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Your Eyes and Ears on the Organized Electric Markets
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PJM Begins Campaign for 'Fuel Security' Payments

By Rich Heidorn Jr. and Michael Brooks

WASHINGTON — PJM on Thursday began its campaign to compensate generators based on their "fuel security," releasing an eight-page summary of a study that showed the RTO could face outages under extreme winter weather, gas pipeline disruptions and "escalated" resource retirements.

The ***study***, which evaluated more than 300 winter scenarios, was a "stress test … intended to discover the tipping point when the PJM system begins to be impacted," the RTO said.

"It is clear that key elements, such as availability of non-firm gas service, oil deliverability, pipeline design, reserve level, method of dispatch and availability of demand response become increasingly important as the system comes under more stress," it said.

PJM said it will publish a paper detailing the study in December and plans to introduce a problem statement and issue charge in the first quarter of 2019, with the filing of any proposed market rule changes with FERC in early 2020.

PJM CEO Andy Ott presents the RTO's fuel security study at the National Press Club in D.C. | © *RTO Insider*

At a press conference at the National Press Building, CEO Andy Ott said the study was intended to address the concerns of governors and other policymakers about how soon the

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PJM Flexible on Capacity Rules, Ott Tells OPSI Meeting
(p.27)

Returning Chair Pledges to Protect FERC's Independence

Chatterjee Praises McIntyre's Leadership, Influence

By Michael Brooks

WASHINGTON — It was little more than a year ago that FERC Chairman Neil Chatterjee gathered reporters at commission headquarters to assuage worries that Energy Secretary Rick Perry's recent proposal to compensate coal and nuclear plants would destroy the markets. (See ***FERC Chair Praises Perry's 'Bold Leadership' on NOPR***.)

Much has happened since: Kevin McIntyre took over as chair; the commission unanimously rejected Perry's proposal; and, on Oct. 24, McIntyre relinquished the chair back to Chatterjee while staying on as a commissioner.

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ENERGY BAR ASSOCIATION'S MID-YEAR ENERGY FORUM


FERC Commissioner Richard Glick addresses the Energy Bar Association's Mid-Year Energy Forum. | © *RTO Insider*

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COUNTERFLOW

By Steve Huntoon

GreenHat: (Some of) the Rest of the Story

If you're as old as me you may remember the movie "Body Heat" from 1981. That last scene with Kathleen Turner on an exotic island beach somewhere.[1] Yeah, you know what I'm talking about.[2]

That brings us to the GreenHat Energy debacle, with the stakeholder tab running around $185 million.[3]

Folks seem to think the GreenHat principals lost everything as their PJM financial transmission rights portfolio deteriorated in value. Bloomberg's headline: "Ex-JPMorgan Traders Lost Millions on Bad Bets in Power Market."[4]

I don't think so. I suspect the GreenHat principals, Andrew Kittell, John Bartholomew and Kevin Ziegenhorn, are sipping blender drinks on island beaches just like Kathleen Turner.[5]

Kathleen Turner in the movie "Body Heat"

The Stage

But first let's set the stage. Two of the GreenHat principals, Kittell and Bartholomew,[6] are fresh off the JPMorgan market manipulation in California from 2010 to 2012 for which JPMorgan "agrees to pay a civil penalty of $285,000,000 [and] agrees to disgorge alleged unjust profits of $125,000,000."[7] Kittell and Bartholomew themselves paid nothing.

As recounted in a detailed *RTO Insider* story, they set up shop in 2014 as GreenHat Energy.[8]

"Green hat" in Chinese basically means someone is getting screwed. So at least they had a sense of humor.

Over several years, they accumulate the largest FTR portfolio in PJM history — *890 million MWh* — backed by only $600,000 in collateral.

It isn't clear that PJM connected the dots of Kittell and Bartholomew to the JPMorgan market manipulation, though the connection was hiding in plain sight in FERC's eLibrary via a word search on "Andrew Kittell" or "John Bartholomew."

How the Scheme Works

The scheme here relied on the minimal collateral requirement to hold hundreds of millions of dollars in FTR positions. All that has to happen for GreenHat to make money is for positions to change in value over time — as of course they will — and for GreenHat to sell "in the money" positions to third parties. GreenHat would prefer that the overall value of its portfolio increase over time, but that isn't necessary for GreenHat to make money because GreenHat can sell positions with value, and default on the rest. Indeed, GreenHat would want to buy every possible FTR with zero incremental collateral requirement, regardless of whether it expected those FTRs to make money.

Let me give you an example that is so simple even I can understand it. Let's say PurpleHat Energy joins PJM and puts up $600,000 credit. PurpleHat buys long-term FTRs with no additional credit requirement: let's say FTR 1 from source A to sink B for $10, and say FTR 2 from source C to sink D for $6.

As time goes on, FTR 1 decreases in value from $10 to $7, and FTR 2 increases in value from $6 to $8. PurpleHat bundles up FTR 2 and thousands of other FTRs that have *increased* in value (i.e., "in the money") and goes looking for a buyer of these "winners." Now the buyer looks at FTR 2, for example, and is thinking that if the current $8 value is maintained to settlement, PJM will pay me $8. Of course the buyer has to discount that $8 for the time value of money, risk of value change (could be up, down), etc. So the buyer agrees to pay PurpleHat, say, $7. Notice that PurpleHat has made $1 on FTR 2 ($7 revenue minus $6 cost). Multiply that by thousands of other FTRs and their megawatt-hour quantities and you get to real money real fast.

Now remember PurpleHat is selling winners for cash to third parties and will default on the losers. So PurpleHat can make wads of money even if its *overall* portfolio of winners and losers goes down in value. Got it?

The Collateral That Wasn't

Beyond this big picture, here's a remarkable part of the story: As the GreenHat portfolio deteriorated in value, and some FTR participants raised red flags with PJM,[9] PJM asked GreenHat for more collateral.

GreenHat purported to provide that, in June 2017, in the form of pledging $62 million in future revenue from FTR sales agreements that GreenHat had with a third party, which we now know is Shell Energy North America[10] ("Pledge Agreement"). Here is how PJM described it: "Mr. Kittell worked with PJM to establish a dedicated depository account and represented that GreenHat would request the third party to deposit the revenues from the bilateral contracts into a bank account that PJM had access to and from which PJM would execute automated clearing house withdrawals to cover net losses that accumulated in GreenHat's PJM account."[11]

Now, one might think, wouldn't PJM verify with Shell that *Shell hadn't already given GreenHat some or all of that $62 million* (assuming that $62 million is a real number)? Well, PJM did ask GreenHat for permission to check with Shell about that $62 million, and GreenHat said … *no*.[12]

Counterflow

By Steve Huntoon

Now, one might think, that's that: PJM would tell GreenHat to come up with something better than a Nigerian prince story for $62 million. Instead, PJM went ahead with the Pledge Agreement,[13] saying it had no choice,[14] and GreenHat went on to more than double the size of its FTR position.[15]

And, as fate would have it, GreenHat *had* already pocketed whatever was owed by Shell (not $62 million, but perhaps $7 million — more on that next).[16] Uh oh.

The $62 Million That Wasn't

There's one more part of the story to tell here. You've probably assumed, like I did, that there had to be something to the $62 million claim that GreenHat made to PJM. But maybe that ain't so. Maybe there never was any $62 million — not at the time of the FTR sale to Shell, or ever.

Analysis of the GreenHat positions suggests they were purchased at a cost of approximately $19 million when GreenHat acquired them (with minimal collateral) and valued in the range of $25 million when GreenHat sold them to Shell. It seems what GreenHat entered into the PJM eFTR system was just made up.[17]

Per Queen in "Bohemian Rhapsody": "Is this just fantasy?" And here the answer seems "yes."

What Now?

What's to be done now? FERC Enforcement should be all over this if it isn't already. The penalties for market manipulation can be substantial as the JPMorgan order shows.[18] And PJM should vigorously pursue civil action, such as the one initiated in Texas.

Lesson for the Future

Lesson for the future: All RTOs should carefully review all their credit requirements for everything — with experts in credit — just in case Kittell and Bartholomew, or others like them, are coming their way.

P.S.: The GreenHat experience is not an indictment of energy markets in general, or FTRs in particular. It is a cautionary tale of faulty credit policy and oversight. ■

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[1] It was filmed on Tunnels Beach, Hawaii.

[2] And if you're a youngster, might I recommend that movie? Warning: You'll never look at your significant other the same.

[3] *https://pjm.com/-/media/committees-groups/committees/mrc/20180918-special-ftr/20180913-default-reference-points.ashx* (slide 6).

[4] *https://www.bloomberg.com/news/articles/2018-09-25/a-power-grid-and-its-customers-could-get-stuck-paying-for-a-failed-wall-street-bet*.

[5] At least Andrew Kittell seems to be. On Feb. 1, 2017, Kittell purchased a $3.4 million home on Coronado Island, Calif. *https://blockshopper.com/ca/sandiego/coronado/property/5364111600/640-coronado-avenue*; *https://www.zillow.com/homes/for_sale/17071030_zpid/32.697143,-117.187762,32.694768,-117.191425_rect/17_zm/1_fr/?view=public*.

TripAdvisor tells us: "Developed in 1888 as a beach resort town, and home to the famous Hotel del Coronado, the island is blessed with one of the finest beaches in the world and bathed in endless sunshine." Must be nice.

[6] A touch of irony: Bartholomew's career includes a stint at FERC's Office of Enforcement investigating Energy Transfer Partners and Amaranth market manipulation. *http://www.gpo.gov/fdsys/pkg/CHRG-113shrg91522/pdf/CHRG-113shrg91522.pdf* (pdf pages 1617-1618).

[7] *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=13317770*.

[8] *https://www.rtoinsider.com/pjm-greenhat-energy-market-manipulation-jp-morgan-ftr-100407/*. According to corporate documents on file with the Texas secretary of state, Bartholomew formed GreenHat on June 25, 2014. Ziegenhorn was added as a manager on Aug. 7, 2014, and Kittell was added as a manager on Feb. 26, 2015.

[9] As early as April 2016, at least one FTR market participant was warning PJM about a 100 million MWh FTR position with minimal collateral, what DC Energy called the "Illustrative Portfolio" (yes, GreenHat's). *https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=1493734*.

[10] "PJM Interconnection, L.L.C. … Verified Rule 202 Petition," District Court of Harris County, Texas, Cause No. 201869829-7, filed Oct. 1, 2018.

[11] *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14970001* (pdf page 13).

[12] "PJM asked Mr. Kittell for permission to contact the counterparty to the bilateral trades regarding the contractual arrangement with GreenHat, and Mr. Kittell denied PJM's request and specifically asked PJM not to contact the counterparty." *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14995137* (page 4).

[13] The email trail we have in the FERC filings has PJM asking for more support from GreenHat and ultimately sending an email on April 19, 2017, requesting a log of every payment GreenHat had received from Shell. But from there the paper trail goes cold: PJM doesn't provide any response from GreenHat. *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14995137* (Appendix B, second page).

Nor does it appear PJM questioned why Shell would pay GreenHat $62 million for positions actually worth a fraction of that amount (as discussed later).

[14] "To avoid a claim of interference with GreenHat's contractual counterparty and to allow GreenHat the ability to sell down its portfolio, PJM had no choice but to comply with this request [that PJM not contact Shell]." *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14995137* (page 4).

This is puzzling. PJM had at least colorable Tariff authority to require meaningful collateral or other protection (if not as a condition to maintain existing positions, surely as a condition to expand those positions): "PJMSettlement may select participants for review on a random basis and/or *based on identified risk factors such as, but not limited to, the PJM markets in which the participant is transacting, the magnitude of the participant's transactions in the PJM markets or the volume of the participant's open positions in the PJM markets.* Those participants notified by PJMSettlement that they have been selected for review shall, upon 14 calendar days' notice, provide a copy of their current governing risk control policies, procedures and controls applicable to their PJM market activities and *shall also provide such further information or documentation pertaining to the participants' activities in the PJM markets as PJMSettlement may reasonably request.* … Each selected participant's *continued eligibility to participate in the PJM markets is conditioned upon PJMSettlement notifying the participant of successful completion of PJMSettlement's verification* of the participant's risk management policies, practices and procedures, as discussed herein." PJM Tariff Attachment Q, Section I.B (emphasis added).

PJM seemed to rely on Attachment Q, Section II.D.2 (PJM has the right to "require additional collateral as may be deemed reasonably necessary to support current market activity."), but this section appears applicable only to an "unsecured credit allowance," which is not what GreenHat apparently had.

[15] GreenHat had a portfolio position of about 375 million MWh in mid-June 2017. The Pledge Agreement was entered into late June 2017. GreenHat went on to increase its position to 890 million MWh. *https://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=14937343* (Figure 1, page 9).

It is not clear how this more than doubling of the GreenHat position comports with PJM's statement, quoted in the preceding footnote, that PJM was motivated to go forward with the Pledge Agreement to "allow GreenHat the ability to sell down its portfolio" (emphasis added).

[16] "PJM specifically asked Mr. Kittell if the counterparty had paid GreenHat any of the money due to GreenHat under their bilateral trade agreements. GreenHat never informed PJM that the counterparty had paid any money on that contract. Instead, Mr. Kittell forwarded PJM documents indicating money that it claimed the counterparty owed to GreenHat under their contract that would flow to PJM under the Pledge Agreement. It wasn't until June 2018 that PJM learned from Mr. Kittell that GreenHat sent two invoices with a "Final Purchase Price" due from the counterparty to GreenHat under two separate FTR bilateral agreements between the two parties — *well before GreenHat commenced discussions with PJM regarding the Pledge Agreement, and that the counterparty paid GreenHat all of the money the counterparty believes was due to GreenHat under those bilateral agreements.*" *https://elibrary-backup.ferc.gov/idmws/common/opennat.asp?fileID=14995137* (pages 4-5, emphasis added).

[17] How is such a thing possible? GreenHat could have used the PJM eFTR system so as to make it appear as if Shell owed GreenHat an amount that far exceeded the actual value of the positions. There is a field in the eFTR system, which PJM does not use in settlement, that purports to offer market participants the ability to enter bilateral contract transaction prices. The GreenHat/Shell transacted FTRs had entered prices in this field that did in fact add up to at least $62 million, which GreenHat apparently offered to PJM as proof that it had receivables to pledge to PJM. But use of this field is not customary for bilateral transactions in the eFTR system (most market participants leave this field blank or enter 0). In other words, GreenHat could have entered 62 cents or $620 trillion with no economic significance (which may explain why Shell would not have cared what GreenHat entered). The actual transaction prices between GreenHat and Shell would be governed by the contracts entered into by the parties, not by what was entered into eFTR. The GreenHat invoices in 2016-2017 for "Final Purchase Prices" of $5.2 million and $1.5 million appear to reflect the economic substance of the FTR sales.

[18] PJM is trying to keep $550,000 in collateral of a GreenHat affiliate in *PJM Interconnection, L.L.C.*, Docket No. ER18-1972-000. $550,000 is peanuts. PJM's efforts should be on civil action and on FERC Enforcement.

ENERGY BAR ASSOCIATION'S MID-YEAR ENERGY FORUM

Nearing 1-Year Mark, Glick Rejects 'National Security' Grid Risk

By Rich Heidorn Jr.

FERC Commissioner Richard Glick | © *RTO Insider*

WASHINGTON — Nearing the end of his rookie year, FERC Commissioner Richard Glick last week reiterated his opposition to the Trump administration's efforts to protect coal and nuclear generation, rejecting the notion that national security is at stake.

The luncheon speaker for the second day of the Energy Bar Association's Mid-Year Energy Forum, Glick opened his address with wishes for a "speedy recovery" for Commissioner Kevin McIntyre, who stepped down from the chairmanship Oct. 24 after disclosing a "serious setback" in his battle with a brain tumor. McIntyre last appeared in public at the commission's July meeting. "We hope he's back at 888 First St. [FERC headquarters] as soon as possible," Glick said.

After that, Glick reflected on his first 11 months in office and the "resilience" debate sparked by the Department of Energy's proposals to deliver on Trump's campaign promise to save the coal industry. Last month, the administration reportedly dropped DOE's proposal to invoke emergency powers to provide price supports for "fuel secure" generation following opposition from the National Security Council and National Economic Council. (See *Chatterjee Dodges as DOE Spins on Coal Bailout*.)

"Fortunately, at least according to press reports, that particular approach may be waning," Glick said. "It's hard to tell ... we still hear from the secretary of energy ... and others in the Department of Energy — suggesting that we have a national security emergency. The concern I have — and both parties do this — people overuse the term 'national security.'"

Glick, a Democrat, agreed that policymakers "should be prepared for low-frequency, high-impact events" such as extreme storms and cyberattacks. "This isn't a new issue ... [NERC has] been looking at this issue for a number of years. They haven't always been calling it 'resilience.'"

If gas pipelines are at risk from cyberattacks, "let's try to figure out how to solve the cybersecurity problem," he said. "We should figure that out, not try to figure out some other solution that seems to be aimed elsewhere. And I think everyone recognizes if we do have issues with blackouts ... the issues are mostly going to be in transmission and distribution, not necessarily generation."

The commissioner rejected the argument that the Supreme Court's 1944 Federal Power Commission v. Hope Natural Gas Co. *ruling* ensures generation owners will not lose money on their investments. "I don't think that's what Hope said, especially in a competitive market. ... Not everyone can make money. There's going to be some companies that do well, and some aren't."

Glick also noted the commission's April order making it easier for renewables to interconnect with the grid (RM17-8) and said he hoped it will act soon on an order to encourage aggregation of distributed energy resources in wholesale markets. "I think that has the potential to be a big boon, both for reliability but also for those technologies and certainly for green energy," he said. (See *Ready to Act on DERs, FERC Tells Congress*.) ■

ENERGY BAR ASSOCIATION'S MID-YEAR ENERGY FORUM

Overheard at EBA's Mid-Year Energy Forum

A luncheon crowd listens to FERC Commissioner Richard Glick at the Energy Bar Association's Mid-Year Energy Forum | | © *RTO Insider*

WASHINGTON — The Energy Bar Association's Mid-Year Energy Forum last week rekindled long-running debates over FERC Order 1000, state-federal jurisdiction, utility rate structures and the Public Utility Regulatory Policies Act. And this year, there was a relatively new issue of contention: grid resilience.

Here's the highlights of what we heard:

Resilience Debate Comes to EBA

Elliot Roseman, U.S. Energy Association, at podium, moderated a discussion on resilience with, from left, New York PSC Commissioner Diane Burman; William Scherman, Gibson Dunn & Crutcher; Kim Smaczniak, Earthjustice; Candice Castaneda, NERC; and Derek Bandera, executive director of federal regulatory affairs, MISO. | © *RTO Insider*

Kim Smaczniak, Earthjustice | © *RTO Insider*

Kim Smaczniak, an attorney for Earthjustice, debated attorney William Scherman over whether the retirement of coal and nuclear generation is undermining the grid's resilience.

"Is there a resilience crisis in the bulk power system? The answer is no," Smaczniak said. "There is no data that has demonstrated a crisis on the bulk power system today."

She contended the grid's biggest resilience threat is climate change, citing National Oceanic and Atmospheric Administration data that seven of the 10 costliest storms in U.S. history occurred in the last 10 years. "That's not going away," she said. "That's climate change."

Scherman, a former FERC general counsel who now represents natural gas pipelines and utilities such as FirstEnergy at Gibson, Dunn & Crutcher, said policymakers must practice the "electric utility version of the Hippocratic Oath" in ensuring reliable service above all else.

"We are losing fuel-secure, diverse generation in the country every day, and nothing is being done about it because the mantra is 'That is the will of the market. We should allow the markets to operate.' … I sure hope these damn markets are right, because when we finally get to the point of figuring out that they're not, it will be too late to do anything about it."

Scherman praised FERC's ruling declaring PJM's capacity market not just and reasonable because of price suppression from subsidized renewables and nuclear power. (See *FERC Orders PJM Capacity Market Revamp*.)

But he said the commission should also have required changes to the RTO's ancillary services and energy markets because they are interrelated — and that other regions should do similar examinations.

"We have to have a full, comprehensive and holistic review of whether these markets are continuing to work," he said.

Candice Castaneda, NERC | © *RTO Insider*

Candice Castaneda, a legal and regulatory counsel for NERC, also sparred with Scherman over his contention that reliability is different from resilience.

"Resilience is an inherent characteristic of reliability. … Resilience is a time-based component of reliability," she said.

"I know of no NERC standard that assesses and defines resiliency standards," Scherman responded.

Another Plea for PURPA Reform

Idaho Public Utilities Commissioner Kristine Raper and Adam Benshoff, executive director of regulatory affairs for the Edison Electric Institute, called on FERC to address above-market costs and gaming by qualifying facilities under PURPA. FERC in May said it would review how it enforces the 1978 law. (See *FERC Sets PURPA Review; Powelson Targets 1-Mile Rule*.)

Adam Benshoff, Edison Electric Institute | © *RTO Insider*

Benshoff said customers of PacifiCorp and Duke Energy both paid more than $1 billion in above-market costs over the last 10 years.

He said FERC should reduce the 20-MW limit on QFs in organized markets and change the burden of proof, which is currently on challengers to QF self-certifications. "We're not advocating for a specific number. … Something less than 20, something higher than zero probably makes sense right now given open access, given the sophistication of the folks that are participating in this process."

Kristine Raper, Idaho Public Utilities Commission | © *RTO Insider*

Raper said that although half of Idaho Power's generation mix is hydro, it must curtail that energy during the shoulder months when its peak is 1,300 MW or less. "They have more PURPA [resources] on the system than that. And this is must- purchase energy. … You're not utilizing hydro, which is a virtually free resource, and you're paying anywhere between $30 and $200[/MWh] for PURPA generators. It totally blows away the resource stack and the whole theory of running the least-cost resource. … It's not fair to ratepayers."

She said FERC's 1-mile rule is a "red herring" because QF developers are also disaggregating projects to drop below the PURPA limit by registering them as multiple limited liability companies.

She said FERC should allow states more discretion in blocking such gambits by allowing them to treat as a single project those sharing

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owners, interconnection agreements, facilities, contractors and financing.

Amanda Rome, Xcel Energy | © *RTO Insider*

In a separate panel, Amanda Rome, Xcel Energy's managing attorney for federal and state regulatory policy, touted Colorado regulators' policy, which frees utilities from must-purchase requirements for PURPA projects larger than 100 kW unless the project wins a competitive solicitation. The policy is the subject of a federal court challenge.

The most recent PURPA applications, filed last month, sought prices as high as $34/MWh for wind and $63/MWh for solar, she said. In contrast, Public Service Company of Colorado's most recent all-source solicitation produced 350 renewable bids with median prices of $19.30/MWh for wind and $30.96/MWh for solar.

The solicitation will give the utility a total of more than 5,000 MW of renewables, "and 70% of those are projects that could qualify as QF," she said.

Collaboration Sought on State-Federal Issues

FERC General Counsel James Danly had some advice for his colleagues: Don't count on the Supreme Court's *Hughes v. Talen* ruling for jurisdictional challenges to state energy policies.

The 2016 ruling rejected Maryland regulators' attempt to subsidize a combined cycle plant, saying it interfered with FERC's jurisdiction. But the court also said its ruling should not be interpreted as preventing states from

Former FERC Commissioner Colette Honorable, center, insists "fire tornadoes" are a thing. Listening skeptically are, from left, moderator Matthew Price, Jenner & Block; FERC General Counsel James Danly; Amanda Rome, Xcel Energy; and MISO General Counsel Andre Porter. | © *RTO Insider*

supporting generation resources through measures "untethered to a generator's wholesale market participation."

James Danly, FERC | © *RTO Insider*

"A lot of people enjoy hanging their hat on Hughes. Hughes shouldn't be read for much more than it really states," Danly said, echoing an interpretation former General Counsel Max Minzner shared with EBA attendees in 2016. (See *Court's Reticence Frustrates Energy Bar*.)

Colette Honorable, Reed Smith | © *RTO Insider*

Former FERC Commissioner Colette Honorable, now a partner with Reed Smith, noted states' increasing activism on energy policy. "It's not just New York and California anymore," she said.

In Washington state, for example, voters will be asked today whether they support imposing a $15/metric ton *charge* on carbon emissions by large emitters such as refineries, power generators, and oil and gas producers.

Honorable said she is not optimistic that federal policymakers will adopt carbon pricing. "I'm really a positive person, but I will say I don't see it on the horizon any time soon," she said. "We desperately need it."

Andre Porter, MISO | © *RTO Insider*

She agreed with MISO General Counsel Andre Porter on the need for collaboration among states, RTOs and federal officials. With the threat of year-round forest fires in the West and cyberattacks on utilities, "it's a new day. It requires our collective thinking," she said.

Porter said issues as important as reliability, resource adequacy and market efficiency should not be decided in the courts through adversarial processes. "I think there's a more collaborative, and likely better, way to go about addressing these issues," he said, citing MISO's "abundantly transparent" stakeholder process and its work with FERC and the Organization of MISO States.

He cited as an example jurisdiction over sales for resale on the distribution grid. "I've often heard people say, 'Who wins in this debate over federal and state jurisdiction?' I actually hope no one wins. … It's not a competition. … The focus through all this has to be continued collaboration to ensure we've got a reliable, efficient and adequate grid." ■

— Rich Heidorn Jr.

ENERGY BAR ASSOCIATION'S MID-YEAR ENERGY FORUM

PSEG, GridLiance Spar over Order 1000

By Rich Heidorn Jr.

WASHINGTON — Public Service Electric and Gas has never been a fan of FERC Order 1000. No wonder.

In 2014, PJM staff selected PSE&G to construct a $300 million transmission upgrade for Artificial Island — the RTO's first competitive project — only to have the RTO's Board of Managers reopen the bidding following protests from spurned bidders and others. PJM later awarded most of the project to LS Power. (See *PJM Board Puts the Brakes on Artificial Island Selection*.)

Larry Gasteiger, PSEG | © *RTO Insider*

"I'd like to see the whole thing repealed," Larry Gasteiger, chief of federal regulatory policy for PSE&G's parent, Public Service Enterprise Group, said during a panel discussion on the landmark order at the Energy Bar Association's Mid-Year Energy Forum last week.

Gasteiger, a former FERC chief of staff, acknowledged that that outcome is unlikely. He noted that the commission has taken no action to change the rule in the two years since it convened a technical conference to review its performance. (See *Five Years Later, FERC Takes Another Look at Order 1000*.)

But he said it has not met the commission's hopes for creating competition. "Outside of the organized markets there has not been any competitive transmission bidding opportunities. Within the organized markets, it's been mixed … to say the least. SPP's Walkemeyer project is almost a poster child: spending $5 million on the competitive process for an $8 million project … that got canceled." (See *SPP Cancels First Competitive Tx Project, Citing Falling Demand Projections*.)

He said relying on least-cost transmission solutions is akin to buying a $3,990 Yugo, the boxy import car *mocked* in the 1980s for its low quality.

Justin M. Campbell, GridLiance | © *RTO Insider*

Justin M. Campbell, chief development officer for GridLiance, a transmission developer backed by the private equity firm Blackstone Group, conceded the order has resulted in cumbersome solicitation processes.

But he said competition is essential to keeping transmission costs — which have risen to 10% of customers' bills, from 6% in 2006 — under control. He cited LS Power's winning bid on MISO's Duff-Coleman project, which came in at $50 million, well below the projected $58.6 million.

He said competition has been hamstrung by state policies driven by incumbent transmission owners and RTOs' "categorical" exemptions from competition for certain types of projects, such as those for reliability, projects whose costs are allocated locally or solutions below 300 kV.

Campbell rejected Gasteiger's Yugo comparison, saying the developers competing for projects are not "two-men-and-a-laptop type of outfits."

"What you're going to see is Duke [Energy,] Edison [International and] American Electric Power. You're going to see companies that own tens of thousands of miles of transmission and are fully capable — just like the incumbents," he said, adding that competitors use many of the same engineering procurement construction (EPC) contractors as incumbents.

"The way we're able to save cost is in more efficient design. It's in how we handle the risk allocation between the customer and developer and EPC contractor. So, it's things like that that [allow savings], not lowballing construction or anything like that."

He cited a *study* the Brattle Group did for GridLiance and LS Power that found competitive projects — which often include cost caps or other cost controls — have averaged 40% below initial project cost estimates and could ultimately produce savings of 55%. The report said ratepayers in the U.S. and Canada could save $8 billion over five years if ISOs and RTOs increased the share of transmission investments opened to competition to 33%, up from 2% currently.

Transmission Planning: How Low Can You Go?

Other panelists discussed transmission planning and rates.

Theodore Paradise, ISO-NE | © *RTO Insider*

Theodore Paradise, ISO-NE's assistant general counsel for operations and planning, said the rise of behind-the-meter generation and distributed resources may require a rethinking of transmission planning and the distinction between federally regulated transmission and state-regulated distribution. "Maybe it's time for all of us to figure out where the power system is going as we do system planning looking out 10 years. Do we need to plan down to 115 [kV] for transmission?"

Paul Dumais, Dumais Consulting | © *RTO Insider*

Consultant Paul Dumais, a former Avangrid executive, praised FERC's Oct. 16 order changing how the commission sets TOs' return on equity rates, a change expected to increase the ROE cap for Avangrid and other New England Transmission Owners (NETOs). (See *FERC Changing ROE Rules; Higher Rates Likely*.)

When FERC approved incentive ROE adders for a $1.5 billion Avangrid project about 10 years ago, he said, "it really changed things in the company. There was a focused effort to make sure that capital was appropriated. … And in large part I believe it was due to the fact that there were incentives given for the particular risks and challenges of that project."

When FERC reduced the NETOs' ROE cap, however, Avangrid could only collect half of the incentive, Dumais said.

"The Iberdrola folks in Spain [then Avangrid's parent company] felt they had been bait-and-switched."

Dumais said he was hopeful that the commission's new policy will allow it to resolve ROE complaints within the 15- month limit on refunds. Maine regulators, he noted, complete full utility rate cases in 12 months. ■

ENERGY BAR ASSOCIATION'S MID-YEAR ENERGY FORUM

Ratemaking Rules Pose Challenge for Tx Technology

By Rich Heidorn Jr.

Mark Jamison, University of Florida | © *RTO Insider*

WASHINGTON — The role of regulators in adapting to new transmission technology was the topic for the opening general session of the Energy Bar Association's Mid-Year Energy Forum last week, where Mark Jamison gave a history lesson.

Jamison, director of the Public Utility Research Center at the University of Florida, said the telecommunications revolution that followed the breakup of AT&T's monopoly in 1984 illustrates what he called the "myths" of industry transformations.

"One of those myths is we can … create the future by rearranging the components of the past," he said. "What happens is when you … start opening things up to competition … the real underlying economics of the system just comes roaring out and it creates a future that we did not anticipate."

The breakup of AT&T assumed a difference between local telephone service and long-distance service, he said. "Once we opened the markets, we found out that that assumption was fundamentally flawed. The technologies, the customers said, are not distinct from each other."

Jamison said the electric industry is likely to be upended by technologies such as blockchain and artificial intelligence.

"It could drive us to larger, more expansive utility services, or it could shrink them down further. It all depends upon how the economics actually play out," he said. "Blockchain would tend to disassemble things; artificial intelligence could put things back together again, make them even bigger. We just don't know."

Former FERC Commissioner Nora Mead Brownell also cited blockchain and AI as technologies she is watching. She also is keen on transmission technology.

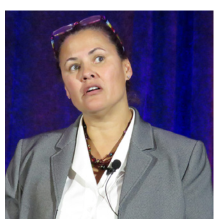
"We spend time talking about generation mix — candidly perhaps a little too much — and not enough time talking about all the [transmission and distribution] technologies that can add efficiency, add transparency, have applications that solve for multiple problems, like cyber, like customer interaction … and solve for reliability and resiliency," said Brownell, who serves on the boards of several technology companies in addition to that of U.K.-based utility National Grid.

A Call for Short-term Thinking

Gregg Rotenberg, Smart Wires | © *RTO Insider*

Gregg Rotenberg, CEO of Smart Wires, called for less emphasis on long-term transmission planning and more focus on short-term needs. "We're getting far worse [at predicting the needs of the future grid]. This changeover in generation … is incredibly difficult to predict. And just as much innovation is going on on the consumer side. So, if you can't tell me where generation is going to be, if you can't tell me what load is going to be at any one substation, how could a utility possibly predict what their grid needs going forward?" he asked.

"What we've really done is built a system that takes three to five years to make the simplest of decisions because we treat every decision as though it is a 30-year investment and that you have 30-year information on what your grid is going to look like, and that's simply not the world we live in anymore," Rotenberg said.



Kelly Speakes-Backman, Energy Storage Association | © *RTO Insider*

Kelly Speakes-Backman, CEO of the Energy Storage Association, said focusing exclusively on the short term is not realistic. "You have to think about long-term investments because these are really large investments."

"I totally agree," Rotenberg responded. "When you have to think long term, let the market compete for who's going to make that long-term investment."

Changing TOs' Incentives

Rotenberg said utilities in Europe and Australia have been quicker to adopt advanced transmission technology by his company and others because they have ratemaking rules that allow their utilities to share in savings. In most of the U.S., by contrast, utilities' rate-of-return structures incent them to spend more on expensive transmission upgrades. Rotenberg said seven of the top 11 utilities in the U.S. have nonetheless adopted his company's power flow "valves" and should be regarded as "heroes" because the technology will reduce their earnings.

Peter Esposito, Crested Butte Catalysts, left, moderated an EBA general session discussion on regulators' difficulty keeping up with new technologies. Also participating were, from left, former FERC Commissioner Nora Brownell; Hannah Polikov, Advanced Energy Economy; Gregg Rotenberg, Smart Wires; Susan Pope, FTI Consulting; Mark Jamison, University of Florida and Kelly Speakes-Backman, Energy Storage Association.| © *RTO Insider*

Susan Pope, FTI Consulting | © *RTO Insider*

Susan Pope, managing director of FTI Consulting, agreed with Rotenberg on the need for change. "If a battery is the cheapest way to ensure service to a customer at the long end of a transmission line, we shouldn't be building wires," she said.

Pope said she fears the pace of technological change may result in a new episode of stranded costs.

"I'm concerned that we get state-level initiatives that are going to be investing in technologies or in projects that are not justified on a market basis. And somebody's got to pay for that. That's going to end up being shareholders in terms of stranded costs, or I think it's going to be small customers because … large customers find a way to avoid paying those large fixed costs. If they're levied based on peak usage, for example, what you're seeing in Ontario is customers are increasing their demand in peak hours so that they can meet the threshold so that they can bypass transmission charges." ■

MICROGRID 2.0

Microgrids Seek Path out of Regulatory Limbo

By Michael Brooks

FERC Commissioner Cheryl LaFleur addresses the Microgrid 2.0 conference in Baltimore. | *International District Energy Association*

BALTIMORE — The drafters of the 1935 Federal Power Act could not have imagined modern distributed energy resources, let alone a small network of them that can operate independently of the grid.

FERC Commissioner Cheryl LaFleur | International District Energy Association

"The phenomenon that I think FERC confronts and other agencies in Washington confront is that there's been a lot more technological change than there's been legislative change for a whole bunch of reasons that are above my pay grade to diagnose," Commissioner Cheryl LaFleur told attendees of Microgrid 2.0 at the Hyatt Regency Baltimore Inner Harbor last week.

"We're trying to solve 21st century problems using ... a 1930s law."

How microgrids should be regulated was a central topic at the third annual conference held by the International District Energy Association (IDEA), which advocates for distributed generation, district heating and cooling, and combined heat and power.

Christopher Berendt, Drinker Biddle & Reath | International District Energy Association

"The reason we're here talking about this today, probably more than anything else, is that consumer demand is driving us, and that we're seeing more and more people say, 'We want to see mixed-use, multi-customer microgrids because we want the variety of benefits that can come out of them,'" Christopher Berendt, counsel to IDEA's Microgrid Resources Coalition, said during a panel on market design and policies.

Regulatory risk, he said, "acts kind of like repellant to private capital."

"There is more capital waiting to flow into microgrid investment right now [that] you would not believe," said Berendt, a partner with Drinker Biddle & Reath. "There is more capital chasing fewer good projects, and what is really needed to unlock those loads of capital and get more good steel in the ground is not the desire to deploy it, but the regulatory frameworks that support project financing."

Without any direction from Congress, however, regulators must work with what they have. During her luncheon keynote speech, LaFleur pointed to the complications of DER aggregation, which the commission has been working on for nearly two years. (See *FERC Rule Would Boost Energy Storage, DER*.)

"It seems quite clear that distributed resources can be aggregated and bid into the market and contribute great value. But since they're, in many cases, behind the meter, what do the states figure out? Who gets the first bite of the value?" LaFleur asked. "How are we going to figure out who pays what to whom in a sensible way? I think our staff has made a lot of progress in thinking about it. I think it can be worked through, but it's a little more complicated than some of the ... issues we usually deal with because of the number of different uses, and because although it acts wholesale when we see it in the markets, it's actually at the distribution level."

Commissioner Richard Glick told the Energy Bar Association last week he hopes the commission will act soon to encourage aggregation of DERs in wholesale markets. (See related story, *Nearing 1-Year Mark, Glick Rejects 'National Security' Grid Risk*.)

The industry also faces challenges at the state and local levels over siting rights of way and whether microgrids are defined as public utilities. "One thing all jurisdictions in this country have in common is that they're not set up for microgrids," Berendt said

Dan Dobbs, Anbaric Development Partners | International District Energy Association

Dan Dobbs, vice president of distributed energy for Anbaric Development Partners, pointed to New York's Value of Distributed Energy Resources tariff as "a start." (See *NYPSC Takes Subway into Value Stack*.)

"It's not perfect, but it's a good attempt at getting that value," he said. But "you really need to be able to value power that comes in and goes out equally. That's at the retail level, and you need to be able to do that similarly at the wholesale level when you are aggregating resources." ■

CAISO/WECC News

FERC OKs CAISO Changes to EIM Bid Adders

By Hudson Sangree

FERC last week approved CAISO's proposal to revise its bid adder for the Western Energy Imbalance Market, allowing the changes to take effect Nov. 1.

The revisions limit the megawatt quantity of the bid adder, which reflects the costs EIM resources pay to comply with California's greenhouse gas regulations (*ER18-2341*).

EIM resources sending energy to California must comply with the state Air Resources Board's GHG regulations and pay associated compliance costs. External resources receive a payment to offset those costs when they are dispatched to serve CAISO load. (See *EIM Members Seek More Details on GHG Accounting Plan*.)

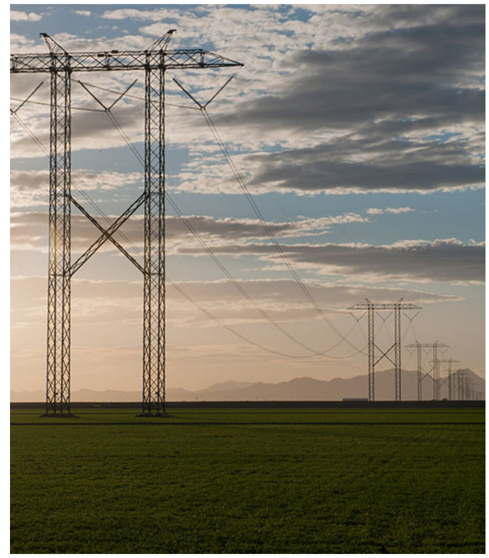
The change addresses stakeholders' concern that the market might designate a resource as supporting a transfer into CAISO even when the resource would have operated at the same level to serve load outside the ISO.

To deal with the problem, CAISO proposed limiting the hourly megawatt quantity of the bid adder to the resource's dispatchable bid range between its base schedule and its upper economic bid for the operating hour.

"We find that CAISO's proposal will more accurately attribute EIM transfers to the actual generation being incrementally dispatched to serve California load and will reduce the attribution to CAISO load of EIM resources that would have generated even without CAISO load, as reflected in EIM base schedules," the commission said.

However, FERC also directed CAISO to file an informational report on the results of the changes by Jan. 1, 2020. The report is intended to provide greater market transparency and address concerns by CAISO's Department of Market Monitoring (DMM) that the Tariff changes could undermine market efficiency. (See *CAISO, ARB to Address Imbalance Market Carbon Leakage*.)

"The report must describe the extent to which situations similar to the scenario described by DMM in its comments to CAISO's stakeholder process materialize during the 12 months after the implementation of CAISO's Tariff revisions," the commission said. ■

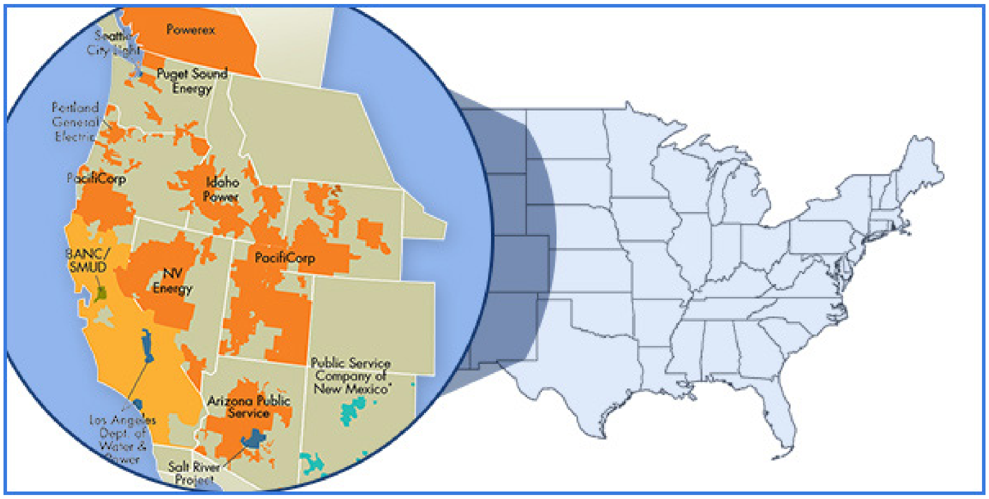


Transmission lines near Blythe, Calif. | *U.S. Bureau of Reclamation*

CAISO/WECC News

Expanding Western EIM Reports Record Benefits

By Hudson Sangree



The Western EIM is expanding with new and planned participants. | *CAISO*

CAISO last week said its Western Energy Imbalance Market has produced more than a half-billion dollars in benefits for participants since its founding five years ago, including more than $100 million in benefits in the third quarter of 2018.

Those ***third-quarter benefits***, driven by high demand and fuel costs in July and August, were the most for any quarter since CAISO started the EIM in November 2014, the ISO said. In Q3, the EIM produced $100.58 million in savings, with its total benefits reaching $502.31 million, it said.

"This clearly illustrates the value of markets to the customers in California and the region," Steve Berberich, CAISO's president and CEO, said in a statement.

CAISO and Arizona Public Service claimed the largest share of third-quarter benefits ($21.02 million and $20.78 million, respectively), followed by PacifiCorp ($17.82 million), Idaho Power ($13.31 million), NV Energy ($11.09 million), Portland General Electric ($9.47 million), Puget Sound Energy ($4.44 million) and Powerex ($2.65 million).

CAISO was by far the biggest net importer of energy during the quarter at nearly 1.336 million MWh, with NV Energy a distant second at 285,971 MWh. By comparison, CAISO's net imports were just 355,549 MWh during the second quarter, while net exports surged above 1.9 million MWh in the face of solar surpluses.

APS facilitated the largest volume of wheel-through transfers last quarter (364,046 MWh), followed by PacifiCorp's West balancing area (350,170 MWh) and NV Energy (312,593 MWh). EIM members derive no financial benefit from wheel-throughs, and CAISO said it will continue to examine whether "there is a potential future need to pursue a market solution to address the equitable sharing of wheeling benefits."

The EIM real-time wholesale market allows CAISO and non-ISO participants to trade energy across the West, often reducing costs and curtailment of renewable resources including solar, wind and hydroelectric power.

Many industry leaders have praised its benefits, including those who oppose the idea of a Western RTO led by CAISO. (See ***Overheard at Transmission Summit West***.) Unlike an RTO, the EIM's transmission-owning entities retain operational control over their assets, while member generators participate in the real-time market on a voluntary basis.

	(Millions $)
Arizona Public Service	$20.78
California ISO	$21.02
Idaho Power	$13.31
NV Energy	$11.09
PacifiCorp	$17.82
Portland General Electric	$9.47
Powerex	$2.65
Puget Sound Energy	$4.44
Total	$100.58

This table shows the Western EIM's Q3 2018 gross benefits by participant. | *CAISO*

A CAISO proposal to extend the EIM to include a day-ahead market has been the subject of discussion at industry conferences throughout the West this year. (See ***CAISO Day-ahead Could be Tailored for West***.)

Meanwhile the EIM has been expanding, increasing its reported benefits.

Notably, ***Idaho Power and Powerex*** began transacting in the market in April, bringing to eight the number of members participating in the EIM. (See ***Idaho Power, Powerex Begin Trading in Western EIM***.) That expansion equipped the EIM to serve imbalances for about 55% of load in the Western Interconnection, according to the ISO.

Market participants serve more than 42 million customers in an area that stretches from Canada to the Mexican border, including large swaths of Arizona, California, Idaho, Nevada, Oregon, Utah, Washington and Wyoming.

Five more entities are slated to join the EIM in the next two years. The Balancing Authority of Northern California and the Sacramento Municipal Utility District plan to begin participating in April 2019. The Los Angeles Department of Water and Power, Arizona's Salt River Project and Seattle City Light are scheduled to begin participating in April 2020.

Public Service Company of New Mexico, the state's largest utility, is seeking permission from its regulators to join the EIM by 2021, officials announced in August. (See ***PNM Seeks to Join Energy Imbalance Market***.)

The Bonneville Power Administration has been discussing joining the EIM, most recently in a stakeholder call on Oct. 11. BPA would likely bring its "big 10" hydro resources to the EIM, officials said on that call, including the Grand Coulee, Chief Joseph and Dalles projects on the Columbia River. The Columbia basin covers an area roughly the size of France, they noted.

Officials on the call said BPA could sign an agreement with the EIM as early as the end of 2019. ■

CAISO/WECC News

Edison Takes Partial Blame for Wildfire in Earnings Call

By Hudson Sangree

Edison International's president said in an *earnings call* last week that equipment owned by its Southern California Edison subsidiary was at least one cause of a December 2017 wildfire that burned nearly 282,000 acres and resulted in multiple deaths.

The Thomas Fire in Santa Barbara and Ventura counties was the state's largest wildfire in modern history until a combined series of Northern California blazes, the Mendocino Complex, greatly exceeded it this year. The Thomas Fire was directly blamed for the death of a firefighter and a civilian. Mud and debris flows in its aftermath killed 21 others when heavy rain drenched scarred mountain slopes.

"Based on the progress of our ongoing work in these areas with the information currently available to us, we believe that the Thomas Fire … had at least two separate ignition points," Pedro J. Pizarro, Edison's president and CEO, said during the Oct. 30 earnings call. "With respect to one of these ignition points, Koenigstein Road, SCE believes that its equipment was associated with this ignition."

The company hasn't determined if a second ignition point in the Anlauf Canyon area also involved its equipment, Pizarro said. The California Department of Forestry and Fire Protection is also investigating the fire.

As with other California utilities' wildfire liabilities, Edison's could prove costly. California employs a unique system of holding electric providers strictly liable for property damage if their equipment sparks wildfires, even if they followed all rules and regulations. Pacific Gas and Electric is facing billions of dollars in liability for Northern California fires last year, which has undermined its stock price.

Edison may face similar problems. The company reported third-quarter earnings of $513 million ($1.57/share), compared with $470 million ($1.43/share) in the third quarter of 2017 — the increase largely attributed to deferral of operations and maintenance costs and tax benefits at SCE. But it also discussed its potential financial exposure from the Thomas Fire and highlighted its wildfire prevention efforts with investors.

"Mitigation and prevention are the best defenses against future wildfires," Pizarro said.

Southern California Edison said its equipment was partly to blame for the Thomas Fire near Santa Barbara, Calif., in December 2017. | *U.S. Forest Service*

Fanned by Santa Ana winds, the Thomas Fire tore through a huge swath of Ventura and Santa Barbara counties, killing two. | *NASA Earth Observatory*

The company's California plans call for spending $407 million on grid hardening, enhanced operations and "situational awareness" of wildfire risks, he said.

Much of the money will be used to replace 600 circuit miles of bare wire with insulated wire over the next two years in areas at high risk from wildfires, the CEO said. SCE has identified another 3,400 circuit miles of bare overhead conductors in fire-prone regions, he said.

The company's plans are in line with the goals of SB 901, a bill the California legislature passed this year that requires utilities to file wildfire mitigation plans with the state, he noted. (See *California Wildfire Bill Goes to Governor*.)

Pizarro said Edison is also seeking to comply with another landmark bill, SB 100, which requires the state to rely entirely on renewable and other zero-carbon energy sources by 2045. The measure sets goals along the way, including achieving 60% renewable energy reliance by 2030. (See *California Gov. Signs Clean Energy Act Before Climate Summit*.)

"We found the most feasible pathway to reach the state's 2030 goals to be an electric grid supplied by 80% carbon-free energy made reliable by up to 10 GW of energy storage," Pizarro said on the call.

"This will support at least 7 million electric vehicles on California roads and nearly one-third of space and water heaters powered by electricity," he added.

Call transcript courtesy of Seeking Alpha. ■

ERCOT News

ERCOT Takes Healthy Reserves into Winter, Spring

By Tom Kleckner

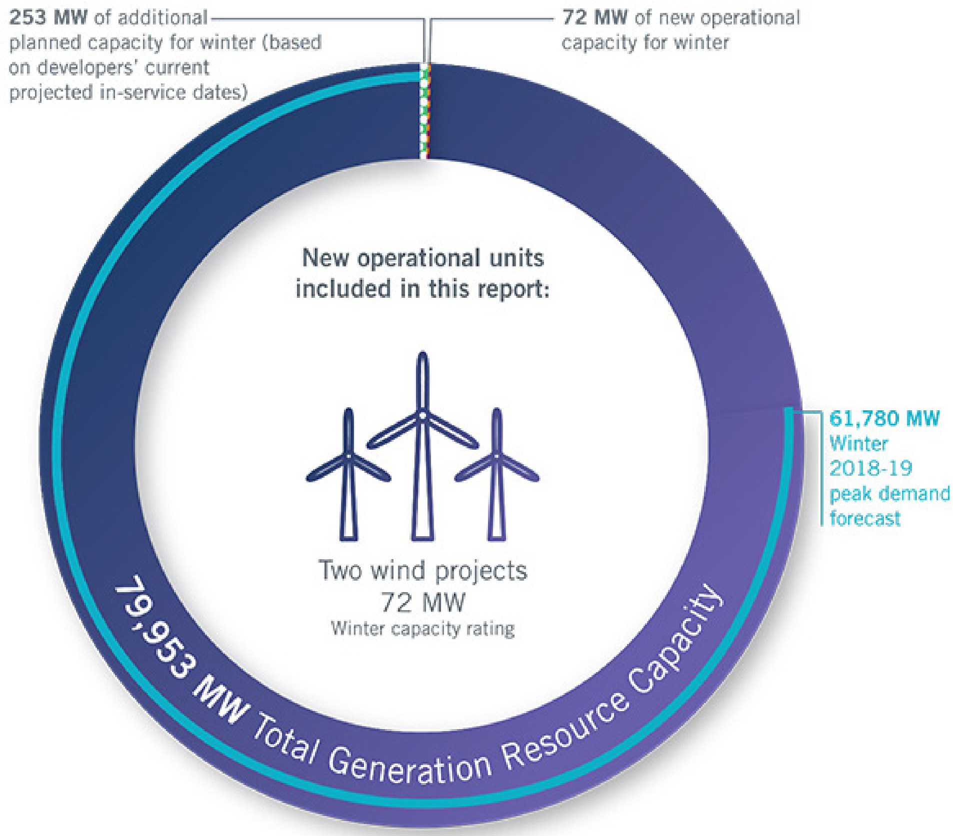
Having successfully met system demand this summer despite tight reserve margins, ERCOT said Thursday it will have "sufficient" generation to meet smaller load during the upcoming winter and spring.

According to the grid operator's final *seasonal assessment of resource adequacy* (SARA) for winter (December-February), operators will have almost 80 GW of capacity available to meet a projected peak of 61.8 GW. The forecast is based on normal weather conditions during peak periods from 2002 to 2016.

ERCOT has added 325 MW of capacity since its last SARA, including 72 MW of winter capacity from two wind farms and 219 MW of gas-fired generation expected to be in service for the winter.

Pete Warnken, ERCOT's manager of resource adequacy, cautioned reporters during a conference call against taking a rosy outlook based on reserve generation. In 2011, the grid operator was forced to resort to rolling blackouts when freezing temperatures knocked generation offline in the face of increasing demand.

"Winter can be very volatile, as far as temperatures and demand, and we account for that in our extreme [planning] scenarios," Warnken said.



| ERCOT

The Papalote Creek Wind Farm rises above the plains of South Texas. | © *RTO Insider*

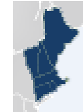
ERCOT's preliminary *spring SARA* (March-May) forecasts a seasonal peak of 61.6 GW, with an additional 1.1 GW of capacity from a mixture of gas, wind and solar projects expected to be available. The final spring SARA will be released in early March.

System demand peaked at a spring record of 67.3 GW on May 29. The grid operator was also able to meet a record system demand of 73.3 GW this summer.

"We look to the market to add generation resources in response to increasing load," Warnken said.

The SARA report is based on an assessment of generation availability and expected peak demand conditions. It takes into account expected generation outages that typically occur during each season for routine maintenance, as well as a range of generation outage scenarios and weather conditions that could affect seasonal demand. ■

ISO-NE News



NECBC ENERGY TRADE & TECHNOLOGY CONFERENCE

Canada, New England Talk Trade, Politics and Clean Energy

By Michael Kuser

The New England-Canada Business Council (NECBC) 26th Annual Energy Trade & Technology Conference took place Nov. 1-2 in Boston. | © *RTO Insider*

BOSTON — Energy made up $130 billion of the $750 billion that changed hands last year between Canada and the U.S., the largest bilateral trading relationship in the world. Industry participants on both sides of the border question why the Trump administration would risk that relationship with protectionist tariffs.

Sergio Marchi | © *RTO Insider*

"We believe in building bridges, not walls," said Canadian Electricity Association head Sergio Marchi, speaking at the New England-Canada Business Council's (NECBC) 26th annual energy conference Thursday, where attendees also discussed the changing resource mix, investment prospects and siting challenges.

Canadians were disappointed that the energy chapter in the original North American Free Trade Agreement was not preserved in the proposed United States-Mexico-Canada Agreement, and surprised the updated energy provisions were bilateral, not trilateral, Marchi said.

"The provisions of energy in the new NAFTA are scattered across a multiplicity of different sections, and so we're puzzled as to why you would not want to consolidate all of these provisions in one coherent place," he said.

David Alward | © *RTO Insider*

David Alward, consul general of Canada to New England and a former premier of New Brunswick, said Canada did not believe the premise of the original NAFTA was unfavorable to the U.S. and noted that negotiations over the new agreement led to a pessimistic cloud of uncertainty.

"But we achieved a good agreement and brought a certain level of predictability to the relationship," Alward said.

Paul Hibbard | © *RTO Insider*

The Analysis Group's Paul Hibbard, former chairman of the Massachusetts Department of Public Utilities, said, "It's difficult to overstate the importance of Canada in meeting energy needs and renewables. ... Looking forward, the potential growth in cross-border energy trade is staggering."

Renewable, with Gas and a Little Oil

Massachusetts Energy and Environmental Affairs Secretary Matthew Beaton said his state is "continuing to make sure that we take a combo platter approach" to include all technologies in achieving a renewable energy future.

"The existing markets are becoming more aligned on natural gas, which will continue to play a very important role in the market price of energy here in New England," Beaton said.

Carol Grant, commissioner of the Rhode Island Office of Energy Resources, said she is optimistic that people want to contribute to a cleaner world, "but I don't think New England or anyone is saying at any price."

Matthew Beaton | © *RTO Insider*

Carol Grant | © *RTO Insider*

Robert Ethier | © *RTO Insider*

ISO-NE Vice President of Market Operations Robert Ethier said the two most important issues for the RTO are winter fuel security and "addressing the states' desire to bring in more carbon-free resources."

Integrating those new resources is not now a problem for the RTO and likely won't be for the next decade, Ethier said. It's a two-fold economic challenge involving the energy and capacity markets.

"One is, bring in these zero-marginal-cost resources and insert them into our real-time supply stack, and it lowers energy prices for everyone," Ethier said.

Second, "when the states contract for these resources, they don't just affect the energy market, they also affect our capacity market," Ethier said. So the RTO developed Competitive Auctions with Sponsored Policy Resources "to insulate the capacity market outcomes from having these resources, which are by most estimates uneconomic to enter into our capacity market, but enter anyway because they have long-term state contracts."

Having new state-sponsored resources buy out old resources in the market will help manage and ration the entry of these resources into the market and prevent price suppression, he said.

ISO-NE News

NECBC ENERGY TRADE & TECHNOLOGY CONFERENCE

NECBC Panel (left to right): Robert Ethier, ISO-NE; Dena Wiggins, NGSA; Paul Hubbard, Analysis Group; Sergio Marchi, CEA; and Seth Jaffe, Foley Hoag. | © *RTO Insider*

"If we want to have long-term competitive markets in New England, and we want to have the prospect of merchant investment five, 10 or 15 years from now ... they need to have confidence that there are going to be market opportunities for them into the future that make it worth their while to invest their money," Ethier said.

Dan Dolan, president of the New England Power Generators Association, said 60% of the region's electricity will soon come from state-sponsored resources not dependent on the wholesale market, "but the market is not structured to protect the 40% of generators who will remain dependent on the market."

On fuel security, Ethier said the market needs to incent gas-burning generators to fully utilize LNG facilities and also ensure the region continues to maintain its existing fleet of oil-burning resources, at least in the near term.

"Those resources have remarkably low capacity factors for resources that were built as baseload ... in the 1 to 2% range, so they hardly ever run," Ethier said. "The thing is, when they do run, we really need them."

Dena Wiggins | © *RTO Insider*

Dena Wiggins, president of the Natural Gas Supply Association, said that ample and diverse natural gas supplies balance the current weak U.S. gas storage picture of about 3 Tcf, so that a disruption to production in one place no longer spikes prices.

"It's a little bit different here in New England, but those are spot prices," Wiggins said in reference to potential spikes. "Our consultant tells us that during the winter peaks, only about 1% of the gas traded at those high prices."

Siting Concerns

John Gulliver | © *RTO Insider*

Attorney John Gulliver of Pierce Atwood compared 2000 with 2017, with New England nuclear remaining steady over that period, producing 31% of power, while oil moved from 22% to 0.7%, coal declined from 18% to 2% and natural gas grew from 15% to 48% — "with the balance made up by healthy growth in hydro and renewables."

Seth Jaffe | © *RTO Insider*

Attorney Seth Jaffe of Foley Hoag said policymakers may be willing to pay the price for pursuing their political goals of a carbon-free economy, but both gas pipelines and hydropower transmission from Canada have had problems getting sited, even when hydro nominally supplants the need to burn natural gas. "You have to wonder, how are we going to get these projects done?"

Avangrid CEO James P. Torgerson said the difficulty in siting onshore wind in New York and New England is just one reason why offshore is more appealing.

"You still have to deal with the intermittency, but the good thing about offshore wind [is] the capacity factors we're seeing for that should be in the 50% range," compared with 33% for existing onshore wind and 40% for new onshore projects, Torgerson said.

James P. Torgerson | © *RTO Insider*

Speaking about Avangrid's New England Clean Energy Connect (NECEC), a project of subsidiary Central Maine Power to bring 1,200 MW of Canadian hydropower to Massachusetts, Torgerson said, "We expect to get all the approvals in 2019," despite Maine regulators in October having suspended hearings on the project. (See *Maine PUC Move Poses Hurdle for NECEC*.)

The Maine Public Utilities Commission on Nov. 2 scheduled several technical conferences in the case (Docket No. *2017-00232*) ahead of resuming hearings January.

"Some communities are not as supportive as they initially were ... but things evolve," Torgerson said.

NECEC faces some of the same issues as Northern Pass did in New Hampshire, so when Maine environmentalists protested plans to string high-voltage lines across the Kennebec Gorge, for example, Avangrid agreed to tunnel under the river, he said.

The project to deliver Quebec's hydropower will reduce electricity prices in Maine by about $40 million a year, provide communities $18 million a year in tax benefits and add more than $500 million to Maine's GDP, Torgerson said.

Ian Robertson | © *RTO Insider*

Algonquin Power & Utilities CEO Ian Robertson noted how the intermittency of renewables is declining and the potential for storage to assist the trend.

"We're all trying to understand how battery storage fits into that equation. Part of what we're doing is working with regulators to put 500 of the Tesla Powerwalls in," Robertson said. "But I'm not sure anybody in a utility really understands how storage can be most effectively introduced into an electric grid to create value for customers." ■

MISO News

MISO Pivots to Near-term Resource Availability Fixes

By Amanda Durish Cook

CARMEL, Ind. — MISO has mostly focused its multiyear resource availability and need initiative on big-picture solutions, but RTO staff now say they will zero in on three short-term fixes that can be rolled out early next year.

The shift comes after stakeholders expressed the need for near-term improvements in MISO's effort to address the growing mismatch between its changing resource availability and demand. (See *MISO Narrowing Options on Resource Availability Fix*.)

Jeff Bladen | © *RTO Insider*

"We agree and we'd like to take some near-term action to give us the space to work on holistic solutions," MISO Executive Director of Market Development Jeff Bladen said during a Nov. 1 Reliability Subcommittee meeting. "We do need the operational breathing room to work on those long-term solutions."

MISO will likely make a FERC filing for short-term solutions before the end of the year while spending "the bulk" of 2019 on longer-term improvements, Bladen said. MISO's near-term objective is to make 5 to 10 GW of additional supply more available by the spring, focusing on stricter load-modifying resource (LMR) obligations, more advanced notice of planned outages to members and firmer planned outage requirements.

"Our goal now is not to get to perfect, but get to better," Bladen said.

MISO next year expects to focus on how resources are accredited in the annual Planning Resource Auction. Beyond that, Bladen said the RTO will work on new market incentives to spur resource availability and a possible seasonal resource adequacy construct.

Outages

MISO wants to create a region-by-region forward rolling forecast of planned outages in its North, South and Central regions "many, many months in advance," Bladen said.

The RTO is seeking stakeholder input on the definition of a planned outage and the lead time required. The Tariff does not currently spell out a notification period for planned outages, instead leaving stakeholders to interpret the NERC standard of "well in advance."

Bladen said MISO received suggestions to deem any outages submitted less than a month in advance as "forced." Stakeholders have also asked the RTO to consider transitioning to a "total" outage rating for generators that includes planned outages and derates, not simply a forced outage rate.

But Bladen said MISO's recommendation is to consider all outages and derates as forced outages only during periods of low availability of capacity reserves unless the asset owner has provided ample notice of a planned outage. The RTO has not yet determined a possible notification lead time, nor has it defined what would constitute "low reserves," though Bladen said it may require a 120-day notice period for an outage to be considered planned and anywhere from 5 to 7% in available reserves before MISO declares low availability.

WPPI Energy's Valy Goepfrich said the RTO could also simply increase its expected forced outage rates for generators.

Bladen said MISO currently experiences a "double camel's hump" of planned outages in April and October, when maintenance outages spike. He said increasing outages, combined with diminishing reserves, increase the potential of firm load shedding.

Xcel Energy's Kari Hassler said the RTO could request that generation owners smooth out the two concentrations of outages during the year.

"This is direct correlation of our aging fleet. … It's something we have to account for in

Nov. 1 Reliability Subcommittee underway | © *RTO Insider*

MISO News

operations," Bladen said, adding that MISO's improved transparency around planned outages will require a "heavy lift" from member utilities. He said the RTO's planned outage data are only as good as what generation owners provide: "If we don't know outages are coming, we can't" inform stakeholders.

Minnesota Public Utilities Commission staff member Hwikwon Ham pointed out that multiple generators that were in poor condition have retired in the past few years.

Bladen said that while a transition to a newer generation fleet is a possibility, MISO should work proactively with what generation it has now to ensure reliability while fleet evolution continues.

"We have to account for these trends, even in the short term. We can't assume a younger fleet, even if the queue tells us that's on the horizon," Bladen said. He also noted MISO is seeing more new resources categorized as LMRs, available only in emergencies.

LMRs

MISO is also recommending calling on long-lead-time LMRs ahead of an emergency declaration rather than after. Some stakeholders have asked that LMRs meet a defined response time, perhaps two hours. Bladen said that was something for future consideration but not yet a MISO recommendation. He also said the RTO recommends requiring LMRs to participate in annual testing of their load-tempering capabilities.

Occidental Petroleum's Suzanne Mottin said MISO's suggestions were "concerning." She said Occidental's LMR service comes with a contract with its utility and guarantees a notification time. "I don't know how you roll this out with these contracts," she said.

Coalition of Midwest Transmission Customers attorney Jim Dauphinais pointed out that LMRs are already subject to performance penalties not applicable to other classes of MISO generation.

Bladen said MISO is seeking that and other stakeholder feedback, noting the RTO is not aiming to make LMR participation so "onerous" that most entities are unlikely to sign up.

MISO will also undertake capital spending next year to make it easier for asset owners to communicate through the LMR availability reporting platform. Stakeholders have criticized the usability of the RTO's current setup.

Bladen also asked for stakeholder feedback on MISO's recommendation to issue earlier instructions to LMRs in anticipation of tight operations.

"What we're talking about is the operators being more ready to call on LMRs. They're pretty smart, and they can see those things in advance," Bladen said.

MISO will schedule a stakeholder workshop in late November to go over more specific proposals on LMRs and outages, Bladen said. ■

MISO Foresees Manageable 2018/19 Winter

By Amanda Durish Cook

CARMEL, Ind. — While MISO expects to have ample resources on hand to manage what should be a warmer-than-normal winter, it is still preparing for the possibility of entering emergency procedures.

Rob Benbow | © *RTO Insider*

The RTO is forecasting a 103-GW peak this winter, 6 GW short of the all-time winter record of 109 GW, set Jan. 6, 2014, during the polar vortex. With 140 GW in total available capacity to meet demand, the RTO foresees having a 36% systemwide reserve margin this winter, more than double the current annual level.

But Executive Director of Energy Rob Benbow told an Oct. 29 winter readiness workshop that MISO is preparing for the possibility of extreme winter conditions and estimates a 40% probability of having to call on load-modifying resources (LMRs) at least one time during the season.

"While we project ample resources under normal operating conditions, MISO is also prepared to proactively manage potential challenges created by periods of extreme weather, generation and transmission outages and other developments," Benbow said.

Eric Rodriguez | © *RTO Insider*

MISO's most probable operating scenario shows about 25.1 GW of outages with 18.8 GW in reserves. But in a high-load and extreme-outage scenario, outages could reach 38.6 GW, resulting in an almost 2-GW shortfall in reserves.

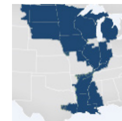
Resource Adequacy Coordination Engineer Eric Rodriguez said it's "critical" that LMR owners update their wintertime availability in MISO's nonpublic communication system to ensure readiness in the face of above-normal load or outages.

"We're showing a challenging winter if a high-load, high-outage scenario is realized," Rodriguez said.

MISO's biannual coordinated seasonal assessment, which simulates stressors on the transmission system, showed no unanticipated thermal, voltage or phase angle issues this winter.

"Our transmission system also looks like it's in good shape for this winter," Benbow said.

However, MISO said it could experience delayed injections in the natural gas pipeline system, and the region is experiencing the lowest gas storage levels in a decade because of a long cold snap in spring and high summertime demand.



But the RTO also predicts current high gas production will offset the low storage levels this winter, likely keeping prices flat. It also noted two new large pipelines from the Marcellus and Utica basins were placed into service last month and are increasing takeaway capacity.

"We have two new pipelines to offset the storage and we're looking pretty good heading into winter," said Trevor Hines, MISO operations communications lead.

More Precautions

This marks the first winter MISO will use its new capacity advisory notification, an intermediary step before declaring a maximum generation alert and used only when all-in capacity is forecast to be less than 5% above operating needs. (See *MISO: Sept. Emergency Response Improved by Jan. Event*.)

Benbow said MISO has been working through drills and training on emergency purchases with suppliers outside the footprint. The RTO has also clarified its emergency operating procedures to ensure public appeals for energy conservation occur before it makes emergency energy purchases from external suppliers, a revision some members had advocated.

In response to the Jan. 17 MISO South emergency, MISO and SPP have been collaborating on both emergency protocols and the use of SPP's contract path linking MISO's Midwest and South regions, "making sure we understand when they're having challenging times … and also making sure they understand our [emergency] process," Benbow said.

"Ever since we've got out of the Jan. 17 event, we've met with the joint parties and our neighboring reliability coordinators to the south … to work on the management of the regional dispatch transfer," he said.

5th Waiver

For the fifth straight winter, MISO is seeking a Tariff waiver to allow resources to recover energy costs in excess of the current $1,000/MWh offer cap.

In early October, FERC granted MISO an October 2020 deadline to implement a new $2,000/MWh hard cap for verified cost-based incremental energy offers. MISO said it needed the extra time to work the new offer caps into its fast-start pricing and extended locational marginal price. (See *MISO Granted Longer Deadline for Offer Caps*.)

MISO market adviser Chuck Hansen said if FERC approves the waiver, generator offers greater than $1,000/MWh will again be subject to the RTO's verification process.

"They won't be able to directly submit those offers, but they will be able to recover those costs after the fact through uplift costs," Hansen said. ■

Few Clear Lines in MISO Storage as Tx Plan

By Amanda Durish Cook

Jeff Webb | © *RTO Insider*

CARMEL, Ind. — A recent MISO workshop on storage providing transmission services made clear how much the technology is blurring the once clear lines between generation and transmission.

In opening the Oct. 31 workshop, MISO Director of Planning Jeff Webb jokingly nodded to the industry's choice of "SATA" as shorthand for "storage as a transmission asset," saying: "Happy Halloween. Welcome to what we're calling SATAN's workshop."

MISO last month detailed how SATA would be evaluated in its annual Transmission Expansion Plan reliability studies compared with traditional solutions. The RTO is proposing that costs for storage projects selected as a preferred transmission solution would be recovered in local transmission zonal rates while avoiding double recovery for the same service in the energy market. (See *MISO Contemplates Storage as Tx Reliability Asset*.)

"I don't expect … that we're going to have a lot of energy storage resources that we're going to consider to be the preferred option," Webb said.

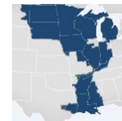
For now, MISO is only proposing a model for storage to act as a transmission reliability solution, solving thermal, voltage or stability issues. Beyond that, Webb said the RTO will have to pick through more complex Tariff issues.

He said it will hold off on discussions around evaluating storage as economic transmission, competitive storage projects and how regional cost sharing for high-voltage transmission projects applies to storage.

The Interconnection Question

MISO has laid out potential paths for interconnecting SATA, including only requiring the MTEP process — not the interconnection queue — for transmission-only assets. An in-

MISO NEWS



terconnection queue requirement would kick in if a storage owner decides to begin offering market services.

Alternatively, MISO could require entering the interconnection queue for all SATA, even for assets that don't plan on participating in the energy market, Webb said. Some stakeholders also contend that SATA providing some market services should not be subject to a queue requirement unless it plans to offer capacity.

For a storage asset that has completed the interconnection queue, MISO has proposed that the owner could decide to provide market services when the RTO doesn't need transmission services. Webb said it's "you're a wire unless we say you're not" philosophy, similar to CAISO's approach. (See *CAISO Updates Storage as Transmission Asset Plan*.) MISO must also determine how registration should differ between transmission and generation storage assets.

"There seems to be a fair amount of passion around these issues, particularly around interconnection issues," Webb said. "There are those that say if you're going to treat it as a wire, treat it as a wire. Don't treat it the way it acts; treat it the way it's categorized."

Webb said that if storage-as-wires is required to enter the interconnection queue, it may have to compete for scarce transmission capacity with other proposed generation, potentially disadvantaging other generators.

He also noted that the approximately three-year backlog in the queue might hinder the ability for storage resources to go in service more quickly than traditional transmission lines. He said MISO could also add steps to the MTEP process that consider the potential impact of SATA on queued generation. Webb said MTEP studies could capture even the benefits of energy withdrawals to potential generation.

"That unloading of the line will probably be beneficial for generations seeking to load up that line," Webb said. "Part of the problem with getting your head around these devices … is optimal location on the system."

MISO has *said* that if storage would "negatively impact potentially interconnecting generation in the area, it is not a good MTEP solution."

But Customized Energy Solutions' David Sapper said that statement could use more clarity.

"That sounds good on a bumper sticker, but we don't know what 'negatively' means. We don't know what 'potentially' means. We don't know what 'area' means," he said.

Webb said MISO will offer more detail and that it is more focused on finding the grid locations that would benefit most from SATA characteristics.

CleanGrid Alliance's Rhonda Peters said the queue should be required even for transmission-only storage, unless MISO can "clearly demonstrate" that the storage projects would "never inject during times of congestion."

Great River Energy's Angela Maiko said MISO should evaluate both charging and discharging scenarios as part of MTEP's no-harm evaluations, to find the "worst-case scenario."

Webb said MISO should also compare the lifespan of storage devices against lines, evaluating a battery's possible 10-year lifespan with the average 40-year lifespan of traditional transmission.

But stakeholders also said MISO might consider the evolving grid and the risk that traditional transmission may well become a stranded asset as the energy landscape changes.

Market Control?

Webb said MISO is still contemplating whether it should adopt control of SATA through market commitment and dispatch because storage injects and withdraws energy, unlike traditional wires. He said the extra control might be needed "primarily for energy balance and orderly control of the asset."

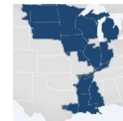
Entergy's Yarrow Etheredge, representing MISO's Transmission Owners sector, said there's no need for the RTO to create a new process to functionally control SATA, suggesting that current transmission operating procedures can be used.

Steve Swan, MISO senior real-time operations engineer, said transmission owners' control of storage devices likely won't affect the short-term energy balance, but an imbalance could develop once 500 MW of SATA interconnects because the RTO won't have enough regulating reserves.

Other stakeholders countered that transmission operators would not operate their assets in a way that would harm the MISO system. Still others pointed out that today, transmission operators don't have a role that involves injection of energy and that such injections must be accounted for in the energy market.

MISO will continue to discuss the finer points of how storage will function as a reliability transmission asset through early next year. The RTO has not committed to a date for when it will release a draft proposal. ■

MISO News



MISO Tariff Changes Target Cybersecurity Data Sharing

By Amanda Durish Cook

David Rosenthal, MISO director of incident response and systems recovery | © *RTO Insider*

CARMEL, Ind. — MISO has drafted proposed Tariff changes that would allow it to share more information on significant cyberattacks with the federal government.

The *revisions*, targeted for FERC filing early next year, will permit emergency data sharing with the Department of Homeland Security should MISO experience a cyberattack.

"Right now, we're very limited in the information we can share," David Rosenthal, director of incident response and systems recovery, said during a Nov. 1 Reliability Subcommittee meeting. MISO's Tariff currently permits data sharing with FERC and the Commodity Futures Trading Commission.

MISO is a Section 9 entity according to President Barack Obama's 2013 *Executive Order 13636*, which means it's on a shortlist of entities with critical infrastructure at greatest risk that the government is interested in protecting.

Last year, President Trump signed *Executive Order 13800*, which tasked DHS with measures that federal agencies could use to support cybersecurity efforts of Section 9 entities.

MISO is also waiting to see how complicated the new NERC *standard* CIP-008-6 will be; the rule *requires* reliability coordinators to report attempts to breach cybersecurity. A comment period for the standard closed on Oct. 22.

In anticipation of these activities, MISO has drawn up Tariff revisions for data sharing with "federal agencies with responsibilities for cybersecurity in response to cyber exigency."

"Honestly, we truly only plan to use this in a significant event like a blackout or a nuclear event," Rosenthal said. "MISO hopes to never need to use the additional data-sharing practices."

Staff said the ambiguity around which federal agencies MISO can share data with is deliberate, providing the RTO the latitude to share information with other federal entities with cybersecurity responsibilities, such as the FBI, in the event that DHS is overloaded following a mass attack.

"We just don't want to pause while we're in the middle of an incident to see which federal agencies are listed in the Tariff," Rosenthal said.

"We just don't want to pause while we're in the middle of an incident to see which federal agencies are listed in the Tariff,"

–David Rosenthal

He stressed that the information sharing can only be authorized by MISO's chief information officer or chief information security officer. The RTO will be authorized to terminate the agreement at any time.

The Tariff revisions will also include a confidentiality request that federal agencies not share MISO's information with third parties. Rosenthal said this aligns with current information-sharing practices with FERC and CFTC, agencies that also do not guarantee confidentiality, though the RTO nevertheless includes confidentiality requests in those agreements as well. Staff promised to make use of whatever authority available to MISO to limit the spread of its information.

MISO requests feedback on the data-sharing proposal by Nov. 21. Rosenthal said MISO would try to file in January. ■

MISO News

FERC OKs MISO External Capacity Zones, Dispute Deadlines

By Amanda Durish Cook

MISO can create external zones for its annual capacity auction and place time limits on members' settlement disputes, FERC ruled in a pair of Oct. 31 orders.

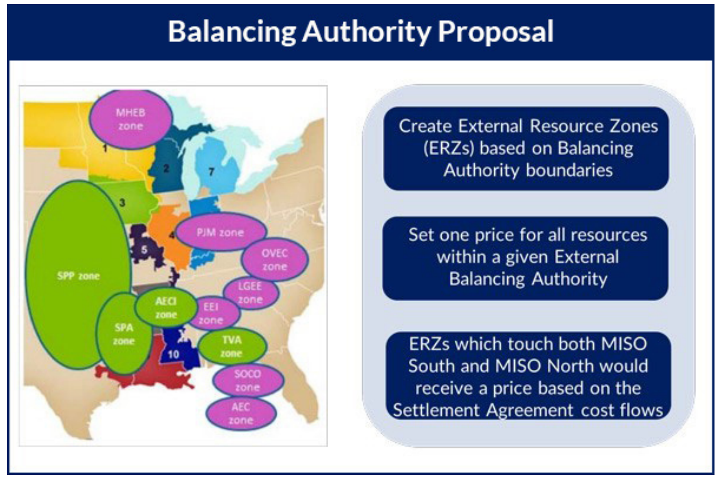
The first order allows MISO to create external resource zones and modify capacity import and export limits to align with them. Excess auction revenues will be divided among load-serving entities with historic supply arrangements that may be affected by the new zones (*ER18-2363*).

FERC said distinguishing external capacity suppliers from internal ones would preserve the intent of the RTO's local clearing requirement. "We find it just and reasonable … for MISO to no longer count all external resources, regardless of electrical distance and dispatch control, towards satisfying the local clearing requirements for MISO's local zones. Continuing to do so would undermine the purpose of the local clearing requirement, which is to ensure that a sufficient amount of unforced capacity is located within each local zone so that each local zone can meet its [loss-of-load expectation] during its local zone peak demand when it is import-constrained," the commission said.

FERC also brushed aside stakeholder protests that the RTO's plan was hasty because its current treatment of external resources was not causing reliability issues. "A transmission operator need not wait until there is a reliability event before proposing tariff revisions to prevent one," the commission said.

It also rebutted municipal agencies' argument that WPPI Energy's Nelson Energy Center in Illinois should be considered a border external resource because Exelon's Quad Cities nuclear plant is considered one. The commission said that while Quad Cities is directly connected to the MISO system, the Nelson plant "requires intervening transmission to reach the MISO transmission system" and doesn't follow a predictable path. FERC also declined to speculate on municipal agencies' concerns over how the RTO might treat future external generation using the proposed Grain Belt Express HVDC line, saying such discussion was "premature."

FERC had rejected MISO's plan for external capacity zones in August, taking issue with a proposal allowing an external resource bordering more than one local resource zone to choose which zone to participate in during the auction. The commission also rejected a provision that would have allowed holders of evergreen supply contracts written prior to the RTO's capacity construct to receive historical supply arrangement credits in perpetuity.



MISO external zones | *MISO*

MISO responded with edits that made evergreen contract extensions eligible for excess auction revenues for the original term of the contract or two years, whichever is longer, and a new electrical connectivity analysis that ensures external resources bordering more than one local resource zone participate in only one zone. (See *MISO Adds Study to 2nd External Zone Filing*.)

FERC accepted both changes and said the two-year limit would ensure that resources won't be able to "permanently avoid the locational price signal that MISO's resource adequacy construct was designed to provide." But the commission said that the RTO should notify owners of external resources bordering multiple zones which zone they'll be assigned to in the upcoming auction. MISO agreed to provide the notice.

Limits on Settlement Dispute Resolution

FERC's other order allows MISO to bar settlement disputes that are not initiated within approximately four months (*ER18-1648-001*).

Effective Nov. 1, members have a 120-day time limit for initiating transmission or market settlement disputes and another 90 days to request either an informal or formal alternative dispute resolution if the member doesn't like MISO's response. The RTO has two years from the operating day in question to make resettlement corrections. Resettlement outside the two-year cutoff would require MISO and the participant to seek a Tariff waiver with FERC. The commission's order permits MISO to create a "Limitations on Claims and Adjustments" section of its Tariff.

The 120 days will be counted from the operating day of the market settlement in question or the date of the first transmission settlement invoice. The 90 days are counted from the day the settlement dispute was "resolved or determined" by MISO.

The RTO said the two years would also apply to settlement errors that it "unilaterally discovers without a related dispute submission by a market participant."

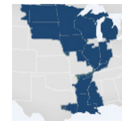
Until now, MISO's Tariff did not prohibit settlement disputes that are not submitted within specified time periods.

MISO's first attempt at the dispute resolution filing was met with a FERC deficiency letter, questioning the two-year requirement. (See *FERC Seeks Details on MISO Dispute Resolution Plan*.) The RTO argued "that the need for market certainty and promptness of claims supports a two-year resettlement period." It added the definition of "continuing error" to the two-year provision, which covers "continuing, system, software or other execution that is inconsistent with the Tariff." The term replaces the undefined terms "system error" and "software error," which MISO used in its first filing.

MISO said it only foresees two kinds of transmission and market settlement errors: those in system procedures or software that take longer to identify or "execution errors," including human errors, that are more easily identifiable.

FERC said the RTO's proposal strikes an "appropriate balance between requiring market participants to promptly initiate claims involving readily discoverable one-time MISO errors and the correction of more long-lasting MISO errors that may not be readily discoverable." ■

MISO News



FERC Again Denies MISO Wind Developers' Queue Complaint

By Amanda Durish Cook

FERC last week again declined to modify MISO's interconnection queue rules, rejecting rehearing requests from wind developers who say the RTO is moving too slowly for them to meet the federal production tax credit deadline.

The Oct. 31 order is the second time FERC has denied EDF Renewable Energy's request that MISO be required to devise a fast-track option in its interconnection queue for projects that can demonstrate readiness for development (*EL18-55-001*). (See *FERC Sides with MISO in Queue Design Dispute*.)

E.ON Climate and Renewables, Invenergy, Tenaska Wind Holdings and Project Resources Corp. had joined EDF in seeking rehearing. The companies argued that FERC rendered a decision without addressing the situation's harm to consumers or analyzing the need for a one-time departure from queue rules considering the 2020 PTC deadline.

But FERC said EDF still has not met its burden of proof to show that that MISO's queue design is unreasonable, unjust or discriminatory. The commission also said "some of EDF's claims about queue delays were overstated," as MISO said that most interconnection customers would complete the queue in time to begin commercial operation before Dec. 31, 2020, the deadline for receiving the full PTC. In any case, FERC said queue delays that might preclude some interconnection customers from the full advantage of a tax credit "does not amount to MISO's failure to make reasonable efforts under its Tariff."

"Delays in the interconnection process can be due to actions outside of MISO's control, such as customer withdrawals and actions of affected systems," FERC pointed out.

But, as with the last order, the commission ended with a warning for the RTO to improve its queue practices: "We strongly urge MISO, along with its stakeholders, to make addressing MISO's interconnection queue processing delays a priority. We urge MISO to look to the other RTOs for best practices, closely examine the resources it is dedicating to the interconnection study process and consider whether additional resources would alleviate queue delays, as well as fully consider other approaches for improvement."

| E.ON Climate and Renewables

"We strongly urge MISO, along with its stakeholders, to make addressing MISO's interconnection queue processing delays a priority."

– FERC

MISO's queue contains about 490 projects totaling more than 80 GW, down from 90 GW earlier in the fall.

The RTO has been working to speed up the queue through more stringent site control requirements and increased milestone payments. Staff say the changes will encourage stalled projects to withdraw from the queue earlier in the process. (See "MISO to File Queue Changes," *MISO Queues up Interconnection Options*.)

MISO has also eliminated the dynamic stability, short-circuit and affected-system analyses from the first phase of the queue's definitive planning phase. The studies are repeated in the queue's later phases. (See *MISO Plan to Reduce Queue Studies Gets FERC Nod*.) ■

NYISO News

NY Task Force Talks LBMPc, Residuals, Hedge Effects

By Michael Kuser

RENSSELAER, N.Y. — NYISO last week floated a plan to calculate the carbon pricing impact on locational-based marginal prices (LBMPc) using the social cost of carbon (SCC) as determined by the New York Public Service Commission, while also altering its recommendation for allocating carbon charge residuals.

Both proposals came up as part of New York's ongoing effort to explore how to incorporate carbon pricing into the state's wholesale electricity market through the multi-agency Integrating Public Policy Task Force (IPPTF).

Ethan D. Avallone, ISO senior market design specialist, *told* the IPPTF that the market would generally use the net SCC to determine the carbon reference level for a CO_2-emitting generator that functions as the marginal resource.

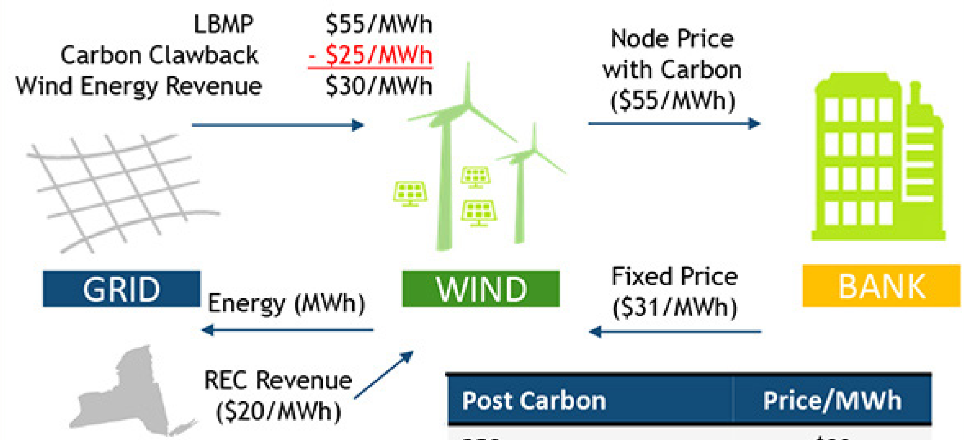
While the grid operator needs to calculate the LBMPc in order to allocate carbon credits to load-serving entities, most internal generators would not be charged the LBMPc, instead being charged for their actual emissions.

The NYISO straw *proposal* envisions including carbon pricing in the market using the existing offer structure, Avallone said. During intervals when there are too few marginal resources to calculate LBMPc, the ISO proposes "to persist" the last carbon impact to the LBMP from the prior interval.

IPPTF Chair Nicole Bouchez, the ISO's principal economist, said, "In practice, we back into the marginal units by looking at whether resources have their offer equal to the LBMP at their location. Given that, when the demand curves are active, we can't use that method to back into what resources are marginal."

Pallas LeeVanSchaick of Potomac Economics, the ISO's Market Monitoring Unit, said that while that approach seems most convenient, it "would have pretty significant implications and you would get very different results from what was presented in the consumer impact studies on this."

One reason is that hydro units are on the margin nearly 50% of the time in New York, which eventually reflects an energy storage problem, LeeVanSchaick said. "If you back down hydro in one hour, you're going to get more hydro in another hour, which is likely to reduce output from a carbon-emitting generator."



Post Carbon	Price/MWh
REC	$20
NY Carbon Adder	$25
LBMP	$55
LBMP (net carbon adder)	$30
Hedge Fixed Price	$31
REC Revenue	$20
Wind Energy Revenue	$30
Bank Hedge Value	$31-$55 = ($24)
Total Revenue	$26

A post-carbon pricing project with a hedge must pay the LBMP with carbon despite the carbon having been removed. | *Calpine*

"The idea generally is that if you do have to use the next unit on the margin, that's a change," Avallone said. "So we'll take that back and think about it."

"I'm glad you're taking it back," said Warren Myers, director of market and regulatory economics for the state's Department of Public Service. "This has always been a really big issue conceptually for us — what you do about the storage hydro that's limited over the course of a year. We know that in a given hour it does not have zero carbon consequences. If it ramps up or down, it affects the carbon in other hours.

"It's not a trivial implementation, in-the-weeds issue. It's a big deal.

"With respect to the harmonizing with state policy," Myers continued, "whenever DPS has tried to figure out what the [carbon] content on the margin is, we do not treat these hours as if they're zero carbon. We try to somehow, heuristically or however ... treat these resources as if they're combined cycle gas units."

LeeVanSchaick said the MMU takes a similar view of the opportunity costs for hydro units. He recommended the ISO "consider alternatives to just using the real-time market software's flags" to determine which fuel is on the margin. He also recommended the ISO address what principles and objectives it seeks to achieve with the method to help evaluate its success in doing so.

Allocating Residuals

As part of the state's evolving plan to price greenhouse gas emissions, a carbon charge

NYISO News

would also be applied to most wholesale market suppliers holding renewable energy credit contracts with the New York State Energy Research and Development Authority. (See *NY Carbon Task Force Looks at REC, EAS Impacts*.)

For the carbon charge residual that results from charging suppliers for their carbon emissions, NYISO now *recommends* a proportional allocation approach, saying it would provide an equitable impact to consumers consistent with the current REC contract cost allocation to load, Avallone said.

NYISO originally proposed a levelizing approach but revised its recommendation based on recent analysis, Avallone said. It considered that there was a higher percentage impact to upstate load relative to downstate load under levelizing methodology compared with the proportional percentage allocation.

At the Sept. 24 IPPTF meeting, the Brattle Group provided a *comparison* of the carbon residual allocation options as part of the carbon pricing consumer impact analysis. That analysis showed that the proportional allocation methodology minimizes cost shifts among consumers, Avallone said. Allocation would not affect revenues to generators, who would receive the LBMP, inclusive of the carbon impact.

Hedge Effects

Brett Kruse, Calpine's vice president for governmental and regulatory affairs, *told* the task force how NYISO's proposed "clawback" of the carbon price from the LBMP provided to resources with REC contracts might affect lender-required financial hedges required for renewable generation financing.

"As proposed by NYISO, removing carbon prices from LBMP of some contracted generation is very disadvantageous to those of us with hedges in place," Kruse said.

Under NYISO's current proposal, the power produced by a unit with REC contracts would be settled at the LBMP net of the carbon charge (that is, after the clawback), but energy hedges would be settled at the actual LBMP, reducing the unit's revenues.

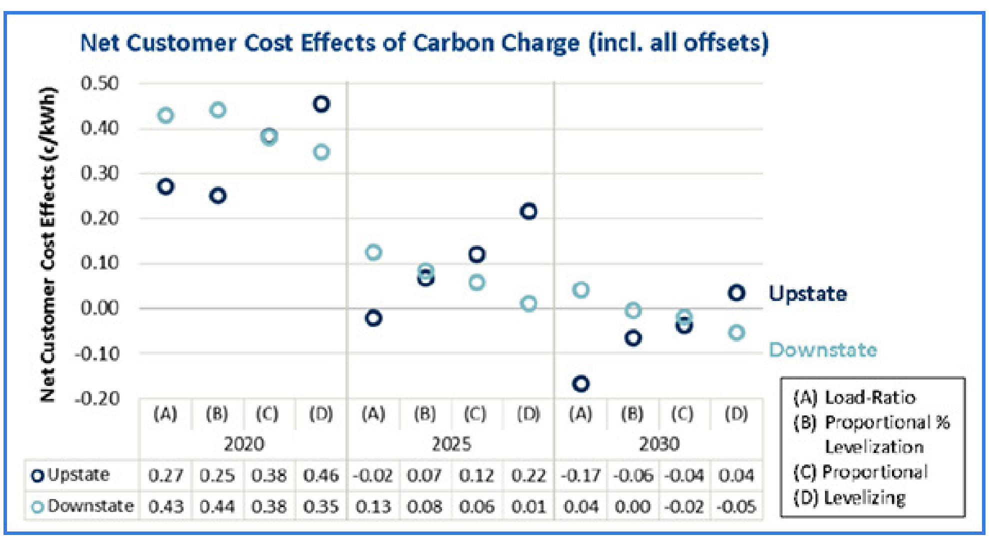
Calpine proposes applying a discount that modifies the carbon price to account for the estimated carbon emission savings from existing RECs. The company argued that a discount to the SCC that decreases as REC contracts roll off could integrate the beneficial impacts of RECs and carbon pricing without disrupting commercial hedging practices needed by most renewable energy projects.

"The way these hedges work, and this is quite typical even if you're not talking wind generation, is they sell at the hub," Kruse said. "Because of the liquidity value at the hub, they don't settle at the individual generator node. The banks ... don't want to write a hedge that settles at your node."

The most popular type of hedge is a fixed-for-floating price swap, where a project company receives a pre-agreed fixed dollar-per-megawatt-hour price from a bank, and the project pays the bank the underlying LBMP, which ensures a certain amount of energy revenue for the project, he said.

While the New York Power Authority buys both RECs and power, NYSERDA just purchases the RECs, "so in today's world, it's not the late 90's where you had a lot of financing. ... The markets started to unbundle ... and the banks are very skittish about who they give their money to," Kruse said.

There are only one or two companies with a large regulated business at their core who do renewables on the side that have big enough balance sheets to finance their own projects. "The rest of us cannot, so we have to get financing for the whole thing, and as a result, the financing requires us to get the hedge on the power side," Kruse said.



Considering dynamic effects, the proportional allocation methodology provides the most levelized allocation of carbon residuals. | *NYISO*

Daymark Analysis Update

Marc Montalvo of Daymark Energy Advisors said his "massive slide deck" of an *analysis* on the carbon pricing scheme, updated from September, has as its major theme "humility in the face of complexity."

"This proposal adds more than a small wrinkle to the marketplace," Montalvo said. "How we get it implemented matters an awful lot."

Brattle took a no-arbitrage model with fairly low friction and fairly low transaction costs and estimated net benefits to consumers, he said.

"What I wanted to understand is what happens if you perturb those things?" Montalvo said. "What happens if there is friction, what happens if there are actually higher transaction costs? What happens if the implementation and the consequent behaviors that underlie the no-arbitrage premise don't hold up?"

Daymark's perturbed model, particularly regarding border charges, increases market volatility, with asymmetric results, "which means things tend to be worse, not better," Montalvo said. Similarly, charges on internal resources "and the way the carbon charges are estimated and calculated really does matter."

The analysis also found that the carbon charges proposed are not sufficient to motivate the volume of buildout being sought under the state's Clean Energy Standard without further public policy action.

"You don't get 15,000 MW of renewables over the 12-year study period with the carbon charge by itself ... [and] a lot of the non-market barriers are not addressed at all by a carbon charge," Montalvo said.

The task force next meets via teleconference on Nov. 9 to talk about three recent analyses and updates by Brattle, Daymark and Resources for the Future (*RFF*), and how they interrelate. ■

NYISO News

NYISO Management Committee Briefs

AC Tx Project Under Board Review

RENSSELAER, N.Y. — NYISO's Board of Directors continues to perform due diligence on the AC Public Policy Transmission Project and could issue a decision at its Dec. 6 meeting or early next year, interim CEO Robert Fernandez told the Management Committee on Wednesday.

The MC in June approved a staff report that recommended joint proposals by North America Transmission and the New York Power Authority to build two 345-kV transmission projects that could cost $900 million to $1.1 billion. (See *NYISO MC Supports AC Transmission Projects*.)

Any board amendments to the report would require stakeholder review, Fernandez said. Former CEO Brad Jones informed the MC last month that the board had asked for additional data on the project.

Fernandez also announced that Deputy General Counsel Karen G. Gach is now the ISO's acting general counsel.

NYISO Strategic Plan 2019-2023

Rich Dewey, NYISO executive vice president, asked MC participants for feedback on the ISO's five-year strategic *plan*, "which is illustrative of NYISO's plans to respond to industry changes including evolving policies and disruption brought on by new technologies."

"Front and center to the discussion was how do we prioritize these changes," Dewey said.

The plan identifies six strategic initiatives to address the evolving nature of New York's power grid as large-scale renewables and distributed energy resources connect and place new demands on electricity markets and grid operations, Dewey said.

The initiatives are: grid reliability and resilience; efficient markets; new resource integration; integration of public policy; technology and infrastructure investment; and an efficient and flexible business model.

"This plan is a confirmation by the board that energy markets are more effective in setting the price signals needed to incent new investment," Dewey said.

Takeaways from a June 12 joint board/MC meeting were to continue exploring fuel security issues and how DER and storage can help provide resilience, as well as to consider what alternative market changes might protect system reliability and revenue adequacy in the event that the cost of carbon is not incorporated into the wholesale energy markets.

Rich Dewey, NYISO (left) and Sam Newell, Brattle Group | © *RTO Insider*

Con Ed's Quin New MC Vice Chair

The MC elected Jane Quin, director of the energy markets policy group for Consolidated Edison, as vice chair.

"I view the stakeholder process as a keystone of NYISO's success and am looking forward to playing a more significant role in contributing to that success," Quin said.

Before serving in her current role, Quin was executive assistant to the CEO of Con Ed from 2013 to 2015.

2019 Budget

The MC approved a 2019 budget totaling $168.2 million, including an 8.03% increase in revenue requirement from this year's budget and a 0.45% decrease in projected megawatt-hours, for an overall Rate Schedule 1 increase of 8.51%.

Alan Ackerman of Customized Energy Solutions, chair of the Budget and Priorities Working Group, presented the *budget*, which the board will consider Nov. 13.

Repayment of a $30 million loan to finance an energy management system/business management system upgrade project is driving up spending, Ackerman said. The ISO plans to add 15 new positions over the coming year.

Couch White attorney Michael Mager, who represents Multiple Intervenors, a coalition of large industrial, commercial and institutional energy customers, said the group had decided "with regret" to oppose the 2019 budget because it "could not get comfortable" with a budget increase of more than 8.5%.

Improving Public Policy Tx Planning

The MC approved Tariff *revisions* to improve the efficiency of the ISO's short-term Comprehensive System Planning Process, with the board expected to vote on the issue at its Nov. 13 meeting.

The revisions would eliminate the requirement that the Public Service Commission issue an order before the ISO begins evaluating transmission solutions, a regulatory "pause" that is often too long, according to the grid operator.

Yachi Lin, senior transmission planning manager, presented the same report she did at the Business Issues Committee meeting earlier in October. (See "Improving Public Policy Tx Planning," *NYISO Business Issues Committee Briefs: Oct. 10, 2018*.)

Multiple Intervenors and the city of New York opposed the changes.

Under the proposal, the PSC continues to retain the ability to cancel or modify an identified public policy transmission need prior to the ISO's selection of the more efficient or cost-effective solution, which would halt the evaluation or result in an out-of-cycle process to address the modified need. ■

— Michael Kuser

PJM News

2018 OPSI ANNUAL MEETING

PJM Flexible on Capacity Rules, Ott Tells OPSI Meeting

'Many Ways' to Secure Long-term Resources

By Rory D. Sweeney

CHICAGO — PJM CEO Andy Ott opened his remarks at last week's annual meeting of the Organization of PJM States Inc. (OPSI) with a sports metaphor to describe the wide array of discussions that were to follow.

"This is a big playing field," he said.

While there are many teams trying to achieve many goals on that field, Ott expressed willingness during the two-day meeting to consider rule changes that could redefine how they interact.

He also said there are "many ways to skin the cat" in addition to the capacity market to ensure long-term resource availability. PJM and its stakeholders have been working on a market overhaul for the past two years and smaller reforms for many years prior to that.

PJM staff have proposed adding a second phase to the annual Base Residual Auction to mitigate the impacts of subsidies on resources along with a "resource-specific carve-out" that would allow states to remove from the auction qualifying resources and procurement obligations for a corresponding amount of load. Ott's comments suggested a willingness to reconsider American Municipal Power's desire to emphasize bilateral contracting over procurement in the BRA. In August 2016, AMP led a coalition with other municipal utilities and cooperatives calling for a "holistic assessment" of the Reliability Pricing Model. (See *Co-ops, Munis Call for Reset of PJM Capacity Model*.)

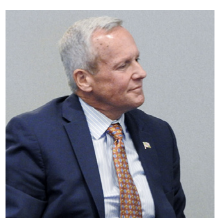
A capacity market is "the most efficient way," Ott said, but he added "frankly, if we need to evolve that ... that's doable."

State Objectives

Ott's openness to change was a recognition of state regulators' frustration with the RTO. In the meeting's first panel discussion, several regulators reiterated their intent to continue pursuing generation subsidies and other preferential policies despite opposition from pure-market advocates.

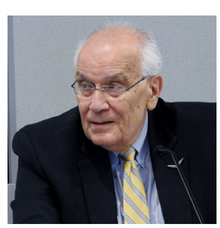
State regulators enunciate their states' policy goals at last week's annual meeting of the Organization of PJM States Inc. (OPSI). | © *RTO Insider*

"I think I can say without question that our citizens do benefit greatly from PJM and the wholesale markets," Maryland Public Service Commission Chairman Michael Richard said. "However, if we can't find ways to adequately and fairly accommodate state policies, I'm concerned that [FERC] Commissioner [Cheryl] LaFleur may be right, and states will feel the necessity to effectively reregulate in defense of these state policies. We hope that that's not the case and the direction that we go in."



Michael Richard | © *RTO Insider*

LaFleur expressed her concern in June, when she dissented in FERC's 3-2 ruling requiring PJM to revamp its minimum offer price rule (MOPR) to address capacity price suppression from rising state subsidies for renewable and nuclear power. The commission initiated a "paper hearing" on the issue (EL18-178). (See *FERC Orders PJM Capacity Market Revamp*.)



Joe Fiordaliso| © *RTO Insider*

Joe Fiordaliso, president of the New Jersey Board of Public Utilities, said his state is on a "clean-energy crusade" and working toward the largest statewide offshore wind solicitation in the country. "We must never forget the economic impact of clean energy," he said.

John Rosales | © *RTO Insider*

Illinois Commerce Commissioner John Rosales forcefully defended his state's zero-emission credit subsidy for several in-state nuclear plants, arguing that Illinoisans deserve capacity credit for the program because they pay for it.

"That has to be recognized, and when it's not, I get a little angry. ... That has to be accommodated by PJM," he said.

The rhetoric got even more heated after Direct Energy's Marji Philips criticized the vying state policies as "kids in a sandbox" kicking sand at each other.

"Are you ready to go back and tell your consumers you're pulling out of PJM? ... Because that's what you're doing. You're destroying the ... integrity of the market if you all do the things you want to do," she said.

"We will kick sand in your face. I'm just being honest. We're paying for it," Rosales responded.

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He said he felt the capacity revamp discussions at PJM were a "punitive" response to Illinois' ZEC rule and designed so that Illinois is "going to take the hit" as an example for other states to deter them from "doing the same thing."

He noted the state is "in a better position to negotiate in good faith" following the decision in September of the 7th U.S. Circuit Court of Appeals to uphold Illinois' law. (See *7th Circuit Upholds Ill. ZEC Program*.)

The other regulators on the panel attempted to strike a conciliatory tone.

"I'm not trying to destroy anything. I'm trying to build a better foundation," Fiordaliso said.

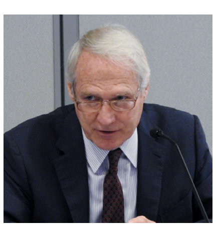
"I don't think it's mutually exclusive," said Richard, who became OPSI's president for the next year. "We're willing to pay for the [renewable energy credits]. We're willing to pay additionally. There's a strong interest [among Maryland residents] in helping the environment."

Beth Trombold | © RTO Insider

Ohio Public Utilities Commissioner Beth Trombold touted the state's utilization of its natural gas supplies and made it clear that the state was no longer seeking to protect its coal-fired generation. FERC ruled in April 2016 that it would scrutinize power purchase agreements between affiliates like ones requested in Ohio by American Electric Power and FirstEnergy under the *Edgar* affiliate abuse test. The companies subsequently scaled back their PPA requests to the commission.

"We've faced that ourselves, and we've moved in a different direction. We're a big fan of competitive markets and we want to see that preserved," Trombold said, noting her commission's recent PowerForward initiative to give utilities "a sense of the framework we're interested in seeing" them follow in making filings.

DR Doldrums



Andrew Place | © RTO Insider

Pennsylvania Public Utility Commission Vice Chair Andrew Place noted that the Keystone State ranks 23rd in renewable generation.

"Are you ready to go back and tell your consumers you're pulling out of PJM? ... Because that's what you're doing. You're destroying the ... integrity of the market if you all do the things you want to do."

– Marji Philips, Direct Energy

"We will kick sand in your face. I'm just being honest. We're paying for it."

– Illinois Commerce Commissioner John Rosales

"That speaks to my realization that we are not where we should be," he said. Place also criticized PJM's rules on how demand response is handled.

"It is vital that these programs be incorporated into PJM's forecasts," he said. "More recently, PJM's accommodation of cost-effective, summer-DR, supply-side markets has come up, in my consideration, short of the mark."

His comments were in reference to PJM stakeholders' approval at the October Markets and Reliability Committee meeting to "better value" summer-only DR by allowing the resources' value to impact the load forecast as an alternative to participating as a supply-side resource in capacity auctions. To avoid double counting, resources that take the peak-shaving alternative wouldn't be eligible to participate as either a DR resource or price-responsive demand in the same year. (See "Summer-only Demand Response," *PJM MRC/MC Briefs: Oct. 25, 2018*.)

Environmental or Economic Interests?

Direct Energy's Philips asked regulators whether their states' policies were driven solely by environmental concerns or were also influenced by economic interests.

"Would a carbon price make you happy, or would you still want that [renewable] development in your state?" she asked.

Fiordaliso noted New Jersey is re-entering the Regional Greenhouse Gas Initiative (RGGI) and that "carbon pricing is certainly a part of the portfolio." Maryland is also a RGGI member, Richard said, "and yes, Maryland would like to develop as many of those resources in state as possible."

"Keeping these policies with policymakers and with the states; I think that's the appropriate place," he added. "I get a little nervous with a discussion that somehow PJM might adopt and create its own carbon-pricing regime."

Trombold deflected the question, saying Ohio's legislature sets its energy policies. Michigan Public Service Commissioner Rachael Eubanks noted that carbon is not mentioned at all in her state's legislation on advancing "renewable energy technologies and the corresponding benefits that come out of that, including economic benefits."

"I would think that it would have to be a national discussion," Rosales said. It would be "unfair" to have a carbon price implemented inconsistently across the RTOs, he said.

"The overarching goal is the environment," said Place, who said earlier it's his commission's "social obligation" to either join RGGI or "see that [carbon pricing] comes about." However, he also noted a Pennsylvania law passed in 2017 that supported in-state solar production.

"I'm not always a fan of being parochial, but at the same time, Pennsylvania was leaving a lot of tax benefit [and] federal financial support on the table, and other states were gobbling that pie. Probably sound policy, but one that in some ways does strike me as discordant," he said.

Other Perspectives

Casey Roberts | © RTO Insider

In a subsequent panel, PJM stakeholders hashed out concerns about the current state of the capacity market revamp. The Sierra Club's Casey Roberts said the RTO's proposal is among those that "on their face" appear to

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2018 OPSI ANNUAL MEETING

Germany's Generation Shift Unlikely in US, Panelists Say

By Rory D. Sweeney

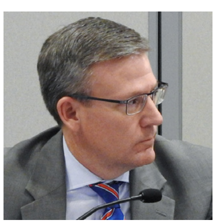
Representatives from Germany's electricity industry attended the Organization of PJM States Inc.'s annual meeting last week in Chicago. | © *RTO Insider*

CHICAGO — Following the 2011 Fukushima nuclear disaster, German leaders ordered an immediate shutdown of the country's oldest nuclear reactors and devised a plan to meet 80% of its power needs through renewables by 2050. Such a transition is unlikely in the U.S., attendees found out at a conclave last week of PJM stakeholders and their German counterparts.

The two-day ***Energy Trends Forum*** immediately followed the annual meeting of the Organization of PJM States Inc. (OPSI) and was sponsored by OPSI and Germany's Federal Ministry for Economic Affairs and Energy.

Frank Peter | © *RTO Insider*

"The biggest question will be: Will politics stay out of the game?" said Frank Peter, the deputy executive director of Agora Energiewende, a German think tank supporting the country's planned transition to low-carbon energy production.



Tony Clark | © *RTO Insider*

"What we've kind of found in the U.S. is that's an unrealistic expectation," said former FERC Commissioner Tony Clark, a senior adviser with D.C. law firm Wilkinson Barker Knauer.

Differences

Annegret Groebel, who heads international coordination for Germany's Federal Network Agency, said the country's transition has been aided by a generation surplus. It has less transmission congestion and less granular pricing because it uses a zonal system, while PJM's LMP is based on a nodal framework.

Germany has also unbundled the industry so that owners of transmission, distribution and generation assets are separate. In PJM, a holding company such as Exelon can own all asset classes through subsidiaries.

Germans are also willing to spend whatever it takes to interconnect renewables and maintain extremely high reliability, German representatives said.

Steve Herling | © *RTO Insider*

In PJM, state interests can inhibit development of transmission from renewable resources to load centers. "If Pennsylvania doesn't want energy from Iowa, then those lines serve no purpose," PJM's Steve Herling said.

Germany has experienced one grid-related outage since 1990, and consumers have resisted suggestions to reduce costs that might increase that risk.

Changes

Vince Duane | © *RTO Insider*

PJM's cost sensitivity might shift, if staff have anything to say about it. Vince Duane, PJM's senior vice president for law, compliance and external affairs, said the RTO needs "an honest discussion" about maintaining reliability at least cost to reflect consumers' actual interests.

"I hope what will evolve is a dialogue in the very near term that will examine that," he said. Last week, PJM released the summary of a study that showed the RTO could face outages under extreme winter weather, gas pipeline disruptions and "escalated" resource retirements. Officials said the findings support the need to compensate generators based on their "fuel security." (See related story, ***PJM Begins Campaign for 'Fuel Security' Payments***.)

The transition might not be easy. Duane noted that one German representative said the "broader value proposition of decarbonization" is a "cleaner, quieter, more elegant world."

"Those are three terms that have never been used to describe Americans, so we have our work cut out for us," he said.

More to Come

While Germany has made major strides in its transition, there is still a ways to go, panelists said.

Both American and German panelists noted that surcharges on customer bills for things like system upgrades and resource subsidies are politically expedient but dull market signals that might help consumers reduce demand.

"There's nothing greener than the electron you don't produce," Duane said. "At the end of the

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PJM Flexible on Capacity Rules, Ott Tells OPSI Meeting

'Many Ways' to Secure Long-term Resources

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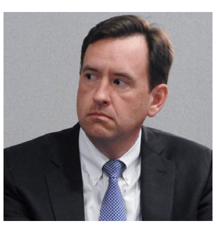
accommodate state preferences but actually do not.

"It increases the costs to states to pursue their policies by making them pay twice," she said, calling payments made to units whose bids are pushed out of clearing by state-supported resources "the consolation prize" and "icing on the already fattening cake that consumers probably don't want to consume."

Craig Glazer | *© RTO Insider*

Craig Glazer, PJM's vice president of federal government policy, expressed concern over the impact of state policies on an interconnected grid.

"What if this had been a subsidy for coal from West Virginia? Would Exelon and Sierra Club be arguing states' rights?" he asked. "If you start having one state's policy choice … affecting every other state, your legislature may not have agreed to that policy, but you are in fact subsidizing that policy. ... It's really at the end of the day an interstate commerce challenge."



Andrew Novotny | *© RTO Insider*

Andrew Novotny, Calpine's executive vice president of commercial operations, said PJM's proposal is intended to ensure that states pay in total what they already pay today.

"That's why we support it. States won't be paying twice under that. They'll just be basically paying what they are today with the sliver of side payments [for subsidies]. And if it's not working out like that in the math, I'm sure the generator community is more than open to some sort of compromise to make sure it does work like that."

Other Hot Topics

The meeting also covered several other hot topics, including how the evolving definition of "grid resilience" might impact wholesale markets, whether PJM's energy market needs to be revamped and the state of the RTO's governance.

Panelists debated how people will respond in emergencies to either share resources or horde them. Daniel Rogier, AEP's vice president of transmission asset strategy and policy, explained his company's "no regrets" focus for making system upgrades that have little or no downside, such as replacing wooden poles with steel ones.

Daniel Rogier | *© RTO Insider*

Virginia State Corporation Commissioner Mark Christie noted the difficulty with making state desires known at FERC, which has switched chairs four times in less than two years.

"You express it to the chair, and the next week there's another chair," he said.

On energy market changes, PJM's Stu Bresler assured attendees the RTO is "not trying to go energy-only" and therefore doesn't need spot prices "as high as ERCOT does." His fellow panelists urged that any changes need to come with additional transparency and granularity that allow the market mechanisms to work without administrative involvement.

Panelists on PJM governance agreed that any changes on committee structure or sector membership and vote weighting will be difficult to implement.

But Gabel Associates' Mike Borgatti, who chairs PJM's Members Committee, acknowledged states' concerns about their ability to get involved.

Mike Borgatti | *© RTO Insider*

"It's unequivocal that what we're doing now is not capturing enough of your input," he said. "Figuring out how to balance that dichotomy is a two-way street." ■

Germany's Generation Shift Unlikely in US, Panelists Say

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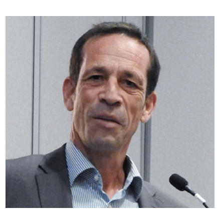
day, getting consumers to see prices and respond to prices ... has to be a critical policy objective. ... At least in this country, we still have a tremendous amount of dumb, discretionary load that could be curtailed, but ... people don't see a reason economically to do that, and they won't see that reason if a lot of the electricity bill is basically tax."



Thorsten Herdan | *© RTO Insider*

Thorsten Herdan, director-general for energy policy, heating and efficiency in the Ministry for Economic Affairs and Energy, noted in his opening remarks that the country's energy transition focused on electricity — ignoring 80% of the country's energy use.

"The building stock has not been addressed that much that we can meet our targets for the building sector," he said. "We have just forgotten the transport sector. That was one of our biggest mistakes. ... What are we going to do with what's left? Are we going to electrify it? I have my doubts." ■

PJM News

PJM Begins Campaign for 'Fuel Security' Payments

Continued from page1

continued retirement of coal and nuclear units and the increasing reliance on natural gas could result in reliability risks.

Ott said the RTO could consider compensating fuel security through either the capacity market or as a winter reserve product in the energy market. "We feel strongly that … solutions to any dependency or any risk that we see is best done through defining it as an attribute in the markets. We think government intervention is unnecessary … it would be inefficient and more costly. We think a market solution would be best."

RTO officials on Thursday also gave a *briefing* on the study during a three-and-a-half-hour special meeting of the Markets and Reliability Committee in Valley Forge, Pa., where several stakeholders urged consideration of the potential costs of the proposal. The study received forceful pushback from former PJM Chief Economist Paul Sotkiewicz, who called the RTO's plan to offer a problem statement "premature" because the study failed to model existing market rules and operational capabilities that could address the risks, including reserve shortage pricing, industrial load reductions in response to higher prices or increased new resource entry.

"Without any showing that the market rules themselves have failed us — which there is none at this point — why would we go through a problem statement?" he said. "In fact, I can argue that [with] the market design, if allowed to work, we don't have to worry about any of these issues."

PJM CFO Suzanne Daugherty, who led the MRC meeting, responded that the RTO was not saying its "market rules are broken." Ott, however, said the RTO must consider rule changes now that it has evidence that an unpriced attribute such as fuel security can affect reliability. Officials noted that 16,000 MW of the RTO's 70,000 MW of gas-fired capacity lacks firm gas contracts. PJM's Capacity Performance rules have encouraged such generators to maintain up to three days of fuel but don't provide enough revenue to guarantee the two-week span envisioned in the study, Ott said.

"Hope is not a good strategic plan," he said. "These are attributes that we depend on in [operations] and we're not paying for them. I don't think that's sustainable."

PJM CEO Andy Ott presents the RTO's fuel security study at the National Press Club in D.C. | © *RTO Insider*

Ott also said the study would provide insights for the resilience docket FERC opened in January (AD18-7). (See *Don't Rush on Resilience, Commenters Urge*.) "We really have no specific standard for this term 'resilience' in the industry," Ott said. "There's nothing in the [NERC] reliability standards that says I have to look at these scenarios today."

FERC may say "you're way overemphasizing these risks. … On the other hand, people could say these risks are more severe than you're accounting for. That's the conversation we're going to have. We're going to have more scenarios that we run. We're going to have more dialogue. Our point is, engaging this conversation — getting ahead of the game — is in my opinion the prudent way to go."

The 'Tipping Point'

RTO officials said the study, which simulated a two-week cold spell in winter 2023/24, found that PJM would remain reliable during typical winter loads (a 50/50 peak of 134,976 MW) under both the 12,652 MW of retirements announced as of Oct. 1, 2018, and under "escalated" retirements cases.

Both escalated retirement scenarios envisioned an installed reserve margin (IRM) of 15.8%: one assumed an additional 32,216 MW of retirements by 2023, with 16,788 MW of capacity added to meet the IRM; the second assumed that no replacement capacity is added but there were an additional 15,618 MW of retirements, which reduced the IRM to 15.8%.

The RTO also remained reliable in the announced retirements case under all extreme winter load scenarios, a one-in-20 year (95/5) peak load of 147,721 MW. (PJM's all-time winter peak load of 143,338 MW was set in 2015.)

But combining the extreme load, escalated retirements and pipeline outages resulted in numerous scenarios with voltage reductions, reserve shortages and load sheds of as much as 83 hours — about 3.5 days. The location of the outages would depend on that of the pipeline outages, PJM said.

What are the Odds?

RTO officials said they had not looked at the probabilities of the most severe events coinciding over a 14-day span. They are "extreme but plausible scenarios," Ott said. "'Extreme' means relatively rare."

The RTO modeled disruptions to both single, or radial, gas pipelines (up to 5,051 MW of capacity lost) and parallel or "looped" lines (up to 13,715 MW lost).

The extreme weather, medium-impact disruption assumed the loss of 50 to 100% of the pipeline capacity for five days. The extreme, high-impact break would knock out the line for five days with a 20% derating for the remaining nine days.

Oil refueling was modeled at 10 to 40 truck deliveries per day for sites larger than 100 MW and zero to 10 trucks daily for sites less than 100 MW.

PJM News

Reaction

The study is certain to be debated by partisans on all sides of the "fuel wars" debate that has raged since the Trump administration proposed price supports for at-risk coal and nuclear plants.

"PJM is doing the kind of analysis that other grid operators should do too," said Michelle Bloodworth, CEO of coal lobby American Coalition for Clean Coal Energy. "PJM's analysis shows that accelerated coal retirements could lead to periods when demand for electricity exceeds supply. This should worry electricity consumers in other parts of the country, not just in PJM."

Renewable advocates said the study was overly narrow.

The American Council on Renewable Energy (ACORE) faulted PJM for its focus "on resource attributes rather than actual performance when it comes to providing needed reliability services."

"A more comprehensive study would have recognized how renewable energy technologies provide a range of resiliency and reliability attributes to the grid, including flexibility, dispatchability and other essential reliability services," said Todd Foley, ACORE's senior vice president for policy and government affairs.

PJM "should not presuppose a fuel supply solution when other options such as transmission enhancement exist," said Amy Farrell, senior vice president for government and public affairs for the American Wind Energy Association.

Rob Gramlich, a consultant to clean energy groups, said he was pleased to hear Ott indicate a preference for providing compensation through the energy markets. "Really what these power markets need is flexibility, and capacity markets are so crudely defined that they don't distinguish between flexible and inflexible resources," he said.

But he said he opposed defining the product as "fuel security."

"What they're saying to me is they want winter-peak energy during extreme cold scenarios. That's a technology-neutral product. 'Fuel-secure resource' is not a technology-neutral product. And the difference is, things like wind, which is usually screaming hard during these situations, is providing winter-peak energy."

Attorney Susan Bruce, who represents the PJM Industrial Customer Coalition, echoed Sotkiewicz's concern that the study did not account for how industrial customers might reduce demand under the high LMPs that would result under the most stressed scenarios. She said PJM also should consider stakeholders' "broader conversations about energy price formation."

Sotkiewicz, who now heads E-cubed Policy Associates, complained that PJM had "stacked" the analysis by using economics to predict generation retirements while ignoring the economics of how the market would replace them.

He cited the wave of coal retirements PJM experienced several years ago after EPA's Mercury and Air Toxics Standards rule went into effect.

"That turned into an absolute non-event for PJM because of all the new entry that came in through various quarters, whether it was demand response or energy efficiency or new combined cycle gas," he said. "I'm afraid you're going to have people with certain agendas taking these results for their own purposes and saying the sky is falling."

PJM's Daugherty acknowledged that risk. "We're trying to make sure as hard as we can [that] the facts of what we did are out there," she said. "We do recognize … that different pieces of the information could be taken out of context by folks if they choose to do so."

Next Steps

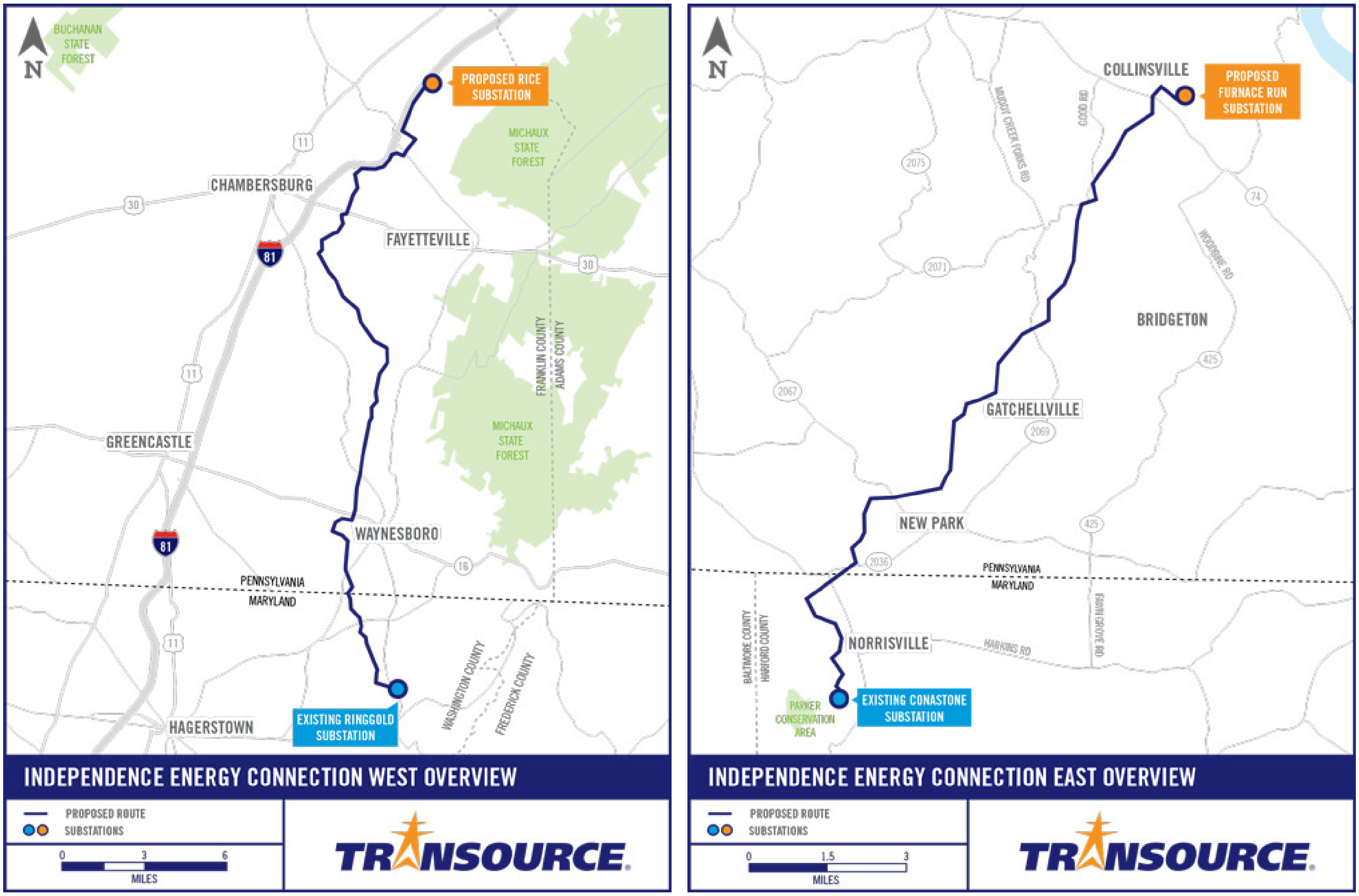
PJM will continue discussion of the study at a special MRC conference call Nov. 26, and a special MRC in-person meeting Dec. 20.

The RTO also will develop a "frequently asked questions" document. Questions should be sent to *natalie.tacka@pjm.com*. ■

PJM said a combination of extreme load, escalated retirements and pipeline outages resulted in numerous scenarios with voltage reductions, reserve shortages and load sheds. | *PJM*

PJM NEWS

FERC OKs Adjusted Rate for Disputed Transource Line



Transource's Independence Energy Connection project consists of two separate lines that run north-south across the Pennsylvania-Maryland border. | *Transource*

FERC on Thursday approved the designated entity agreement (DEA) for Transource Energy's Independence Energy Connection, PJM's largest-ever congestion-reducing transmission project, with one condition: that Transource stick to its original commitment for how long it can use an increased amount of equity in its rates (*ER17-349*).

The commission ordered that PJM submit a compliance filing within 30 days on the project that aligns the return on equity allowed for Transource in the DEA with the amount agreed to in a settlement agreement in the case. The current DEA limits Transource's formula rates to 50% equity "once permanent financing is in place" and as long as capital market conditions "remain normal."

The settlement requires Transource to reduce its equity mix from 60% to 50% by June 1, 2020. The reduction would be triggered earlier if the project goes into service or permanent financing is obtained.

The $366.2 million 230-kV project is being opposed by some residents along its path between Washington County, Md., and Franklin County, Pa. (See *PJM Redirects Residents' Protests of Tx Project to States*.)

The compliance filing is the third in the project's approval path. The DEA was conditionally accepted on Jan. 12, 2017, and PJM submitted its compliance filing on March 2. That filing is now accepted with the required changes.

The DEA approval was also conditional on the outcome of the project's formula rate proceeding. The formula rate was conditionally approved on Jan. 31, 2017, and PJM submitted its compliance filing on March 2, 2017.

Transource requested rehearing of the formula rate but joined PJM in submitting a settlement offer on Oct. 2, 2017. FERC conditionally accepted the settlement on Jan 18, 2018. PJM submitted its compliance filing on Feb. 16, which the commission approved on Sept. 21. The rehearing request was denied on July 6. ■

— Rory D. Sweeney

SPP

SPP Regional State Committee Briefs: Oct. 29, 2018

Changing of the RSC's Guard

LITTLE ROCK, Ark. — SPP's Regional State Committee last week elected a 2019 slate of officers that includes Arkansas Public Service Commissioner Kim O'Guinn as its president.

New Mexico Commissioner Pat Lyons enjoys his last RSC meeting. | © *RTO Insider*

The committee also said goodbye to New Mexico Public Regulation Commissioner Pat Lyons, who has served on the committee since his election to the PRC in 2010.

Lyons is term limited; however, he is running to regain his old job as New Mexico's Commissioner of Public Lands, which he also held for eight years. A Republican and a 10-year state senator, he is in a tight race with Democrat Stephanie Garcia Richard.

"It's been a pleasure," said Lyons, the RSC's longest tenured member. "I know everyone in this room cares for the affordability and reliability of electric services, and that's what we're about. Thank you for helping the consumer."

Dana Murphy, chair of the Oklahoma Corporation Commission, paid tribute to Lyons and SPP Directors Jim Eckelberger and Harry Skilton, who are also stepping down from their positions. Fighting back her emotions, Murphy noted SPP staff members "no longer with us" and RSC members campaigning to retain their positions.

Murphy lost a runoff in August for the Republican nomination for Oklahoma's lieutenant governor. After taking 45.8% of the vote in the GOP primary, she lost the runoff by more than 16 points. (See *Okla. Commissioner Murphy Loses Runoff for Lt. Governor*.)

"Some of you are wondering if it hurts to lose. It does," said Murphy, who was credited with running a positive campaign. "I would rather lose with honor, than win without."

Dennis Grennan (Nebraska) and RSC President Shari Feist Albrecht (Kansas) share a laugh. | © *RTO Insider*

Also elected as RSC officers were Nebraska Power Review Board Member Dennis Grennan as vice president and South Dakota Public Utilities Commissioner Kristie Fiegen as secretary. Their terms, and O'Guinn's, begin Jan. 1.

October's Regional State Committee meeting | © *RTO Insider*

SPP, MISO Regulators to Meet Nov. 11 at NARUC

The RSC issued its approval of goals and guiding principles brought forward by state regulators hoping to improve market coordination and seams issues between SPP and MISO.

A liaison committee comprising regulators from both the RSC and MISO's Organization of MISO States will hold a public meeting Nov. 11 in Orlando, Fla., coinciding with the National Association of Regulatory Utility Commissioners' *annual meeting*.

The committee has asked SPP and MISO to present white papers "identifying barriers to more efficient seams operations and transmission planning" and offer solutions. Those papers will be discussed Nov. 11.

The group's goals are to:

- Increase benefits to ratepayers in both markets by improving market-based transactions and operations across the seam;
- Ensure equal consideration of beneficial regional and interregional projects in transmission planning, including evaluation of projects identified in the coordinated system plans;
- Support the timely interconnection of new resources that includes consideration of the dynamics of both RTOs' interconnection queues; and
- Improve inter-RTO relations through state-led cooperation.

The OMS approved the goals and principles during its Oct. 25 annual meeting.

The two committees agreed this summer to work together in the hopes of helping resolve issues SPP and MISO haven't. The task force is seen as increasing benefits to ratepayers in both markets and ensuring equal consideration of beneficial interregional projects. (See "RSC, OMS to Take Crack at Interregional Issues," *SPP Regional State Committee Briefs: July 30, 2018*.)

The liaison committee includes Louisiana's Lambert Boissiere, North Dakota's Julie Fedorchak, Missouri's Daniel Hall and Minnesota's Matt Schuerger from OMS; and Kansas' Shari Feist Albrecht, South Dakota's Fiegen, Arkansas' O'Guinn and Texas' DeAnn Walker from the RSC. Iowa's Nick Wagner, NARUC's president-elect, serves as an ex officio member.

CAWG Addressing Cost Allocation in Wind-rich Areas

The Cost Allocation Working Group told the committee that work continues on a white paper reviewing cost allocation in wind-rich areas and determining whether changes are necessary, an issue raised by Sunflower Electric Power earlier this year. (See "Committee Takes on Cost Allocation Issues," *Mountain West, Cost Allocation Top SPP RSC Concerns*.)

John Krajewski, who represents the Nebraska PRB, said the group developing the paper is analyzing rate design options that will meet FERC's definition of "just and reasonable" rates, but that also reflect cost-causation principles.

"We want something that's easy to explain to stakeholders and FERC, and something that is easy to administer," Krajewski said. "We don't want six different vendors and five years of back billing."

The paper is due by the RSC's April 2019 meeting. ■

— Tom Kleckner

SPP

SPP Board of Directors/Members Committee Briefs

Stakeholders Honor Eckelberger, Skilton's Service

LITTLE ROCK, Ark. — SPP directors, members, staff and other stakeholders took time out last week from the normal board week activities to honor two directors who predate the organization's RTO status.

The RTO treated Jim Eckelberger, who stepped down in April after 14 years as the Board of Directors' chairman, and Harry Skilton, vice chair for 14 years, to a catered farm-to-table dinner the night before the Oct. 30 board meeting.

Staff shared a video of family, friends and stakeholders sharing their favorite anecdotes about the two men. Both were presented with plaques topped by — what else? — replicas of transmission towers.

Eckelberger and Skilton are the last remaining members of SPP's original board, which was created in 2000. FERC didn't recognize SPP as an RTO until 2004.

Since then, SPP has expanded its footprint with the addition of Nebraska utilities and the Integrated System, and by offering reliability coordination (RC) services to Western Interconnection entities. The RTO has also become one of the lowest-cost grid operators by creating day-ahead and financial transmission rights markets and investing billions in transmission infrastructure.

Eckelberger, who takes great pride in SPP's cost of service, pointed to an LMP contour map of the footprint, dominated by the cool blue denoting prices in the $20 to 30/MWh range, as an example of the RTO's effectiveness.

"SPP greatly appreciates the 18 years Jim and Harry dedicated to SPP," CEO Nick Brown said. "They have made extraordinary contributions to our company and were instrumental in transforming SPP into the regional transmission organization we are today."

"Both should be proud of the legacy they have created here for SPP," said Larry Altenbaumer, who replaced Eckelberger as chairman in April.

"I'm very fortunate to have 18 years at SPP be the capstone of my career," Skilton said.

Both men are transitioning into *emeritus* status, effective Jan. 1.

"We're fortunate they'll be staying on in this *emeritus* role, because they have a wealth of experience," said the Members Committee's Tom Kent, COO for Nebraska Public Power District.

The SPP Board of Directors and Members Committee met Oct. 30. | © *RTO Insider*

Members Elect 2 New Directors

Newly elected Director Susan Certoma | © *RTO Insider*

The Members Committee replaced Eckelberger and Skilton on the board by electing newcomers Susan Certoma and Darcy Ortiz during its annual meeting. The appointments are effective Jan. 1.

Bruce Scherr, who joined the board in January 2016, was also re-elected.

Certoma is president of Enterprise Engineering, which provides software and consulting to financial firms. She previously held technology-related positions at Wachovia Bank, Goldman Sachs, Merrill Lynch and Lehman Brothers during 30 years in the finance field. Certoma holds a bachelor's degree in management and economics and an MBA from St. John's University.

Ortiz is Intel's vice president and general manager of corporate services. She previously led the global team responsible for Intel's IT operations and services and served in several CIO positions. She has a bachelor's degree in business administration from the University of New Mexico and an MBA from the University of California, Berkeley.

Brown said the new members' technology backgrounds will be invaluable to SPP.

"Much of our continued success now hinges on effective management of data and technology infrastructure and our approach to cybersecurity," he said in a *statement*.

The committee also elected seven representatives to three-year terms on the committee, with "the narrowest of unanimous margins," Altenbaumer joked.

The representatives are Kent for State Power Agencies; Blake Mertens (Empire District) and Kevin Noblet (Evergy) for Investor-Owned Utilities; Jason Atwood (Northeast Texas Electric Cooperative) and Mike Wise (Golden Spread Electric Cooperative) for Cooperatives; Kevin Smith (Tenaska Power Services) for Independent Power Producers/Marketers; and Jody Sundsted (Western Area Power Administration – Upper Great Plains) for Federal Power Marketing Agencies.

Mertens is the only newcomer; everyone else was re-elected.

Altenbaumer Tweaks New Governance Schedule

Altenbaumer continues to tinker with the board's *meeting schedule* as he enters his first full year as chairman, saying he wants to "elevate the work of the board and members to focus on those things that are strategically

SPP

important." (See *SPP Strategic Planning Committee Briefs: Oct. 18, 2018*.)

Following feedback from members and the Regional State Committee, Altenbaumer has scheduled a joint session between the board and RSC on the day the state regulators normally meet (the day before the board's quarterly meeting). That time will be used for joint informational and background presentations to the directors, members and RSC.

"It's an opportunity to become more efficient," Altenbaumer said. "Many presentations given to the RSC turn out to be warmups for the same presentations to the board the next day."

Altenbaumer has left slots in the RSC and board meetings for executive sessions, but he promised "anything that relates to decisions will be addressed during the typical [open] board meeting."

Addressing stakeholder concerns that the changes could reduce transparency, Altenbaumer said keeping discussions from public view is "by far the last thing intended from this."

"If any of you ever feel these things are trending in the wrong direction, as far as engagement and transparency, bring it to my attention," he said.

Given a chance to respond publicly to Altenbaumer's comments, no one did.

As proof of how governance will be handled in the future, Altenbaumer noted the board's only approval item was the consent agenda.

"That speaks to the collaborative process," he said. "This is a desire to try and improve the overall governance."

Two days later, SPP moved its December board meeting, which has traditionally been used to approve the budget, from Little Rock to the more accessible Dallas/Fort Worth International Airport. The *meeting* has also been shortened by two hours; next year, it will likely become a conference call.

MMU Clarifies its Role in Generator Retirements


MMU Executive Director Keith Collins addresses the board and members. | © *RTO Insider*

Keith Collins, executive director of SPP's Market Monitoring Unit, clarified comments he made during recent governance meetings that raised stakeholder concerns about the MMU's involvement in generator retirement decisions. (See *Stakeholders Push Back Against SPP Retirement Changes*.)


Awards of recognition for Skilton and Eckelberger | © *RTO Insider*

At October's Markets and Operations Policy Committee and Strategic Planning Committee meetings, some stakeholders pushed back against the possibility of the MMU intervening in regulatory proceedings. Collins said the MMU would only raise concerns in instances of physical withholding or other market power issues.

"The SPP Tariff is very clear," he said. "Physical withholding and market power are under the MMU's purview."

"The MMU has an obligation to investigate and review those issues," said Director Joshua W. Martin III, who chairs the Oversight Committee. The MMU reports to Martin's committee.

Collins said the MMU has always used available data when it reviews generator retirement requests, and that the MOPC discussion was an attempt to collect data from market participants to improve its analysis.

He noted the Tariff is unclear as what the MMU should do if it identifies physical withholding or market power.

"Our responsibility rests with FERC," Collins said. "To the extent we identify market power of physical withholding, we would have to raise that issue with FERC, unless the protocols or the Tariff [are] clarified as to what steps should be taken."

"The Oversight Committee has reviewed this issue, and we're comfortable with where it is right now," Martin said.

SPP staff have said they will provide the MOPC and the board draft Tariff revisions for generator retirement procedures in January.

SPP-MISO Operating Procedures not yet Documented

Brown said during his president's report that it is "untenable" that SPP and MISO "end up in situations where our operators are confused," as happened in January's "Big Chill" event.

The two RTOs have increased their coordination across their seam since the Jan. 17 event, when severe cold weather and generation shortfalls in MISO South led MISO to exceed its regional dispatch limit on transfers between its northern and southern footprints across SPP's system. MISO made emergency energy purchases from Southern Co. before operations returned to normal.

Brown recalled that shortly after the event, he had told the board that one of his top priorities for the year was to reach an agreement with MISO on "exact operating procedures."

"I was hoping to report we have signed documents for this meeting, but we don't," Brown said.

He was able to share with directors and members a *pamphlet* that says SPP members receive $1.7 billion in annual benefits, an 11-1 benefit-cost ratio. The document notes the Integrated Marketplace has produced more than $2 billion in savings since going online in 2014 and references a study that indicates every dollar SPP spends on transmission investment returns $3.50 in benefits.

"I would have no problem standing before any regulatory committee and defending these numbers," Brown said.

Western RC Services to Net $3.4M

Operations Vice President Bruce Rew said

SPP

SPP's RC contracts with Western Interconnection entities will result in $3.4 million in net income through 2024. (See *CAISO RC Wins Most of the West*.)

SPP expects to earn $28.4 million in revenue over the life of the five-year contracts, which are effective in January 2020. However, adding up to 20 staffers in Little Rock to handle the new responsibilities will eat into much of that revenue.

Under the contract's terms, the Western entities will pay an initial 5.5 cents/MWh. Annual extensions will begin in 2025, and mutual withdrawal provisions are included.

Smaller entities may yet participate in SPP's RC services, Rew said. Later entities would be evaluated on a case-by-case basis.

The SPP board and members give Skilton (foreground) and Eckelberger a standing ovation. | © *RTO Insider*

Consent Agenda's Approval Adds, Deletes Members

The board's consent agenda included changes to the membership agreement that would clear the way for Mor-Gran-Sou Electric Cooperative to become the newest SPP member.

The Corporate Governance Committee approved membership agreement amendments for the North Dakota co-op similar to changes that facilitated the membership of Basin Electric Power Cooperative and its members as part of the Integrated System's integration. Mor-Gran-Sou, which is embedded within the Integrated System, intends to join SPP as a transmission owner.

The CGC also recommended Cielo Wind Power's membership be terminated immediately for failing to keep up with its membership dues and repayment agreements. SPP said Cielo in January stopped responding to the RTO's outreach efforts and ignored a March demand letter.

The Austin, Texas-based company's delinquency dates back to 2016. It owes $18,000 and interest.

The consent agenda also included staff's recommendation to revise the SPP-MISO Coordinated System Plan. (See "MOPC Approves Changes to Joint Model with MISO," *SPP MOPC Briefs: Oct. 16-17, 2018*). Also on the agenda were the Finance Committee's 2019 operating plan, updates to the 2019 Integrated Transmission Planning assessment's scope, the Market Working Group's annual violation relaxation limits analysis, and nine revision requests:

- *MWG RR266*: Substitutes "interest" for "ownership" in language modeling joint-owned units as single resources, recognizing that "ownership" doesn't capture stakeholder intent that power purchase agreements and other non-ownership interests be included.
- *MWG RR288*: Allows non-dispatchable variable energy resources converting to dispatchable status to use control statuses not originally available to them. SPP's control statuses are: offline (the resource is not operating); non-regulating (online and capable of following a dispatch instruction or contingency reserve deployment but not eligible to clear regulation service); regulating (online and capable of following dispatch or contingency reserve instruction, and regulation deployment); and manual (online but not able to follow dispatch; e.g., start-up, shutdown, testing, etc.).
- *MWG RR316*: Updates the multi-configuration (combined cycle) resource market design by adding two additional commitment parameters: group minimum down time and plant minimum down time. Also removes sync-to-min and min-to-off times from the submitted minimum down time or group minimum down time when the resource transitions between operational configurations. The current design only allows individual registered configurations to submit a minimum down time.
- *MWG RR323*: Defines batteries as electric storage resources (ESRs), capable of being dispatched and participating in price formation. Excluded as ESRs are those resources that are either contractually barred or physically incapable of injecting energy back onto the grid because of their design or configuration. Also creates a new registration type, "market storage resource," to be used only by ESRs.
- *MWG RR332*: Corrects protocol calculations from designs implemented in *RR200* (design change for bilateral settlement schedules (BSS) and over-collected losses (OCL) distribution) and *RR235* (correction to RR200) necessary to accurately distribute OCLs and ensure BSS are receiving their correct OCL. The change ensures corrected resettlements back to the original May 1, 2018, release date.
- *ORWG RR318*: Changes the contingency reserve requirement calculation to allow the use of the "most severe single contingency" as the basis of the minimum contingency reserve requirement on an hourly basis. SPP said the revision allows it to more accurately and reliably set the reserve requirement.
- *RTWG RR305*: Updates Tariff language following modifications to the aggregate facilities study process by removing the requirement to file a service agreement before modeling new transmission service in the ITP models. Also removes the requirement that SPP issue notifications to construct (NTC) and notifications to construct with conditions (NTC-C) before filing a service agreement. Adds a financial commitment date of four years to the issuance of an NTC or NTC-C.
- *RTWG RR322*: Changes the Tariff and other documents to reflect that the RTO is no longer using U.S. Energy Information Administration data in monthly load forecasts. SPP said the data in the EIA report are not granular enough because they are at the balancing authority level, rather than the local balancing authority level required. In January, the RTO began using forecast data that are available through the NERC system data exchange (SDX) and historical data where forecasts are not available.
- *RTWG RR325*: Revises SPP's pro forma language for large generator interconnection procedures and large generator interconnection agreements to comply with FERC Order 845. ■

— Tom Kleckner

SPP

FERC Sets GridLiance's Zonal Placement for Hearing

By Tom Kleckner

FERC last week allowed GridLiance High Plains to begin rate recovery Nov. 1 for its facilities in the Oklahoma Panhandle but set the company's proposed annual transmission revenue requirement subject to refund and settlement judge procedures (*ER18-2358*).

The Oct. 31 order rejected requests from SPP transmission owners to reject the filing or suspend rate recovery.

GridLiance's assets, 410 miles of 69- and 115-kV lines and related substation infrastructure, were acquired in 2016 from Tri-County Elec. Co-op. (See *GridLiance Closes Deal for Tri-County Co-Op's Tx Assets*.)

SPP placed the facilities in Southwestern Public Service's transmission pricing zone, Zone 11. The RTO said in its August filing that GridLiance's ATRR and facilities were not large enough to warrant their own pricing zone, and that they were also interconnected solely with Zone 11 facilities.

It said the addition of the GridLiance assets will increase Zone 11's ATRR of $112 million by 6.9%. Network integration transmission service charges will rise 2.8% if the ATRR of transmission facilities whose costs are recovered under Schedule 11 (Wholesale Distribution Service) is included, the RTO said.

More than a dozen SPP TOs and cooperatives and the Texas Public Utility Commission protested SPP's filing, arguing that the RTO did not explain how upgrades GridLiance made to the Tri-County assets benefit existing Zone 11 customers and questioning how FERC could determine the additional costs were fair without analyzing the benefits.

Xcel Energy complained that GridLiance constructed more than $50 million of facilities outside the SPP regional transmission planning process even though the Tri-County load has decreased by at least 23 MW since 2016.

GridLiance said its planned and constructed upgrades address outages from ice and wind storms that resulted from a non-networked system.

Brett Hooton, president of GridLiance High Plains, said he was pleased FERC denied requests to reject the filing or suspend rate recovery.

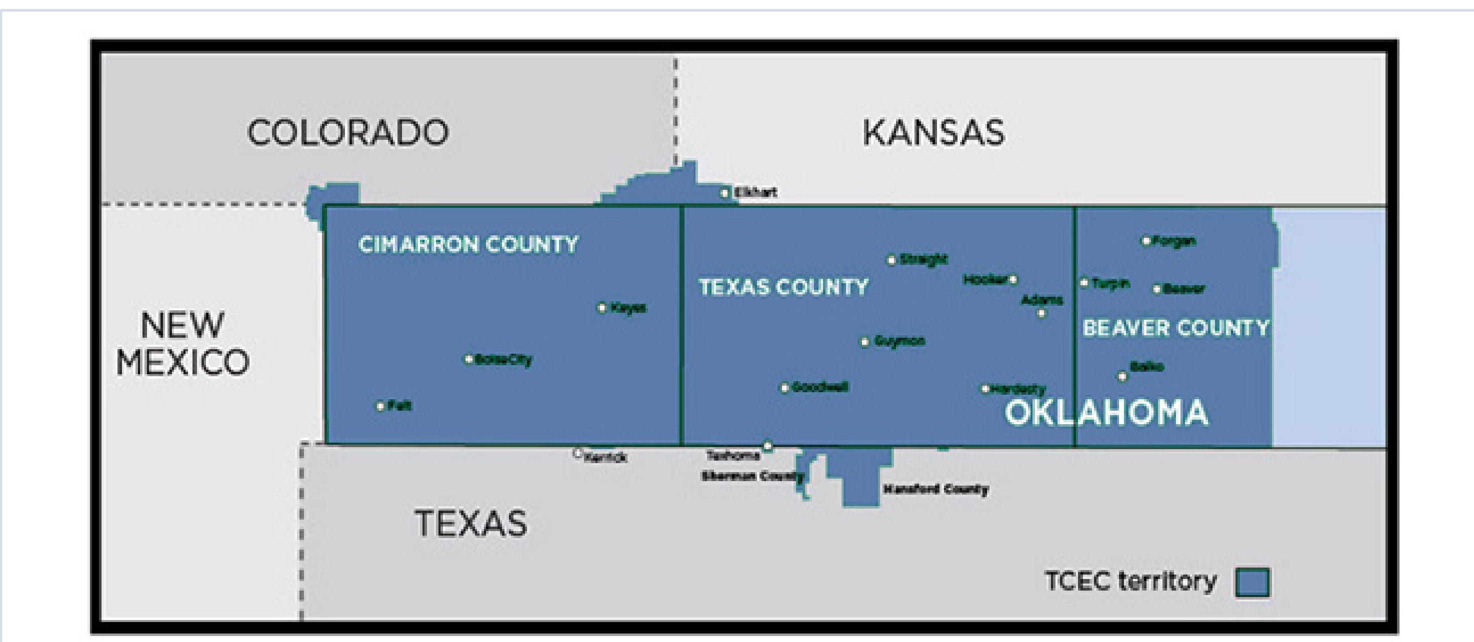
"We look forward to demonstrating why wholesale loads are entitled to enjoy comparable reliability as the load served by the dominate transmission owners within SPP and how our reliability improvement upgrades meet that goal," he told RTO Insider.

Commission OKs Revised 'Financial Interest' Definition

The commission also accepted revisions to SPP's bylaws that clarify the concept of a financial interest. With the Nov. 1 order, SPP employees, directors and their spouses, minor children, and any person for whom they have power of attorney or guardianship rights will be allowed to invest in companies that have a de minimis relationship with the RTO and the electric sector (*ER18-2376*).

FERC agreed that SPP's rules, developed before the expansion of its membership and market participation, created barriers in recruiting and retaining directors and employees. The commission said the bylaw revisions should continue "to safeguard SPP's independence" by prohibiting directors and employees from investing in market participants active in the Integrated Marketplace.

FERC Order 2000 bars grid operators, staff and non-stakeholder directors from holding financial interests in any market participant and require them to maintain independence from "any entity whose economic or commercial interests could be significantly affected by the RTO's actions or decisions." ■



Tri-County service territory | *Tri-County Elec. Co-op*

FERC & Federal News

Returning Chair Pledges to Protect FERC's Independence

Chatterjee Praises McIntyre's Leadership, Influence

Continued from page1

FERC Chairman Neil Chatterjee addresses reporters at commission headquarters in D.C. | © *RTO Insider*

On Wednesday, Chatterjee once again met with reporters at FERC headquarters, where he struck a more muted, sober tone in explaining the commission's work under his leadership while McIntyre struggles with what he called a "serious setback" in his battle with a brain tumor. (See *McIntyre Steps Down; Chatterjee Named FERC Chair*.)

"Kevin McIntyre is not just my colleague; he is my friend," Chatterjee said. "I think it is important that he is focusing his energies on his health and his family. This situation is certainly not something I sought, and I most definitely do not relish it. But we have important work to do, and Kevin wants me to be a strong leader for him and for the agency that he cares so deeply about. And I am committed to working with my colleagues to live up to that expectation."

Chatterjee said he would not discuss McIntyre's health, saying he wanted to give him and his family privacy. But he spoke extensively about McIntyre's leadership at the commission, and the influence McIntyre has had on him.

"I thought Chairman McIntyre was exemplary in his leadership," he said. "I had time to meet with stakeholders, with staff in the building, with my colleagues and folks around the country to learn the importance of the commission's processes, and culture, and mores, and traditions. And I think the individual who is … most responsible for my growth in this position is Kevin McIntyre. ...

"He so emphasized the importance of the rule of the law ... of adhering to [the record]; he could not be more strenuous in saying that politics could not be allowed to interfere with the work of the commission. And that has really helped me grow in my role as I made the transition from formerly partisan legislative aide to independent regulator. ... I hope to lead in the same way. But I have big, big shoes to fill."

Resilience and Avoiding Politicization

Chatterjee joined the commission as chair in August 2017, holding it until McIntyre joined later in December.

"The circumstances in which I stepped into the chairman role last time were not ideal," he said Wednesday. But "quite frankly, they were a dream compared to this circumstance."

Before being replaced by McIntyre, Chatterjee appeared supportive of Perry's Notice of Proposed Rulemaking for FERC to order RTOs and ISOs to compensate the full operating costs of generators with 90 days of on-site fuel. The commission unanimously rejected the NOPR in January, opening its own docket to explore grid resilience (AD18-7). (See *DOE NOPR Rejected, 'Resilience' Debate Turns to RTOs, States*.)

On Wednesday, Chatterjee was asked whether he felt FERC was doing enough on the resilience issue. A former energy adviser to Senate Majority Leader Mitch McConnell (R-Ky.) and Kentucky native, he again brought up his partisan background.

"Again, this is where my growing into this role has been significant. I first came to the commission last fall, coming from a partisan legislative role in which I worked on behalf of my boss to fight against the retirement of coal-fired generation. Initially I was sympathetic to Secretary Perry's proposal because of my concern for these rural communities, because of my concern about what the retirement of nuclear units might mean for mitigating carbon emissions.

"But as I evolved into the role, I realized that that is not part of our record. That doesn't factor into the statutes that govern us. And I had to make a decision on the DOE NOPR based on the record that was before us. I have been thus far satisfied with the record that is being formed since we opened that new docket in January. And I'm going to review that docket and see what could the facts bear out. ...

"So, it's premature for me to say we're doing enough or we're not doing enough until I've really had the opportunity to work with my colleagues and analyze that record. ... This will not be a politically influenced decision."

Chief of Staff

Chatterjee said he had not given any thought to personnel changes. "In light of the difficult circumstances in which this transition is occurring, I think it is important for all stakeholders of the commission, as well as us inside the commission, that we have some continuity moving forward."

Chatterjee praised Chief of Staff Anthony Pugliese. "There [are] tremendous administrative responsibilities in the chairman's office, and as someone who has been a commissioner for the past year, from what I've seen, Anthony has managed the administrative capabilities of the agency very well."

Speaking at the Energy Bar Association's Mid-Year Energy Forum on Oct. 30, however, Commissioner Richard Glick said Pugliese's appearance in July on the conservative "Breitbart Radio Show" was "ill-advised." (See *Democrats Call Out 'Partisan' Remarks by FERC Chief*.)

"To go on various radio shows and make attacks against the governor of New York and

FERC & Federal News

then to … take certain positions that were more in line with … the administration than the commissioners I think is not a wise strategy," Glick said. "I've had this conversation with the chief of staff; I'm sure others have as well. And I'm hoping that we won't see that anymore. I thinks it's very important that we demonstrate that we truly are independent and that we're acting on what we think is in the best interest [of the public and] … make sure that we're not either doing the [bidding] of the Trump administration, or … [House Minority] Leader [Nancy] Pelosi [D-Calif]."

"I agree completely with Commissioner Glick that we should be separate and apart from any political influence on either side," Chatterjee said Wednesday. "No one was more committed to ensuring the depoliticization of the agency and not allowing political interference than Kevin McIntyre. And I think that if you look at the record under Chairman McIntyre's leadership, there's no evidence that there's been political influence or interference at the agency. ... And I've made very clear to ***all*** of the staff at the agency, including the chief of staff, that the agency's independence from political influence will continue."

The chair downplayed recent 3-2 rulings by the commission on natural gas pipeline certificates, in which Glick and Commissioner Cheryl LaFleur have insisted the commission's analyses include consideration of downstream greenhouse gas emissions.

"While much has been made of the fact that we've been having 3-2 votes and it appears to be political, I think there's some genuine disagreements on policy, but my colleagues have been narrow and discreet in their dissents. And I view that as an opportunity to build consensus."

He said he wasn't concerned about 2-2 ties since the departure of Commissioner Robert Powelson in August. He also noted that in his resignation letter to President Trump, McIntyre said he felt he could fulfill his duties as commissioner. "I expect he will do that," Chatterjee said. "In terms of votes that he will cast, that is entirely his determination and decision. ... I am not empowered to deny him his vote."

Going Forward

Chatterjee said his priorities as chairman will be the same as they were when he was a commissioner. He listed the reliability and resilience of the grid, processing LNG facility applications, breaking down barriers to entry for new technology, and cybersecurity, the last of which "continues to be foremost on my mind."

He declined to give a timeline on the commission's resilience proceeding, nor on its work on updating its policy statement on pipeline certificates.

Asked what he thought could accomplish before the end of the year, he half-jokingly said, "I think my first and most significant priority that I know I have the support of my colleagues on — but I'm not sure whether I'll be able to achieve it — is to fix eLibrary."

Earlier last month, Trump nominated Bernard McNamee, DOE executive director of the Office of Policy, to the commission. Chatterjee said the commission's work would proceed without regard for McNamee's confirmation process. That includes a disregard for the date of McNamee's hearing before the Senate Energy and Natural Resources Committee; He seemed unaware that it had been scheduled for Nov. 15, the same as the commission's next open meeting.

"There's so much on the commission's plate right now that we need to take action on."

Based on his career as McConnell's aide and his own nomination, he said he knew that the road to confirmation "is an unpredictable one." ■

Rich Heidorn Jr. contributed to this report.

Entergy Share Price Jumps with Solid Quarter

Entergy *reported* third-quarter earnings of $536 million ($2.92/share), as compared to $398 million ($2.21/share) a year ago. The New Orleans-based company's results exceeded analysts' expectations by 33.2%, with adjusted earnings of $3.77/share, a 94-cent overperformance.

Investors rewarded Entergy by boosting its share price more than $2 following the company's earnings announcement Wednesday. The company's stock opened at $82.11, peaked at $84.84 during the day and closed at $83.95.

Company executives updated its year-end consolidated operational earnings guidance, from $6.25 to 6.85/share to $6.75 to 7.25/share.

Choctaw Generating Station | *Entergy*

Entergy warned that costs related to the sale or closure of its merchant nuclear plants could cut into as-reported EPS by $2.95/share this year.

CEO Leo Denault told financial analysts during a conference call that the company continues to move away from nuclear power by devoting a "large portion" of its capital expenditures to building large- to medium-sized combined cycle gas turbines. Entergy in August *announced* a $314 million purchase of GenOn Energy's Choctaw Generating Station in Mississippi, an 810-MW gas-fired unit.

Denault said he is "hopeful" Vermont Yankee's sale to NorthStar Decommissioning Holdings will be approved by *Vermont regulators* by year-end. The Nuclear Regulatory Commission has approved the transfer of the nuclear plant's license to NorthStar. ■

— Tom Kleckner

Company Briefs

PSEG Earnings Up, Rate Settlement OK'd

Public Service Enterprise Group last week reported third-quarter earnings of $412 million ($0.81/share) versus $395 million ($0.78/share) a year earlier. Operating earnings for the quarter were $481 million ($0.95/share), compared to $417 million ($0.82/share).

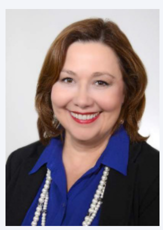
The Oct. 30 earnings report came the day after the New Jersey Board of Public Utilities approved a settlement agreement in Public Service Electric and Gas' first distribution rate case since 2010. The settlement with BPU staff and the Division of Rate Counsel increases PSE&G's annual rates by $212 million, although rates will initially drop by $13 million, reflecting the company returning $225 million to customers in reduced federal corporate income taxes.

The new revenue requirement is based on a distribution rate base of $9.5 billion, a return on equity of 9.6% and a 54% equity ratio.

More: *PSEG*

GCPA Appoints Kim Casey Executive Director

The Gulf Coast Power Association board of directors last week announced it has selected **Kim Casey** to be its next executive director, succeeding Tom Foreman when he retires at the end of the year.



Casey is treasurer and director of finance and regulatory for Electric Transmission Texas, where she has worked since 2012. She has more than 35 years working in the energy industry, including a six-year stint with Dynegy, and was involved in the initial drafting of ERCOT's Protocols. Casey also has been a member of the ERCOT Technical Advisory Committee and the SPP Board of Directors.

"We are extremely excited to select Kim Casey as the next executive director of the GCPA," said Mark Walker, president of the GCPA board. "She has a distinguished career in the electric power business and has been involved with GCPA for a number of years, including being on the board of directors from 2000 to 2003."

More: *GCPA*

Sempra Promotes SoCalGas CEO to Utilities President

Sempra Energy last week promoted Southern California Gas Chairman and CEO **Patricia K. Wagner** to group president of U.S. utilities for the company, effective Nov. 17.

Wagner will continue in her role as chair of SoCalGas. In her new role, she will oversee San Diego Gas & Electric, SoCalGas and Oncor. J. Bret Lane will remain president and chief operating officer of SoCalGas and continue to report to Wagner.

She has served as SoCalGas CEO since 2016 and has been with Sempra in several capacities for 23 years.

More: *Sempra Energy*

PG&E Explains Shutoff Decision to Regulators

Pacific Gas and Electric last week explained its decision to pre-emptively shut down electricity service to 60,000 customers in Northern California last month.

(See *Fire Season Becomes Blackout Time in California*.)

In a report to the California Public Utilities Commission, the utility said officials felt a forecast of sustained 25- to 45-mph winds could threaten to knock down distribution lines and spark a wildfire, the costs of which it would be responsible for paying. "PG&E views this as an extreme measure that should be taken with great care," the company said in its report.

PG&E also said it received 146 demands for reimbursement from customers, mostly over spoiled food. The company will not be paying any of the claims, it said.

More: *The Associated Press*

Sundararajan Promoted to AEP Ohio President

American Electric Power last week shuffled

up its executive line-up, including promoting **Raja Sundararajan** to president and COO of AEP Ohio, effective Jan. 1.

Sundararajan, currently vice president of regulatory services for AEP, will replace Julie Sloat, who has been promoted to senior vice president of treasury and risk. Sloat herself is replacing Lonni Dieck, senior vice president and treasurer, who is retiring.

"These changes will leverage and expand the operational expertise, experience, leadership and industry knowledge of the AEP team as we focus on enhanced service for customers, building smarter energy infrastructure and delivering new technologies and custom energy solutions," CEO Nicholas Akins said.

More: *AEP*

Federal Briefs

Zinke Facing Increased Pressure

Interior Secretary Ryan Zinke is losing support in the oil and gas industry, the Trump administration and his home state of Montana, sources told The Washington Post and Politico last week.

Citing two senior administration officials, the Post reported that President Trump is concerned about a Justice Department investigation into a Montana land deal involving Zinke and Halliburton Chairman David Lesar, which the Interior Department's inspector general referred to DOJ last week.

The referral is on top of numerous ethics investigations into Zinke, including his travel habits and efforts to designate his wife a department volunteer so she could travel with him using official government vehicles.

More: *The Washington Post*; *Politico*; *CNN*

Perry Heads to Europe to Push US Gas, Coal

Energy Secretary Rick Perry is traveling to Eastern Europe this week to tout U.S. coal and natural gas as an alternative to resources from Russia.

As part of his tour, Perry will tour a Ukrainian coal plant that purchased coal from the U.S. last year and celebrate a deal a Polish company made to purchase U.S.-produced LNG.

Along with those of Ukraine and Poland, Perry will meet with senior officials in Hungary and Czech Republic to discuss nuclear energy and cybersecurity.

More: *Reuters*; *Axios*

SCOTUS Allows Children's Climate Suit to Go Forward

Our Children's Trust

The Supreme Court last week rejected a request by the Trump administration to block a lawsuit brought by a group of children against the federal government for neglecting to prevent climate change.

The case, Juliana v. United States, was scheduled to go to trial Oct. 29 in the U.S. District Court of Oregon, but Chief Justice John Roberts issued a stay while the court considered the administration's request.

The Supreme Court ruled that it was too early for it to halt the suit, as the government will have a chance to appeal the outcome in the 9th Circuit Court of Appeals.

More: *CNN*

GOP Sens Ask Trump to Halt Nuke Talks with Saudis

Five Republican senators last week wrote to President Trump, urging him to suspend negotiations with Saudi Arabia over a nuclear energy agreement following the murder of journalist Jamal Khashoggi at the Saudi consulate in Turkey.

"The ongoing revelations about the murder of Saudi journalist Jamal Khashoggi, as well as certain Saudi actions related to Yemen and Lebanon, have raised further serious concerns about the transparency, accountability and judgment of current decision-makers in Saudi Arabia," wrote the senators: Cory Gardner (Colo.), Marco Rubio (Fla.), Todd Young (Ind.), Rand Paul (Ky.) and Dean Heller (Nev.).

The deal would allow Saudi Arabia to purchase nuclear reactors from U.S. manufacturers.

More: *The Hill*

State Briefs

CALIFORNIA

Pasadena Backs out of Gas Plant Contract

The Pasadena City Council last week voted unanimously to cancel a deal to purchase natural gas-fired electricity from the Intermountain Power Plant in Utah.

The city has purchased power from the coal-fired plant, which is scheduled to be decommissioned and rebuilt as a gas plant, since 1987. It had signed on to purchase 40 MW from the new plant until 2077, but it encountered resident opposition to the plan. The city will continue to buy power from the plant until the end of its original contract, in 2027.

City officials said the move will save ratepayers money and help the state achieve its goal of 100% zero-carbon electricity by 2045.

More: *Pasadena Star-News*

IDAHO

PUC Schedules March Hearing on Solar Net Metering

The Public Utilities Commission last week announced it would hold a hearing March 9 on Idaho Power's request to create a new class of customers for those who install rooftop solar panels.

"From our perspective, nothing has changed," said Jordan Rodriguez, a spokesman for Idaho Power. "We are expecting a decision now by April 1 and we will go from there."

About 1,400 residents use net metering, which the utility says raises rates for other customers.

More: *The Associated Press*

ILLINOIS

ICC Approves Ameren Rate Increase

The Commerce Commission last week approved Ameren Illinois' request for an increase in its delivery rates for both electricity and natural gas, but the utility says customers will see their monthly bills decrease because of savings on supply costs.

Ameren says the average customer will save about $5.47/month as a result of an 18% decrease in supply costs, including a 10% decrease in the cost of natural gas.

More: *NewsTribune*

INDIANA

NIPSCO Switching to Renewables Instead of Gas

Northern Indiana Public Service Co. intends to replace its retiring coal plants with renewable resources, instead of gas-fired plants, according the utility's integrated resource plan submitted to the Utility Regulatory Commission last week.

In its 2016 IRP, NIPSCO had anticipated new gas-fired resources to replace the coal plants. Its latest plan, however, calls for about 1,150 MW of new solar and storage and 160 MW of wind.

"I like to say that we love natural gas — we are a natural gas and an electric provider — but right now, after our analysis, the economics don't work," NIPSCO President Violet Sistovaris told ***The Indianapolis Star***.

More: *The Indianapolis Star*

KENTUCKY

Henderson to Close Station Two Coal Plant


| Google

The city of Henderson last week announced it its nearly 50-year-old Station Two coal-fired plant would cease operating on Feb. 1.

Big Rivers Electric, which operates the plant on behalf of the city, submitted an Attachment Y notice to MISO in July, which the RTO approved last month, saying it was not needed for reliability.

"There are coal plants out there that are an economic option, but our coal plant was small, thermally inefficient and quite old, so it needed a lot of investment," said Chris Heimgartner, manager of Henderson Municipal Power and Light.

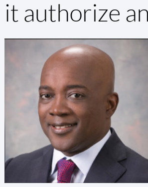
More: *WFPL*

LOUISIANA

Entergy says NOLA Investigation Omitted Evidence

The New Orleans City Council released the findings from its investigation into whether Entergy New Orleans paid actors to play residents supporting a proposed power plant, concluding the utility "knew or should have known that such conduct occurred or might reasonably would occur."

A company spokesman responded that "we take exception to certain characterizations and omission of key facts from the report, including specific evidence Entergy provided that confirms it did not pay, nor did it authorize any other person or entity to pay, individuals to attend or speak at council meetings."

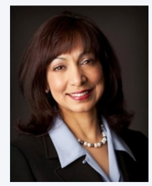


The report indicates that the company, including then-CEO **Charles Rice**, was aware that its contractor, Hawthorn Group, was paying people to attend council meetings to support the plant. The company, however, denies that it was aware that Hawthorn was working with Crowds on Demand, which specializes in finding professional actors for PR stunts.

More: *The Advocate*

MANITOBA

Manitoba Hydro Hires Grewal as CEO



Manitoba Hydro last week announced it has hired **Jay Grewal**, CEO of Northwest Territories Power Corp., to be its next CEO.

Grewal will be the utility's first female president and CEO. She will replace Kelvin Shepherd on Feb. 1.

"Ms. Grewal is a proven leader, with extensive senior leadership experience in the utility, resource and consulting sectors," Crown Services Minister Colleen Mayer said in a statement.

More: *CBC News*

MINNESOTA

PUC Approves Nemadji Trail Plant

The Public Utilities Commission last week voted 3-2 to approve the Nemadji Trail Energy Center, a 525-MW gas-fired plant to be located in Superior, Wisc.

The plant is a joint venture between Minnesota Power and Wisconsin-based Dairyland Power Cooperative. Minnesota Power ratepayers will pay for half of the $700 million plant.

The utility hopes to have the plant online by 2025. It still needs to be approved by the Wisconsin Public Service Commission.

More: *Minnesota Public Radio*

NEBRASKA

Supreme Court Hears Arguments over PSC's OK of Keystone

The state Supreme Court last week heard

oral arguments in a lawsuit over whether the Public Service Commission had the authority to approve an alternate route for the Keystone XL oil pipeline than the one proposed by developer TransCanada.

Lawyers representing landowners, environmental groups and tribes argued that the approval violated state law, which they said requires developers to seek approval for a route from the governor first. Once rejected, developers can seek approval from the PSC, the plaintiffs argued.

TransCanada and the state government said that is a misinterpretation of the law, arguing that developers are allowed a choice in whether to get approval from the governor or the PSC.

More: *Omaha World-Herald*

NEW MEXICO

PRC Rejects El Paso Electric Solar Project

The Public Regulation Commission last week voted 3-2 to reject El Paso Electric's proposal to build a community solar project in Dona Ana County.

EPE applied to build the 2-MW project in April. It was opposed by the city of Las Cruces and environmental group New Energy Economy, which said customers would get better rates by purchasing power from utility-scale solar.

The project was also controversial because two commissioners received donations from Affordable Solar, EPE's construction contractor. Those commissioners ended up splitting their votes on the project.

More: *Las Cruces Sun-News*

NORTH CAROLINA

Cooper Signs Exec Order to Meet Paris GHG Targets

Gov. Roy Cooper (D) last week signed an executive order intended to push the state to reduce its greenhouse gas emissions by 40% from 2005 levels by 2025, the target set by the international Paris Agreement on climate change.

The order creates a committee on climate change, comprising officials from every state agency. The committee and the Department of Environmental Quality will have a year to produce a report on how the state can use more renewable energy and push citizens and businesses to do the same.

Cooper also set a target of 80,000 zero-emission vehicles by 2025.

More: *The News & Observer*

RHODE ISLAND

Siting Board Rejects PUC Opinion on Invenergy Plant

The Energy Facility Siting Board last week voted to reject the Public Utilities Commission's advisory opinion on the need for Invenergy's proposed Clear River Energy Center.

The board called the two-year-old PUC opinion "stale" and said it will instead rely on evidence already presented and updated testimony from Invenergy and the town of Burrillville on whether to approve the plant.

In September, ISO-NE asked FERC to terminate the 485-MW plant's capacity supply obligation because it would not be operating in time for the beginning of the capacity commitment year on June 1, 2019. (See *ISO-NE Asks FERC to End Clear River CSO*.) The commission has not yet acted on the request, which drew a protest from Invenergy last month (ER18-2457).

More: *GoLocalProv*

VIRGINIA

SCC Approves Dominion Offshore Wind Project

The State Corporation Commission last week approved Dominion Energy's 12-MW Coastal Virginia Offshore Wind project, despite the fact that it found ratepayers will bear most of the risk of the $300 million facility.

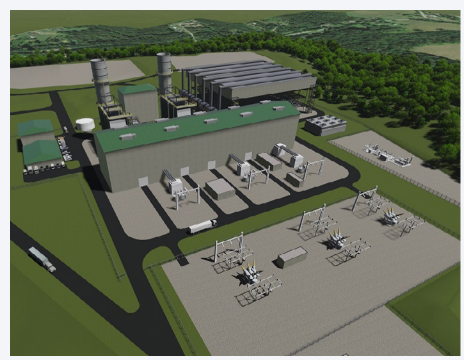
The commission said it was bound by a state law that required Dominion to build 5,000 MW of renewable resources over the next year. But it said it otherwise would have rejected the project because it found it wasn't needed and that there were other lower-cost options.

"The economic benefits specific [to the project] are speculative, whereas the risks and excessive costs are definite and will be borne by Dominion's customers," the commission said.

More: *Richmond Times-Dispatch*

WEST VIRGINIA

Supreme Court Affirms PSC's Gas Plant Approval



The state Supreme Court last week dismissed challenges to the Public Service Commission's approval of the 850-MW Brooke County Power natural gas-fired plant, citing a "total lack of admissible evidence presented" by landowners and a coal lobbying group backed by Murray Energy.

The challengers argued that the PSC had erred when it weighed the project's benefits to the state against the interest of landowners. The court said the commission had "ample information with which to balance all of the respective interests and to reach a decision relating to the public interest."

More: *West Virginia Record*

COMPLIMENTARY
This is an abbreviated edition of *RTO Insider* for APPrO 2018 Annual Meeting

COMPLIMENTARY
This is an abbreviated edition of *RTO Insider* for the NARUC 2018 Annual Meeting