjee said, the commission will soon begin notational votes on its backlog of dockets.

FERC staffers have been acting since Feb. 4. under limited delegated authority that allowed them to grant waivers and approve settlements in uncontested cases, as well as take interim action on rate filings, subject to refund pending further orders by the commission.

According to LaFleur, FERC has issued only a fraction of the 100 commission-authorized orders it averages a month.

The delegation period will end in two weeks following the restored quorum.

# FEDERAL BRIEFS

Continued from page 30

Circuit Judges David Tatel and Patricia Millett wrote that EPA has an "affirmative statutory obligation to regulate greenhouse gases" and expressed concern that an indefinite delay in the litigation could impede the agency from complying with that obligation.

More: American Public Power Association; Environmental Defense Fund; POWER Magazine

## Solar Market Funding Rises in First Half of 2017

Overall corporate funding in the solar market — including venture capital, debt funding and public market financing — reached $4.6 billion in the first half of 2017, up from $4.5 billion in the same period last year, according to information published by Mercom Capital Group.

The $4.6 billion was raised in 97 deals, compared with $4.5 billion in 79 deals. But funding dropped from $3.2 billion in 60 deals in the first quarter this year to $1.4 billion in 37 deals in the second quarter.

More: pv magazine

## TVA Increases Estimate for Repairing Boone Dam

The Tennessee Valley Authority has increased its estimate for repairing the 65-year-old Boone Dam in Northeast Tennessee by at least 50% and says the work will take an additional five years.

When the work began in 2015, TVA estimated the repairs would cost between $200 million and $300 million and could be finished by 2020. TVA now estimates the work will cost $450 million.

"As we got farther into the work there, we learned more about what is actually happening and that provided us the data to make a more robust estimate," TVA President Bill Johnson told analysts during a conference call.

More: Times Free Press

## NRC Begins 'Information Gathering' for Yucca Mountain

The Nuclear Regulatory Commission last week said it will spend $110,000 from previously appropriated funds to gather documents and other information related to the proposed Yucca Mountain nuclear waste depository site.

The commission voted 2-1 to dip into its $634,000 Nuclear Waste Fund to support the information gathering activities.

The Trump administration has requested $120 million in funding next fiscal year to begin laying the groundwork for the waste disposal site, which the Obama administration abandoned in 2010. NRC Chairwoman Kristine Svinicki said the information gathering amounted to "appropriate steps to develop the agency's readiness to execute the budget requested" by Trump.

More: The Associated Press; The Hill

## Suniva, SolarWorld Say Trade Case Will Spur US Job Growth

An economic analysis released last week on behalf of trade case petitioners Suniva and SolarWorld Americas finds that imposing new tariffs on imported solar products would result in a net increase of at least 114,800 new jobs across all segments of the U.S. solar industry.

The report, released by law firm Mayer Brown, finds as many as 45,000 U.S. manufacturing jobs would be created, along with an increase of 98,020 U.S. nonmanufacturing jobs, including 65,830 U.S. installer jobs.

The report contradicts findings by the Solar Energy Industries Association, which determined that a tariff and minimum pricing requirement requested by the two companies in a trade case before the U.S. International Trade Commission would result in the loss of 88,000 solar jobs in 2018. The association found the utility-scale market would see a 60% reduction in jobs, while residential and commercial employment would drop by 44% and 46%, respectively.

More: Greentech Media

## Study: Keeping Obama's Climate Rules Will Save $300B Yearly

A new study finds keeping the Obama administration's climate-change regulations, which the Trump administration has been working to undo, would save nearly $300 billion a year by 2030.

Jessica Wentz, a staff attorney at Columbia University's Sabin Center for Climate Change Law and one of the study's authors, found the total costs associated with the Obama-era rules were projected at about $84 billion per year in 2030. For that same year, the researchers found the benefits — including savings from lower carbon emissions, improved public health and new jobs — were expected to be worth nearly $370 billion.

The researchers also concluded the rules would prevent the emission of the equivalent of nearly 1 billion tons of carbon dioxide in 2030.

More: InsideClimate News

## Interior Dept. Repeals Obama's Rule on Coal Royalties

The Interior Department last week repealed a rule by the Obama administration governing royalties paid by energy companies for coal and other minerals produced on federal and tribal lands.

The decision, effective Sept. 6, reinstates rules in place since the late 1980s that allow coal companies to sell their fuel to affiliates, pay royalties to the government based on that price, and then subsequently sell the coal at a higher price, often overseas.

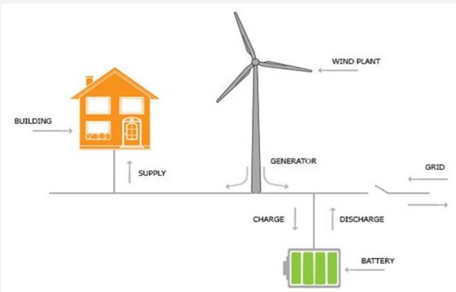
The Obama-era rule provided that the royalty rate would be determined at the time the coal was leased, with revenue based on the price paid by an outside entity, rather than an interim sale to an affiliated company.

More: Lexington Herald-Leader

# STATE BRIEFS

## CALIFORNIA

### State Offering $44.7M in Grants for Microgrid Projects




In its second, and largest, major solicitation for microgrid projects, the state's Energy Commission has begun offering $44.7 million in grants as part of a larger effort to increase the use of distributed energy resources.

Some $22 million of the microgrid grants will be allocated for military bases, ports and Native American tribes; $11.7 million for disadvantaged communities; and $11 million to commercialize microgrids at other locations, including rural areas, industrial complexes, universities and schools.

Individual grants will range from $2 million to $7 million, with recipients providing matching funds of 20 to 25%. The deadline to apply is Oct. 20.

More: *Microgrid Knowledge*

## CONNECTICUT

### State to Begin 4th Round of Microgrid Grants; $26.5M Available

The state Department of Energy and Environmental Protection will be accepting applications from Sept. 1 through Jan. 1, 2018, for $26.5 million in grants for community microgrid projects.

The grants will be the state's fourth round of incentives. The third round, totaling $30 million, ends on Aug. 31. From that money, the state has awarded $424,000 and has preliminarily set aside $3 million for a project that is currently under review. The remaining $26.5 million will carry to the fourth round, with more money possible if $3 million is not awarded for the project presently under review.

Grants in the fourth round will cap at $4 million per project, with an additional $2 million available for microgrids in towns that received certain assistance from the U.S. Department of Agriculture's Rural Community Energy Assistance Program.

More: *Microgrid Knowledge*

## MASSACHUSETTS

### City Rolls out EVs After Union Bargaining Delay

The city of Brockton has assigned 10 electric vehicles that it received in February to city employees after resolving a union bargaining issue.

The city leased the vehicles using $75,000 awarded this year through the Massachusetts Electric Vehicle Incentive Program, along with $13,500 for a charging station. The move to EVs was part of Brockton's effort to be designated by the state as a "Green Community" earlier this year, which qualified it for grant funding along with an initial $526,000 to fund energy-efficiency efforts. Altogether, the city has a total of 13 EVs.

The rollout of the vehicles was delayed by bargaining with the Brockton Association of Engineers and Inspectors over GPS monitoring devices that allow the city to track the location of the vehicles, Mayor Bill Carpenter said.

More: *The Enterprise*

## NEW HAMPSIRE

### State Supreme Court to Hear Antrim Wind Farm Appeal

The state Supreme Court last week agreed to hear an appeal by opponents of a 28.8-MW proposed wind farm in the town of Antrim, which has been under development since 2009.

Construction on the nine-turbine Antrim Wind project, which was approved by the state Site Evaluation Committee, was expected to start in the fall. But opponents — who include property owners with and without abutting land, the Stoddard Conservation Commission, The WindAction Group, five meteorologists and the state Attorney General's Office — argue it would have a negative impact on property values, public health and safety, the environment and wildlife.

In 2016, N.H. Electric Cooperative signed a 20-year agreement to purchase 25% of the project's electricity. Partners HealthCare of Boston purchased the remaining 75%.

More: *The Keene Sentinel*

## NEW YORK

### State Launches Portal to Support Renewable Energy Projects

The New York State Energy Research and Development Authority on Thursday launched a digital portal to support new opportunities for businesses and electric utilities to partner, create business models and deploy advanced energy technologies in the state.

The portal, REV Connect, provides information about opportunities created by the state's renewable energy initiative. Businesses can submit responsive ideas for feedback and technical support, and be potentially matched with investor-owned utilities to pursue innovative partnerships.

More: *NYSERDA*

## OKLAHOMA

### Sierra Club Sues over Registration Fees for EVs, Hybrids

The Oklahoma Chapter of the Sierra Club filed a lawsuit last week challenging legislation passed earlier this year imposing a $100 fee for registering electric vehicles and a $30 fee for hybrids.

The fees, which begin Jan. 1, are expected to raise more than $506,000 for fiscal year 2018 and $1.01 million for fiscal year 2019.

According to the lawsuit, the legislation is unconstitutional, as it was a revenue-raising bill passed during the last five days of the legislative session.

More: *The Oklahoman*

## WASHINGTON

### Energy Northwest Nuke Waste Shipping Suspended

The state Department of Health last month indefinitely suspended Energy Northwest's authority to ship low-level nuclear waste after a July 20 shipment to Hanford was mislabeled.

Continued on page 33

# Ameren Illinois Criticized for Lowered Energy Efficiency Goals

*By Amanda Durish Cook*

Environmental and consumer activists Wednesday accused Ameren Illinois of attempting to bypass energy efficiency targets set by the state's new clean energy law.

The Illinois Clean Jobs Coalition, with Illinois Rep. Elaine Nekritz and representatives from the Citizens Utility Board (CUB) and Natural Resources Defense Council (NRDC), held an Aug. 9 teleconference to criticize Ameren for setting low energy efficiency goals and urge state regulators to reject the utility's plan. CUB, NRDC and the Environmental Defense Fund filed joint testimony opposing Ameren's plan, which also attracted criticism from many others (17-0311).

According to a July report from the NRDC, both Commonwealth Edison and Ameren filed their initial four-year energy efficiency plans with the Illinois Commerce Commission, but Ameren's plan contained lower energy efficiency goals than required by the Future Energy Jobs Act, which includes performance-based incentives that reward utilities for surpassing efficiency targets and penalize them if they fall short. (See *Illinois Lawmakers Clear Nuke Subsidy*.)

"It's important to understand that everyone benefits from energy efficiency," said CUB Executive Director Dave Kolata, who asserted that Ameren provided no evidence, as required, for not being able to meet the goals.

"In essence, they filed a bloated and inefficient plan" by claiming energy efficiency is more expensive, Kolata said. While the NRDC says ComEd's portfolio meets the new law's four-year target of 11.8% savings, Ameren Illinois' plan "does not meet any of its statutory cumulative annual persisting savings targets — all of which were lower than ComEd's — over the four-year period."

Under the law, ComEd and Ameren are required to achieve 21.5% and 16%, respectively, in cumulative annual savings through 2030 — figures that both utilities had to sign-off on, according to Nekritz, chief sponsor of the law.

By 2021, Ameren should meet a 9.8% cumulative persistent annual savings, but the utility is planning for 8.24% savings. If Ameren's plan is allowed, the utility could gain $36 million in incentives while failing to abide by the law's requirements, the groups said.

Ameren Illinois President Richard J. Mark vehemently rejected the allegation. "They state that Ameren is seeking a $36 million bonus if we achieve lower goals. This is a false statement. In the unlikely event that Ameren earned the 'maximum bonus,' it would amount to approximately $1.3 million in the first year of the plan and $10.1 million in total during the four-year plan."

Mark noted that the filed plan only covers the next four years and is not an indication that the company won't reach the 16% target by 2030.

Nekritz said Ameren should not be allowed to "exploit a loophole" and pointed out that Ameren was already given a lower standard in the law than ComEd.

"Just a short seven months later, Ameren is already backing away from their weak commitment. … Ameren broke their word," Nekritz said. She said while Chicago and Northern Illinois will benefit from electricity savings, Central and Southern Illinois will lose out from Ameren "lowering the goalposts."

Josh Mogerman, NRDC media director, said the law could add 7,000 jobs annually, boosting the state's economy by $700 million per year. "Every time I go home to my parent's in Springfield and see that old refrigerator running in the garage, I'm reminded that there are opportunities all over the state. … Come on, Ameren, don't let down your customers," Mogerman said.

Ameren said its plan is tailored to serve its more sparsely populated customer base. "ComEd serves 3.8 million customers within a territory spanning only 11,400 square miles, or 333 customers per square mile. Ameren Illinois serves 1.2 million electric customers in a service territory that covers 43,700 square miles, or 27.5 customers per square mile," Mark said in a statement to *RTO Insider*. "There is significantly less energy saving potential in the Ameren Illinois service territory."

Mark said that Ameren's plan calls for $112 million in spending annually on low-income programs for the next four years — the maximum allowed under the law. "We're focusing on assisting moderate- to low-income customers who pay for energy efficiency programs every month and deserve the opportunity to receive the benefits," Mark said.

The ICC could decide on Ameren's proposal as soon as early fall.

# STATE BRIEFS

*Continued from page 32*

The department's July 26 order requires Energy Northwest, which operates the Columbia Generating Station, to come up with corrective actions within 90 days, submit to an inspection and participate in a management inspection. It marks the second time in less than a year that the state has barred the company from shipping waste after shipments didn't match the manifest.

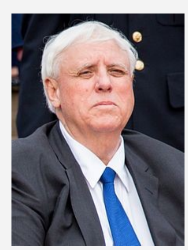
Mike Paoli, a spokesman for Energy Northwest, said the July 20 error involved an incorrect manifest mistakenly being sent along with correctly packaged waste and that it did not result in public health or safety risks.

More: *The Seattle Times*; *Tri-City Herald*

## WEST VIRGINIA

### Governor Wants $4.5B Bailout for Appalachian Coal Industry

Gov. Jim Justice is proposing to bail out the Appalachian coal industry by having the federal government pay $15 to eastern power companies for each ton of Appalachian coal they purchase.



Justice

The proposal, which Justice said is a "homeland security initiative" to protect the eastern energy grid, would cost taxpayers up to $4.5 billion a year.

Justice, who was elected as a Democrat but switched to the Republican Party this month, said President Trump has been receptive to his proposal.

More: *The Washington Post*

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