RTO Insider

YOUR EYES AND EARS ON THE ORGANIZED ELECTRIC MARKETS

CAISO = ERCOT = ISO-NE = MISO = NYISO = PJM = SPP

PJM

PJM Presents Details on Proposed Capacity Market Overhaul (p.29)

PJM Board of Managers to Seek Capacity Auction Delays (p.31)

FERC & Federal

FERC Gets Advice,
Criticism on Environmental
Justice

ERCOT

ERCOT Looking to ORDC Changes, Ancillary Services as Bridge to PCM

FERC & Federal

Industry Says DOE Proposal Would Exacerbate Transformer Shortages (p.13) **FERC & Federal**

OSW Developers Look to Europe on Meshed HVDC Tx (p.10)

US Offshore Wind Industry Set to Take Off (p.12)

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

Editorial

Editor-in-Chief / Co-Publisher

Rich Heidorn Jr.

Deputy Editor / Daily

Deputy Editor / Enterprise Robert Mullin

Michael Brooks Creative Director Mitchell Parizer

New York/New England Bureau Chief

John Cropley

Midwest Bureau Chief

John Funk

Mid-Atlantic Bureau Chief

K Kaufmann

Associate Editor

Shawn McFarland

Copy Editor/Production Editor

Rebecca Santana

CAISO/West Correspondent

Hudson Sangree

D.C. Correspondent

James Downing

ISO-NE Correspondent

Sam Mintz

MISO Correspondent

Amanda Durish Cook

NYISO Correspondent

John Norris

PJM Correspondent

Devin Leith-Yessian

SPP/ERCOT Correspondent

Tom Kleckner

NERC/ERO Correspondent

Holden Mann

Sales & Marketing

Chief Operating Officer / Co-Publisher

Merry Eisner

SVP of Sales

Marc Ruppenstein

Account Manager

Jake Hellenschmidt

Account Manager

Kathy Henderson

Account Manager

Phaedra Welker

Customer Success Manager

Dan Ingold

Marketing Manager

Eau Rikhotso

Assistant to the Publisher

Tri Bui

RTO Insider LLC

10837 Deborah Drive

Potomac, MD 20854

(301) 658-6885

See additional details and our Subscriber Agreement at rtoinsider.com.

In this week's issue

Stakeholder Soapbox

FERC Must Act on Interregional Ties
New FERC Stance Needed to Improve Winter Storm Readiness
FERC/Federal
FERC Gets Advice, Criticism on Environmental Justice
OSW Developers Look to Europe on Meshed HVDC Tx10
US Offshore Wind Industry Set to Take Off
Industry Says DOE Proposal Would Exacerbate Transformer Shortages13
Grid-Enhancing Technologies Can Speed Up Queues, Experts Say14
CAISO/West
Calif. Governor Appoints New CAISO Board Member
Will Income-tiered Fixed Costs Help California Decarbonize?
ERCOT
ERCOT Looking to ORDC Changes, Ancillary Services as Bridge to PCM17
ISO-NE
Overheard at ISO-NE Consumer Liaison Group Meeting19
MISO
MISO Board of Directors Briefs: March 23, 2023
Vistra, EPSA Protest MISO's Show-cause Order21
MISO Says 2022 Value Proposition Tops \$4B22
Kentucky Officials Ask FERC to Deny AEP-Liberty Deal23
NYISO
Champlain Hudson Power Line Receives Landmark Delivery24
NY Utilities' Proposed Grid Planning Process Gets Tepid Reception25
New York Considering Standards for IBRs27
NYISO Receives 'Exceptional' Customer Survey Scores
PJM
PJM Presents Details on Proposed Capacity Market Overhaul29
PJM Board of Managers to Seek Capacity Auction Delays31
IPP Asks FERC to Dismiss PJM Performance Penalties over Elliott Outages .32
Southeast
TVA Signs Multinational SMR Nuclear Investment Pact
SPP
SPP Briefs35
Briefs
Company Briefs
Federal Briefs
State Briefs

Stakeholder Soapbox

FERC must act to accelerate interregional transmission to improve reliability, say former Arkansas regulator Ted Thomas and R Street Institute's Michael Giberson.

FERC Must Act on Interregional Ties

By Ted Thomas

There are many polarizing issues dividing America today, but support for reliable electricity is not among them. No one is in favor of power outages, and no one should be left in the dark.

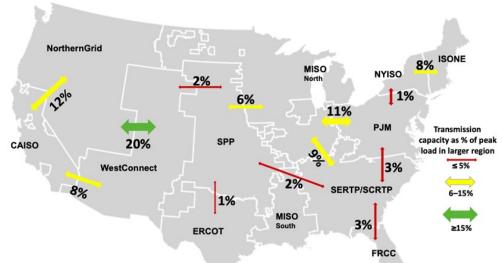


Ted Thomas | © RTO Insider LLC

Extreme weather

events have stressed the grid in most regions of the country over the last decade, and the frequency and severity of these events are only expected to increase in the years ahead. Every type of generation has struggled through these events. To solve this problem, utility commissioners, grid operators and federal regulators must look beyond generation solutions.

The U.S. grid is aging and balkanized. Most regions have limited ties to one another, meaning there is little transmission capacity available to transfer electricity between neighboring areas. Yet studies show interregional transmission lines can serve as lifelines in an emergency - delivering power from unaffected areas to storm-ravaged regions where power plants were forced to halt operations.



Estimates based on matching firm transfer capacity between EPM Integrated Planning Model regions to FERC Order 1000 regions. Some regions are combined due to lack of available data. BANC and LAWP excluded. Analysis by Carbon Impact Consulting.

Existing electricity transmission transfer capacity between adjacent FERC Order 1000 planning regions. Percent reflects the interconnection capacity of connected regions as a percentage of the peak load of the larger region. Niskanen Center

As a recent U.S. Department of Energy (DOE) draft study demonstrated, increasing interregional transmission capacity yields the greatest value, improving access to affordable power and helping ensure a reliable supply

of electricity. Interregional transmission lines allow grid operators to access more generation resources and are particularly useful for

Continued on page 4

New FERC Stance Needed to Improve Winter Storm Readiness

By Michael Giberson

FERC must look beyond reliability standards to boost electric industry winter readiness

Winter Storm Elliott smashed into the Southeastern U.S. last year at just the wrong time, right before



Michael Giberson | R Street Institute

Christmas, disrupting both long-planned travel and last-minute holiday shopping. It was a bad time for the affected region's electric utilities too, as power generators struggled under freezing temperatures while customer demand rose to winter records.

Duke Energy in North Carolina and the Tennessee Valley Authority (TVA) had to cut power to some consumers to help keep the grid from failing. For both power companies, it was the first time they had to employ these extreme reliability measures.

A few days later, FERC, NERC and NERC regional entities announced they would investigate operations of the bulk-power system during the storm. A report will emerge in a few months with useful details on which components failed and which reliability standards were not well enforced. But one may wonder what we can learn from the fifth such joint investigation that was not obvious from the previous four winter storm investigations.

The fourth FERC-NERC winter storm report, examining February 2021's Winter Storm Uri,

summarized the main finding of the earlier three. What have we learned? Small equipment failures — the freezing up of a gauge or a sensing line — can sideline a generating unit; gas supply interruptions were an issue; generation owners sometimes failed to prepare adequately; operators lacked training for extreme winter weather conditions; and utilities need to improve emergency communication practices. All four reports observe these kinds of failures and make similar recommendations.

Coincidentally, in February FERC approved winter reliability standards that address about half of the recommendations from the fourth FERC-NERC winter storm report. The standards are a step forward, said FERC Commissioner Mark Christie, "but the much

Continued on page 5

Stakeholder Soapbox

Transmission Keeps the Lights On

Continued from page 3

providing additional supply during extreme weather events, according to the DOE. The agency also identified a "pressing need" for more transmission infrastructure.

During Winter Storm Uri in February 2021, an additional gigawatt of transmission capacity between the Texas grid and the Southeast could have saved Texans nearly \$1 billion and kept the lights on in 200,000 homes, according to a report from Grid Strategies. Meanwhile, interregional transmission ties allowed the Great Plains and Midwest grid operators to import 15 times more electricity during the storm than the Texas grid, helping avoid widespread outages that killed hundreds in the Lone Star state.

In December 2022, some grid operators in the Southeast were forced to conduct rolling blackouts when power plants came offline because of harsh winter weather. Those outages would have "undoubtedly been far more widespread" had operators not been able to access power imported through interregional transmission lines, according to a Rocky Mountain Institute analysis. Additional interregional capacity would have allowed the Southeast to access available Midwestern generation, alleviating the region's supply shortage.

Forward-looking studies evaluating the grid under extreme weather conditions predict similar results unless significant interregional transmission is developed. At least 65 GW of new interregional transmission capacity was needed to keep the lights on during simulated extreme weather conditions from 2035 to 2040, according to a recent report by GE Energy Consulting.

American homes and businesses depend on FERC to access reliable, economically efficient energy services at a reasonable cost. To ensure reliability and low prices, commissioners must evaluate ways to remove barriers to and encourage the development of these interregional projects. Three near-term options are available.

First, a minimum interregional transfer capacity requirement would provide significant reliability benefits by producing much needed long-range transmission. FERC, having convened a technical conference on such a standard in late 2022, should pursue a rulemaking to establish a minimum threshold.

Second, the commission should accept Invenergy's petition and host a technical conference to discuss removing barriers to merchant interregional high-voltage, direct-current transmission lines. FERC's current transmissionrelated rulemaking proceedings do not consider the evolving role of these technologies, and a technical conference would allow regulators to consider the costs, impact and utility of such projects, as the National Association of Regulatory Utility Commissioners noted.

Third, the agency should ensure its forthcoming transmission planning and cost allocation rulemaking includes needed reforms that can benefit interregional planning, as well as regional transmission planning. Requiring planning regions to quantify a minimum set of transmission benefits metrics can help eliminate one of the main barriers to planning interregional lines. Going forward, FERC should also lay the groundwork for a future rulemaking focused on reducing obstacles hindering interregional project development.

U.S. grid operators have seen several major system failures in the last several years. Our aging grid has demonstrated it cannot meet today's demands, leaving millions at risk for extreme weather events in the coming decades. Expanding transmission capacity to ensure customers have constant access to affordable power will require sound policies to strengthen interregional ties. It's time for FERC to act. ■

> Ted Thomas is founding partner at Energize Strategies and former chair of the Arkansas Public Service Commission.

National/Federal news from our other channels



Podesta: US Automakers Will Scramble to Meet IRA Domestic Content Requirements





GOP Energy Bill Passes House, Heads for Hostile Senate





Fewer EVs May Get IRA Tax Credit Under New Domestic Content Rules





Transparent, Traceable Supply Chains Key to EV Domestic Content Rules





SERC Board of Directors/Members Briefs: March 29, 2023





PJM Hit With \$140K Penalty for NERC Violations



RTO Insider subscribers have access to two stories each monthly from NetZero and ERO Insider.

New FERC Stance Needed to Improve Winter Storm Readiness

Continued from page 3

bigger issue to me is market design." Does it still support reliability?

The interaction of reliability and markets has *always* been a *concern* within restructured regions. Revenue from energy, ancillary service and capacity markets is intended to incentivize enough investment that supply can reliably meet customer demand under a wide range of conditions. Emergency operations help maintain service in extreme cases. At least those are market design goals.

But as has been discovered over and over, emergency operations can undermine market incentives supporting resource adequacy. For example, an RTO might call on demand response resources to help maintain a safe level of operating reserves. If the RTO market interpreted reduction in load as falling con-

sumer demand, then prices fall at a time when resources are exceptionally scarce. The price suppressing potential of demand response programs was *uncovered* in RTOs a decade ago, but similar problems continue to *emerge*.

This sort of fine-grained market design work is essential to refining RTO systems. However, the sheer scale of some winter storms suggests attention to the bigger picture is needed too. Texas, the biggest state of the lower 48, was smaller than the winter storms that struck it in February 2011 and February 2021. Even PJM and MISO, the two largest of the RTOs in terms of generating capacity, are too small to handle the biggest winter storms alone. Winter storm readiness requires more extensive and effective interregional ties between RTOs and their neighbors.

Interregional Interties

This feature of the winter challenge leads to

the first of two recommendations for winter readiness that go beyond the scope of FERC-NERC investigations: FERC should make interregional transmission projects a high priority. In the just released *draft National Transmission Needs Study*, the U.S. Department of Energy (DOE) identified over 50 recent transmission needs studies conducted by a wide range of organizations. The draft report concludes that significant system resilience, reliability and economic benefits can be expected from expanded interregional transfer capacity.

Particularly significant, as indicated by the DOE's report, are expanded interties between the Western and Eastern interconnection in the Plains states and interties between ERCOT to both the west and east. A study by Grid Strategies and the American Council on Renewable Energy *concluded* "modest investments in interregional transmission capacity would have yielded nearly \$100 million in benefits



Stakeholder Soapbox

during the five-day event, while most areas could have saved tens of millions of dollars." A transmission line connecting ERCOT to utilities in the Southeast could have saved lives in Texas during Winter Storm Uri and saved consumers at least \$1 billion in energy bills.

Winter Storm Elliott makes clear the need for better interregional coordination beyond RTOs, both for interregional transmission planning and for everyday operations. Utilities in the Southeast region launched a trading platform in 2022 — the Southeast Energy Exchange Market (SEEM) — to help them share excess supplies. When the storm came, however, buying opportunities on SEEM disappeared. PJM and MISO both sent power into the southeast during the storm that helped limit the use of rolling outages in the area.

The Western Energy Imbalance Market (WEIM), operated by CAISO, has not yet been hit by winter storms comparable to Elliott. However, during the August 2020 heat wave, resources participating in WEIM were able to sell into CAISO and helped limit involuntary load shedding in California. The contrasting performance of markets in non-RTO regions may be reason for FERC to take another look at SEEM's market design. In all regions, RTO or non-RTO, reliability advantages of interregional transmission will remain untapped without a functional regulatory framework that lets private capital flow.

Load Responsiveness

A second general recommendation calls for a

renewed emphasis on demand-side engagement in power markets. The new reliability rules approved by FERC in February will require utilities to separate out protected circuits — hospitals, police and fire stations, and circuits providing other reliability protections - from other customers. The move will help ensure the high cost of involuntary load shedding is spread more evenly. However, technology now allows widespread participation in voluntary economic and emergency demand response programs.

PJM deployed cuts of up to 7,000 MW through voluntary load management programs during Elliott. These programs were one reason PJM could avoid involuntary load shedding when demand came in above forecast and generating units were failing at unexpectedly high rates. In addition to RTO programs, companies like Tesla, Sunnova, OhmConnect and Octopus Energy are implementing voluntary consumer response programs that can aid RTOs during periods of grid stress. It is much better for a few thousand customers to reduce use by 1 or 2% than have a few customers unwillingly cut off 100%.

FERC policy endorses active load-side participation in RTO markets, but the limited reach of existing programs, the high cost of involuntary load shedding and promise suggested by new programs mean now is a good time for more focus on customer engagement. Load shedding for bulk system reliability can be reduced by innovative, voluntary retail customer programs. As such efforts span wholesale and retail

sectors, state and FERC commissioners should establish a joint effort to reduce involuntary load shedding by better enabling voluntary customer response programs.

Conclusion

Commissioner Christie was on to something when he raised questions about institutional design in the context of winter weather failures, which is outside the scope of FERC-NERC reliability investigations. Reliability assessments are missing some of the biggest aspects of prudent reliability policy. Notably, robust interregional transmission, active demand-side participation and healthy regional market design play key roles in meeting customer needs during extreme winter weather.

Some of the necessary work is simply ensuring emergency operations do not inadvertently undermine incentives to invest in winter readiness. Better mobilizing voluntary consumer responses can substantially reduce the need for involuntary cutoffs. Another part is ensuring effective mobilization of resources on a scale large enough to match winter threats. For example, FERC or Congress could establish interregional planning requirements and remove regulatory barriers to merchant developers to kickstart a woefully underdeveloped system. Competitive, interconnected markets are a reliability imperative. ■

Michael Giberson is a senior fellow with R Street Institute's Energy & Environmental Policy Team.





FERC Gets Advice, Criticism on Environmental Justice

By Michael Brooks and Hudson Sangree

WASHINGTON – FERC received passionate. emotional and sometimes angry testimony from panelists Wednesday at its roundtable on incorporating environmental justice and equity into its infrastructure permitting (AD23-5).

Acting Chair Willie Phillips and his colleagues seldom spoke, giving speakers plenty of time to lambast the commission for, as they said, failing to adequately assess how the projects it "rubberstamps" affect environmental justice communities.

EPA defines EJ communities as "minority, low-income, tribal or indigenous populations or geographic locations ... that potentially experience disproportionate environmental harms and risks." Speakers and audience members traveled to D.C. from the Texas cities of Port Arthur and Freeport, southwest Louisiana, Southern Virginia and West Virginia, among other U.S. locations where large-scale natural gas projects have been permitted and are extremely controversial among residents.

Communities along the Gulf Coast have been particularly impacted by the boom in LNG exports, especially since Russia invaded Ukraine last year, causing an energy crisis in Europe. With seven active terminals, the U.S. is now the world's No. 1 exporter of LNG, as suppliers rush to fill the void left by European countries reducing their imports of Russian gas.

Another terminal in Port Arthur is under construction; last year FERC granted developer Sempra Energy more time — until 2028 — to complete the project. John Beard, founder and president of the Port Arthur Community Action Network, told commissioners about



John Beard, Port Arthur Community Action Network | FERC

the 120 years of environmental injustice his city has suffered.

Because of the city's high levels of benzene and sulfur in the air, it has twice the national average for not only cancer, but also heart, lung and kidney disease, Beard said. Twothirds of the city's population of 55,000 are economically disadvantaged, with 30% of those being at or below the poverty line.



From left: Matthew Tejada, EPA; Julie Nelson, Cheniere; Paul Lau, SMUD; Dana Johnson, WE ACT; Ben Jealous, Sierra Club; and Shalanda Baker, DOE. | © RTO Insider LLC

"This is what environmental injustice looks like, by the very companies, and others that share space with them, that are now coming before you with [applications for] permits to do more work; to heap more of a disproportionate burden on communities such as mine, and others along the Gulf Coast," he said.

"If you don't believe me, y'all come on down. ... And all I will ask you is this one question: Were it your community, would you be breathing that kind of air? In a matter of minutes or in hours, in one simple visit, in and out, you will begin to feel the effects of what we have felt for 120 years."

What Can FERC Do?

Among Phillips' first acts upon being named acting chair was to schedule the roundtable, saying it would help the commission further its goals of its Equity Action Plan, initiated by the previous chair, Richard Glick. (See Phillips Presides over 1st FERC Meeting as Chair.)

The plan was in response to President Biden's first executive order after taking office in 2021, 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. As an independent agency, FERC is not required to comply with

the order, but Glick opted to participate. As part of the commission's minority under former president Donald Trump, Glick was a frequent critic of FERC's decisions approving gas infrastructure without fully laving out the greenhouse gas emissions that would result from the projects.

"The Equity Action Plan is a roadmap for FERC to build a culture and program that ensures the commission is appropriately integrating environmental justice and equity issues into our decision making and day-to-day operations," Glick said in April 2022, when the plan was first released. "FERC must meet its responsibility to ensure our decisions do not unfairly impact historically marginalized communities. This plan ensures that environmental justice and equity concerns finally get the attention they deserve at the commission."

Among the elements of the plan was setting up the Office of Public Participation and creating a new position, senior counsel for environmental justice and equity, currently held by Conrad Bolston.

On Wednesday, Phillips and commissioners Allison Clements and Mark Christie solicited three sets of panelists for advice on how to fully integrate environmental justice into the

commission's decisions on infrastructure permits, including those for electric transmission. Commissioner James Danly listened to the conference by phone but did not ask any questions.

There were many different suggestions, but speakers tended to focus on broadening how the commission quantifies the cumulative impacts from projects when it conducts its environmental analyses, and creating meaningful opportunities for communities to engage with commission staff and project developers.

"It's important to endeavor to quantify the costs that this community has already been asked to endure and how much we are adding to that," Ben Jealous, executive director of the Sierra Club, said. "And in that cost, I would include



Ben Jealous, Sierra Club | FERC

how much we estimate their property values have been suppressed. How much do we estimate the financial burden on their families due to the health impacts that past decisions have made? And how do we estimate the long-term earning potential of children who grew up with lead poisoning?

"We have the math; we have centuries of it. ... We can make these algorithms. There's very smart people ... who are quite capable. So I would encourage us to get serious about the quantitative analysis and to really do our best to estimate all of the costs in dollar terms everybody can understand."

"One of the things that makes me nervous is that folks want clear expectations," said

Matthew Tejada, EPA's deputy assistant administrator for environmental justice. "And I completely value that. Businesses need clear expectations to make business decisions. But it's going to take us a minute. We're unwind-



Matthew Tejada, EPA | FERC

ing centuries of assumptions and policies here. ... It is absolutely about changing the math. And that math has evolved over time to the benefit of some and disadvantage of others."

Christie noted that each project has its own unique set of circumstances. He gave the hypothetical example of a transmission line in which the record shows one route would cost more than the other. "What do you mean by 'changing the math?'" he asked Tejada.

"In my experience, that math does not consider all of the impacts of that project," Tejada replied. "There will be externalized costs to many of them. And we're still really good at fully capturing the societal costs, the health impact costs ... things that are really hard to value; things like loss of heritage, loss of culture. ... We need to know what the full cost impact of those projects are so we can look at things like community benefit agreements. ... [In 10 years, we might say], 'Yeah, using the math we use right now, that project would have been cheaper, but when we take in the full costs, that one that engineering-wise is twice as expensive? It's actually cheaper because you don't have all these externalized costs as a result of it."

Anger over Lack of Engagement

The second panel featured many familiar complaints about the commission's process to

Acting FERC Chair Willie Phillips opens the conference as Commissioners Allison Clements and Mark Christie listen. | © RTO Insider LLC

include public participation in its decisionmaking: a lack of adequate notice of public hearings; companies sending employees to such hearings to express support, crowding out local residents; and the difficulty in accessing FERC's arcane online docket system, eLibrary.



Kari Fulton, Center for Oil and Gas Organizing I FERC

The panel was titled, "From the Front Line: Impacted Communities and their Challenges." But Kari Fulton, a climate advocate speaking on behalf of the Center for Oil and Gas Organizing, expressed outrage that only two people from

frontline communities — those that are already experiencing the effects of climate change were invited onto the panel.

"Our ability to come here every month wouldn't happen without the real, intentional buildout of the Office of Public Participation," said Fulton, who wept as she spoke. "Every single month, they support us. I don't know what happened with this roundtable."

She also noted the absences of Christie, who had left after the first panel, and Danly. "I also don't know why I'm only looking at the two Democratic commissioners for this one panel for frontline voices, with only two frontline voices. ... How can we have meaningful participation, how can we create bipartisan collaboration, when there's obviously one side that's not even listening."

One of those voices was Port Arthur's Beard. The other was Roishetta Ozane, founder and director of The Vessel Project of Louisiana, who said she was prepared to not only reject the invitation, feeling it unfair to speak on behalf of her entire



Roishetta Ozane. Vessel Project of La. FERC

state, but to protest the event over the lack of frontline community speakers.

"But even in accepting the invitation, the injustices that we faced were prevalent," she said. "We had two choices ... do it virtually or come in person. Now as frontline folks, we're tired of doing stuff virtually because we feel like you can't feel our emotion and our tone. You can't see our faces. We don't know if you're paying attention or if you're watching so easily like Commissioner Danly, who is somewhere in



the stratosphere somewhere, I guess watching online or pretending....

"But we're here because we wanted you to see us; we wanted you to feel our emotion and feel our pain."

Ozane noted that FERC did not provide compensation for travel, meals or hotels; instead, they relied on "coalitions that we have built; coalitions that should have been involved in the creation of this roundtable."

Once the session reached the question-andanswer portion, Danly chimed in, making his only comments after his opening remarks apologizing for not being able to attend in person. "I just wanted to make one quick comment here, which is just to reassure everybody I am not stratospheric; I am firmly on terra firma, and I am listening to the entire proceeding with interest."

Cumulative Impact Assessments

The third panel addressed how FERC and energy infrastructure applicants can better identify and minimize the impact of projects on environmental justice communities, including through cumulative impacts assessments.

EPA defines cumulative impacts as the "totality of exposures to combinations of chemical and non-chemical stressors and their effects on health, wellbeing and quality of life."

Al Huang, director of environmental justice at the New York University School of Law's Institute for Policy Integrity, said, "FERC needs to demonstrate a foundational commitment to environmental justice, and that means



Al Huang, NYU | FERC

identifying who EJ communities are, engaging with them, providing support for them [and] building trust. Building that foundation can yield substantive advantages such as ... identifying viable alternatives to opposed projects that can mitigate adverse impacts, and fully understanding the vulnerabilities that communities might face.

"FERC also, I believe, needs to adopt a systematic and transparent process for conducting ... cumulative impact analyses through the publishing of a guidance or policy statement," Huang said. "I think it's so important to have a policy statement because it provides a clear understanding of how FERC does its assessments in the future."

Establishing a clear policy is key, he said, be-



An audience member speaks with Commissioner Mark Christie (left) after the end of the first panel. | © RTO Insider LLC

cause the "communities that are impacted will [then] have an expectation of what the analysis and process will be and can therefore participate in a meaningful way. The policy statement should identify the methodology of how EJ communities will be identified, what data will be used, what tools will be used ... and a process for evaluating disproportionate impacts."

Panelists emphasized the need for extensive outreach to encourage community members to participate in the planning process. They also urged FERC to consider the long-term impacts on disadvantaged communities of past decisions to site utility infrastructure such as power lines, pipelines and generation facilities in those communities.



Beth Rose Middleton Manning, UC Davis | **FERC**

Beth Rose Middleton Manning, a professor of Native American studies at the University of California, Davis, said her "primary engagement with FERC is in looking at the history of hydroelectric project permitting and the contemporary processes

renewing those licenses." She has worked with tribes in Alaska, California and elsewhere.

"The unique and important thing about these [hydroelectric] licenses is that they extend 30 to 50 years, so they're very long in duration ... and much has changed socially and politically in those time periods," Middleton Manning

"What I think is very important to recognize is the lack of participation, the lack of ability to participate, the flooding of people's lands, the taking of their rights, the annihilation of culturally important species," she said. "All of those processes were set in place when the licenses were permitted 30 to 50 years ago, and they have never been remediated."

"Licenses for some of these longstanding

projects were developed under conditions of injustice," she said. "And if we don't analyze that and look very carefully at the very specific impacts, then we continue to perpetuate that injustice with decisions today."



Aram Benyamin, LADWP | FERC

Aram Benyamin, chief operating officer at the Los Angeles Department of Water and Power, said public outreach needs to be more than "just putting a public notice out there and saying, 'Please come at 5 p.m. to give your opin-

ion to us, and if you don't show up that means that you're not interested.' Some communities might have difficulties with transportation, difficulties with working multiple jobs, so that doesn't count as public outreach."

LADWP has plans to spend billions of dollars to transition to 100% clean energy, including projects for utility-scale battery storage, electric vehicle infrastructure and transmission, Benyamin said. Meaningful engagement with environmental justice communities means going to the communities and talking with residents, he said.



Carolyn Nelson, PHMSA | FERC

Carolyn Nelson, director of the Environmental Policy and Justice Division at the Department of Transportation's Pipeline and Hazardous Materials Safety Administration, also said it was important for those investigating cumulative impacts

to understand lower-income communities and how they work.

"We have to go to the communities to understand their needs, but to also understand their histories," Nelson said.

Even relatively small takings of homes and land to build infrastructure can have a large impact,

"We may move only two houses out of 10," she said. But if the residents of those houses are "babysitting for the rest of us ... that's a huge impact to the community. You don't know that until you go to these communities and really talk to them and understand how they operate, how their livelihoods are. You cannot do a cumulative effects analysis without looking at the past and it being a bridge to the present."



OSW Developers Look to Europe on Meshed HVDC Tx

Experts at International Partnering Forum Extol Technology's Virtues

By James Downing

BALTIMORE - The first U.S. wind farms are being connected to the grid with one-off radial transmission lines, but as the industry grows it will have to follow Europe's recent example and build out meshed high voltage, direct current (HVDC) systems, experts told the Business Network for Offshore Wind's International Partnering Forum last week.

"Why are we thinking about doing this?" asked Judy Chang, a fellow at Harvard's Kennedy School. "Overall savings, reliability, resilience, maximizing the integration of renewables while strengthening the grid through offshore systems."

The Elia Group, which runs the grid in Belgium and eastern Germany, last year created a new subsidiary called WindGrid to pursue such

offshore transmission opportunities.

Having an independent set of eyes looking at the infrastructure needed to connect offshore wind farms has worked well in Europe and now Elia's new unit is starting to bring that business to the United States market, said WindGrid CEO Markus Laukamp. One of the big challenges in the U.S. is that transmission planning and generation develop at the same time in parallel tracks. That makes it hard to build out the transmission system, which takes longer to complete, he said.

"I think one of the challenges that we see for the U.S. is really to get these things in order so that maybe not next year — maybe five to 10 years — you can do things in the way that makes the most sense for the ratepayer and that is optimizing a coordinated grid," Laukamp New York is hoping to start planning a meshed offshore grid in tandem with its upcoming wind procurements, said Georges Sassine, vice president of the New York State Energy Research & Development Authority.

Sassine said he has been urging NYISO to run a public policy transmission planning process under Order 1000 to help bring renewable power into New York City both from on and offshore resources. The planning process for transmission should happen at the same time New York is working to procure the offshore wind that needs to be connected to the grid, Sassine said.

WindGrid is building an artificial energy island in the North Sea that will initially help connect wind farms to the Elia Group's grid in Belgium. It has planned expansions to connect to Denmark and the United Kingdom, said



A panel discussion at IPF (from left): Judy Chang of the Kennedy School, Georges Sassine of NYSERDA, Carrie Cullen Hitt of Equinor, Markus Laukamp of WindGrid, and Neil Kirby of GE | © RTO Insider LLC



WindGrid's Thomas Kobinger. His firm is also building a similar project in the Baltic Sea to connect Denmark and Germany with multiple offshore farms via equipment on the Danish island of Bornholm. Such major projects have benefits for the onshore grids they are connected to, Kobinger said.

"We can reduce bottlenecks in the AC system. We can even reduce losses on the AC system. So, there's a lot of benefits from a system perspective," said Kobinger.

One idea is to connect wind to shore through shared corridors where multiple wind farms would plug into the same place on the grid onshore. Connecting corridors together in a mesh means that power could flow to multiple cities from one wind farm, said James Ware, senior electrical project manager for Ørsted. Meshed networks can cut fossil generation, avoid congestion, offer more flexibility to the system and can facilitate transfers during emergency situations, Ware said.

"But the question still remains ... how far does the benefit go?" Ware said. "And who pays for it? And what is that cost?"

While figuring out where the costs and benefits of the HVDC links flow is tricky, they are obvious enough that many in the United States are already thinking of using them, including Public Service Enterprise Group, said its Offshore Wind Development Manager Rafael Wilches.

The states' and federal government's increased offshore wind goals require a "serious" look at multi-terminal HVDC systems, Wilches said.

Getting there will require bringing HVDC vendors, transmission owners, the ISO/RTOs and



From left: Cornelis Plet of DNV, James Ware of Ørsted, Peter Sandeberg of Hitatchi Energy, Rafael Wilches of PSEG, Thomas Kobinger of WindGrid and Hannah Taylor of DOE | © RTO Insider LLC

other stakeholders together to plan out such systems to make sure that different pieces can operate with each other. Funding from the federal and state governments would also help move the ball forward, Wilches added.

The U.S. has a long-term goal of getting 110 GW of offshore wind by 2050, which represents a lot of power that needs to get to land, said Hannah Taylor of the Department of Energy's Wind Energy Technology Office.

"We need to do that ... cost effectively, efficiently, equitably and responsibly," Taylor said. "And we view multi-terminal systems and HVDC technologies as a pathway to get to that solution."

DOE has multiple funding opportunities for research and development into HVDC technologies, and its Loan Program Office is available for the next step of helping new technologies reach commercialization, she said. DOE can also convene stakeholders to gather input on how best to interconnect growing offshore

The department's National Renewable Energy Laboratory is working on a project to help understand the protection and HVDC breaker needs for such off-shore circuits, said Taylor.

"That will be a key technology in realizing multi-terminal DC in the U.S.," she said. ■









US Offshore Wind Industry Set to Take Off

Business Network for Offshore Wind Conference Highlights Major Growth

By James Downing

BALTIMORE – With major new projects coming online starting this year, the offshore wind industry is turning to longer-term goals of rolling out more than 100 GW of capacity and setting up the associated supply chains, speakers said Wednesday at the Business Network for Offshore Wind's International Partnering Forum (IPF).

The conference marked the 10th anniversary for BNOW, as the conference has grown from occupying a small conference room to filling the Baltimore Convention Center, CEO Liz Burdock said.

"Together, we have grown the U.S. offshore wind industry," Burdock said. "We've taken it from legislation to demonstration and this year to commercialization."

The federal Inflation Reduction Act passed last year includes direct subsidies for offshore wind, but also seeks to grow new markets for OSW, such as hydrogen. Passage of the law makes it impossible to accurately forecast the industry's eventual size, Burdock said, but the Biden administration has a goal of 110 GW by 2050, and states are starting to step up their own goals, which amount to about 77 GW.

Maryland Gov. Wes Moore (D) announced a new, more aggressive target for the technology than his predecessor, who had set a goal of 1.6 GW.

"Once the Bureau of Ocean Energy Management approves the new lease areas for our



Maryland Gov. Wes Moore (D) | © RTO Insider LLC

state, Maryland will aim to produce 8.5 GW of power through offshore wind," Moore said. "And let's be clear, that's enough energy to power nearly 3 million homes."

Other states either have raised — or are planning to raise — their targets for offshore wind, with New Jersey last year announcing a new 11-GW target, and New York considering raising its 9-GW goal to 16 to 19 GW.

Moore hopes that expanding Maryland's goal will attract new industrial jobs to Baltimore, which used to be a major producer of steel.

"The steel we made in Baltimore helped win two world wars," Moore said. "The steel we

made in Baltimore helped stand up the tallest buildings in the world. The steel we made both helped create tens of thousands of jobs and millions of dollars of wealth."

Demand dropped off in the later 20th century and the mills shut down, but now offshore developer US Wind is planning to lease 100 acres where an old steel mill stood as it builds out the resources needed for its planned offshore wind farms. Other firms are setting up shop in the state to further the industry as well.

"Maryland steel led the American economy in the 20th century," Moore said. "I want Maryland wind to lead the American economy in the 21st century."

Moore said he ordered the Maryland Energy Administration to focus on delivering grants to companies that make up key links along the offshore wind supply chain. Increasing the high-paying jobs associated with the industry can change lives and lead to generational prosperity, he said.

"That's why I am deeply serious when I say that Maryland will lead in offshore wind," Moore said. "I mean that. I am deeply serious. When I say that we have the real estate, the brainpower, the assets and the agenda to get it done, I mean that."

Job Opportunity

President Biden in 2021 set a goal of building 30 GW of offshore wind by 2030, which many at the time thought was ambitious, White House National Climate Adviser Ali Zaidi said. But that target can be reached,



White House National Climate Adviser Ali Zaidi | © RTO Insider LLC

and the industry could even go well beyond it, he said.

"And the reason is because this is not just an opportunity for electricity," Zaidi said. "It's an opportunity to create good-paying jobs across manufacturing, and shipbuilding and port operations – construction jobs, operations jobs and more as we build a brighter, more sustainable and fairer future for all of us all across the United States."

Offshore wind investments tripled last year, totaling \$10 billion, with 46 states having some piece of the supply chain for offshore wind, he added.

"Through the Inflation Reduction Act, the president has delivered game-changing support for building clean energy components here in the United States of America," Zaidi said. "We're working to swiftly implement the manufacturing tax credit to support U.S. production of offshore wind components, like blades and nacelles and towers and foundations."

New York's 9-GW target for offshore wind is just the start, said New York State Energy Research and Development Authority CEO Doreen Harris.

"New York certainly has some of the most aggressive and ambitious climate and clean energy objectives in the nation, and ... talk about something we need more of: we need more offshore wind," she added.

While New York and other states want to attract the same kind of jobs that Gov. Moore does, Harris said states could also benefit from working together to develop regional hubs for with their neighbors.

Setting ambitious, long-term goals is a big help for the industry because those, in turn, will attract the kind of supply chain investments needed to produce jobs and create the wind farms themselves, US Wind CEO Jeff Grybowski said.

"We know that we won't be able to do it on our own here in the U.S. The supply chain is paying attention — a lot of attention — to U.S. projects," he said. "The state policy goals are critically important to that because this industry needs the long-term vision."

The policy support from states and the federal government has coalesced to the point where real investments are being made by global suppliers feeding domestic developers, he added.

The domestic industry will have to initially rely on foreign supply chains because the expertise in offshore wind is in Europe, although that will have to change over time.

"The global supply chain is not big enough to service the rest of the world, never mind throwing in the U.S. requirements as well," said Tony Appleton, director of offshore wind for engineering firm Burns & McDonnell. "So, it's very important the U.S. develops its own supply chain."

On top of that, Americans will eventually get "pretty annoyed" about supporting European jobs in the supply chain through their electric bills, so developing domestic capacity will be more politically sustainable, he added.

Industry Says DOE Proposal Would Exacerbate Transformer Shortages

By James Downing

The U.S. Department of Energy received pushback this week on its proposal to increase efficiency standards for distribution transformers, with industry comments arguing that the new rule would create additional problems for already shaky supply chains.

"If this proposal is implemented as currently contemplated, it would have serious consequences to NRECA members' ability to provide affordable, reliable electric service to millions of Americans," the National Rural Electric Cooperative Association said in comments filed Monday. "We urge the agency to reconsider the [proposed rules] as currently drafted and to issue a final rule that maintains the current standard."

DOE estimated that its new standards would save utilities between \$260 million and \$5.3 billion between 2027 and 2056, which is

based on savings in operating costs minus the increased product cost for the new transformers. The department has the authority to periodically update standards for transformers, and other equipment, as long as the new requirements are economically justified and technically feasible.

But NRECA said the proposal rests on flawed assumptions and ignores the challenges facing the distribution transformer market that are impacting all electric utilities, not just co-ops. DOE could focus on incentivizing amorphous steel core transformers, the group said.

Amorphous steel is a type of electrical steel that is produced by rapidly cooling molten alloy so that crystals do not form, which produces a thinner product than the more standard grain-oriented electrical steel (GOES). Electrical steel is a special iron alloy that includes small percentages of silicon to enhance its magnetic permeability.

"DOE's top priority should be finding ways to support domestic distribution transformer manufacturers to increase production immediately and to sustain that output over the long term as electrification of the U.S. economy grows," NRECA said. The current distribution transformer manufacturing base is struggling to meet demand, and DOE's proposal would make that worse, it said.

"All segments of the utility sector have been sounding the alarm for more than a year about the supply chain constraints around multiple types of equipment they require to keep the lights on, with distribution transformers being the most acute challenge," NRECA said. "It now takes more than a year on average for utilities to receive distribution transformers, compared with 60 days just a couple of years ago. Some domestic transformer manufacturers have stopped taking orders altogether."

That backlog is only expected to increase absent government support as utilities invest in grid resilience and modernization projects, while federal and state policies drive more electrification, it added.

One of the potential fixes for the backlog is to signal to manufacturers that GOES will be increasingly needed going forward, and DOE's standard would work directly against that, NRECA said. Manufacturers would have to change their production systems and where they source input materials, taking attention away from increasing supply to deal with the backlogs.

The U.S. Chamber of Commerce also cautioned DOE in comments last week from moving ahead with the standard because of supply chain concerns. GOES represents 95% of new distribution transformer production, so amorphous steel production would need to expand greatly to meet the new standards.

"While there are only singular domestic sources for each of GOES and amorphous steel, GOES is at least already produced in levels that support the majority of domestic transformer production," the chamber said. "Thus, shifting all distribution transformer production to rely exclusively on amorphous steel will require a dramatic increase in capacity for such steel, which will take time and will further constrain already limited transformer supplies."

The only places amorphous steel can be imported from are China and Japan, which would only increase the industry's reliance on components from China, the chamber said.



Shutterstock



Grid-enhancing Technologies Can Speed Up Queues, Experts Say

By James Downing

Grid-enhancing technologies (GETs) can help open space on the electric grid to interconnect additional renewables more quickly than building new transmission, industry experts said during a webinar Monday.

The American Council on Renewable Energy and the WATT Coalition hosted the webinar, which was moderated by *RTO Insider* Editorin-Chief Rich Heidorn. Jr.

Dynamic line ratings, advanced power controls and topology optimization software can all help wring the maximum performance of transmission lines, reducing both congestion and renewable curtailments, said WATT Coalition Executive Director Julia Selker.

Transmission capacity is currently based on a line's static rating, which assumes a hot day with low wind speed. But dynamic line ratings (DLRs) take into consideration actual conditions, which results in higher line capacity about 85% of the time. In winter, dynamic line ratings add from 9% to 33% more capacity, while summer capacities can increase by 26% to 36%.

DLRs can also inform operators when a line is overstressed and they should reduce power below its static rating, Selker said.

FERC Order 881, issued in 2021, requires grid operators to adopt use of ambient adjusted line ratings, which factor in temperatures and time of day.

"But, really, windspeed and other factors are a big deal," Selker said. "And one study of DLR versus ambient adjusted ratings in Texas showed that DLR had twice the value for climate and cost savings."

Advanced power flow technologies are added to substations and give operators the ability to send power over specific transmission lines, thus minimizing congestion and curtailments, she added.

Topology optimization is software that examines where generation and load are on the grid at each moment and develops the best solution to minimize congestion, said Selker.

Transmission congestion costs reached \$13 billion in 2021, based on reports from the nation's grid operators.

"We think grid-enhancing technologies can reduce that congestion impact significantly, maybe 30% or so," Selker said.

High costs for required transmission upgrades often force generation developers to withdraw their proposal altogether as they become uneconomic, said Arash Ghodsian, Invenergy vice president of transmission and policy.

"The queue sizes are significantly growing and, you know, there's the optics of having speculative projects in the queue," he said. "While that may be true, we've also seen many areas in the queue processes across the country where overloads could have been addressed by implementing grid-enhancing technology applications to reduce congestion and improve reliability."

Invenergy has seen instances when generation projects lead to a 3% overload of a transmission line, requiring developers to pay as much as \$50 million to build out new lines, while

DLRs or other GETs would have fixed the issue entirely at a fraction of the cost, said Ghodsian.

While centrally planned lines can take years to build, GETs can be added in the meantime so that renewable development does not need to come to a halt waiting for new transmission to be built, he said.

Cheap, Quick

GETs can help ensure development of the kind of strong grid needed to decarbonize the power industry affordably and reliably, Minnesota Public Utilities Commissioner Matt Schuerger said.

"Planning is underway for new transmission, but clearly development, permitting, and construction takes time," Schuerger said.

Ratepayers have paid for transmission lines, which should be used to their fullest extent even though significant new transmission must be built. he added.

EDF Renewables Senior Director of Transmission Policy Temujin Roach said the main thing that GETs do is to cut congestion, and while no grid will ever be gold-plated enough to eliminate congestion, reducing it provides major benefits for customers.

MISO has experienced significant congestion, which is expected to continue to grow. High natural gas prices have contributed to the recent rise in congestion, but even if those costs drop, GETs would still benefit consumers, Roach said. But proposals to use the new technologies have met with skepticism from utility employees who want to operate their systems more conservatively.

"We get a lot of pushback from transmission owners that don't understand it and see it as a deconstruction of the system and get uncomfortable and concerned about that," Roach said.

While GETs represent promising technologies that have been discussed for years, they have only seen limited use in this country, which varies significantly by region.

"The WATT Coalition sees an incentive misalignment as one of the primary issues," said Selker. "Transmission owners today — their business model is about return on equity. It's about building big transmission projects and getting a return on those large expenditures, and GETS just don't really fit in that model. They're cheap, they're quick, they don't make a substantial difference on that balance sheet."



| Shutterstock

CAISO/West News



Calif. Governor Appoints New CAISO Board Member

By Hudson Sangree

California Gov. Gavin Newsom on Thursday appointed Joseph Eto, a staff scientist at the Lawrence Berkelev National Laboratory, to fill a vacant seat on the CAISO Board of Gover-

Eto is a senior adviser to the Electricity Markets and Policy Department at Lawrence Berkeley, where he has worked since 1982, according to his online biography.

"Joe has authored over 250 publications on electricity reliability, transmission planning and operations, demand response, distributed generation, utility integrated resource planning and demand-side management, and building energy-efficiency technologies," his biography on the lab's website says.

"Between 1999 and 2020 Joe led the program office for the Consortium for Electric Reliability Technology Solutions, which was a national laboratory-university-industry R&D consortium founded by Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory, Pacific Northwest National Laboratory, Sandia National Laboratories, the National Science Foundation's Power System Engineering Research Center, and the Electric Power Group that conducted research and analysis on



Joseph Eto | Lawrence Berkeley National Laboratory

electricity reliability and transmission technologies," it says.

He holds a bachelor's degree in the philosophy of science and a master's degree in energy and resources from the University of California, Berkeley, and is a registered mechanical engineer.

Eto and CAISO did not respond to requests for comment in time for this story.

Eto fills a vacancy created when CAISO Governor Ashutosh Bhagwat opted not to seek another term after 12 years of service. Bhagwat chaired the Board of Governors last year; his most recent term ended Dec. 31.

"It has been a truly fantastic 12-year run, like nothing else I've had in my life," Bhagwat said during the board's last meeting of the year on Dec 15. "I've enjoyed it thoroughly."

The state Senate must confirm Eto, who will earn \$40,000 per year as a member of the Board of Governors in addition to per diem meeting preparation and attendance costs. His term will end Dec. 31, 2025, according to CAISO's board roster. ■



CAISO headquarters in Folsom, Calif. | © RTO Insider LLC

West news from our other channels



Washington Confirms \$300M Take for 1st Cap-and-Trade Auction

NetZero Insider



Groundbreaking California Clean Truck Rules Win EPA Waiver



CAISO/West News



Will Income-tiered Fixed Costs Help California Decarbonize?

Panelists at RE+ Conference Weigh Rate Design to Keep Utility Bills in Check

By Hudson Sangree

SACRAMENTO, Calif. - Careful utility rate design could lessen the impact on ratepayers of California's expensive efforts to reach 100% clean energy and harden the grid against wildfires, panelists said at last week's RE+ Northern California conference, sponsored by the Solar Energy Industries Association (SEIA) and Smart Electric Power Alliance (SEPA).

The panel addressed the state's steeply increasing utility bills, which are projected to keep rising in coming years. Much of the increases are to pay for the costs of new generation and distribution and transmission system upgrades, the California Public Utilities Commission said in its 2022 annual report to the governor and legislature on actions to limit rate increases.

"Increasingly, there's a big chunk of the utility bill that involves costs that are unaffected by usage, unaffected by customer demand," said Matthew Freedman, staff attorney at ratepayer watchdog The Utility Reform Network (TURN). "When utilities spend a lot of money on wildfire mitigation, whether you reduce your usage or increase your usage in a given area has no effect on the wildfire mitigation costs, on the wildfire liability insurance costs, on a lot of the grid hardening that's being done - and of course [on] a lot of the public purpose programs and other policy initiatives where costs are included in rates."

TURN backed last year's Assembly Bill 205, which included a requirement that the CPUC establish income-graduated fixed charges "so that a low-income ratepayer ... would realize a lower average monthly bill without making any changes in usage." The CPUC has asked parties to file opening testimony in its proceedings to implement the measure by March 7.

"We think it makes sense to do a fixed charge as long as you can differentiate it [by income], and to think about how that fits with other rate design strategies that will allow us to promote electrification in a rational manner," Freedman said.

Julia Pyper, vice president of public affairs for GoodLeap, a financing company for rooftop solar and other green home improvements, said her firm also supported AB 205's incometiered fixed charges but has concerns about how the CPUC will implement them. Lowering electric bills for some customers could dis-



A panel on rate design in California included (from left) Matthew Freedman, TURN; Jeanne Armstrong, SEIA; Michael Backstrom, Southern California Edison; and Julia Pyper, GoodLeap. | © RTO Insider LLC

suade them from investing in energy upgrades, she said.

"Are we talking about 80 bucks a month? Are we talking \$10 a month?" Pyper asked. "We're all kind of in agreement that this was a good direction to go in, but so much will come down ... to where that charge lands. Because if you take away all incentives for the customer to take action, then we can't engage them in decarbonization efforts."

'Critical Enabler'

Jeanne Armstrong, senior regulatory counsel with SEIA, said income-tiered fixed charges "could ease the pressure on low-income customers in the short term" but finding ways to reduce utility costs remains vital.

"In the long term, if you don't actually bring down the costs, you're going to reach a crisis point again," Armstrong said.

"I'm going to give an example," she said. "Back in the early 2000s, when California had an energy crisis and ... electricity bills [went] through the roof," the legislature passed emergency legislation that directed the CPUC to "not raise rates in the first two tiers of what then was a five-tier utility rate structure. So, all the revenue increases went into tiers three through five, and lo and behold, those skyrock-

The CPUC and legislature eventually revamped the rate structure.

"They brought five tiers down to two ... and things were good again for a while, and we went on our merry way," she said. But "because costs weren't reined in, we're once again having an affordability crisis. So, I think in the short term, this income-tiered fixed charge can help, but if we don't do something on the cost in the long term, it won't."

Michael Backstrom, vice president of regulatory affairs for Southern California Edison, responded, "I'll respectfully disagree."

"I think that it is both a short-term and a longterm benefit to have a fixed-charge structure in electricity bills because of where we want to go from a decarbonization standpoint," Backstrom said. "Perpetuating the system we have today, where all costs just get loaded into a per-kilowatt-hour charge, does not reflect the idea that in the long run, to achieve our decarbonization goals, we are going to want the customer to be more interested," in investing in transportation and building decarbonization. "So having a sustainable rate structure [that includes] a fixed charge is going to be a pretty critical enabler."

Reducing bills by 10 to 20% for low-income customers will "give those same customers the opportunity to adopt electrification technologies that are going to be very helpful to them, and that are better for the local region and reducing air pollution," he said. "Does it solve the affordability issue? No. But it will be a big, big, big benefit in getting us into the right area."

ERCOT News



ERCOT Looking to ORDC Changes, Ancillary Services as Bridge to PCM

Walter Reid Remembered

By Tom Kleckner

ERCOT stakeholders on Friday coalesced around changes to the operating reserve demand curve (ORDC) as their preference to supplement staff's proposed bridge mechanism to the new performance credit mechanism (PCM).

During a workshop with staff, the Technical Advisory Committee (TAC) agreed to pursue changes to the ORDC and procuring additional ancillary services as two concepts that could help retain existing assets and build new dispatchable generation until the PCM can be fully implemented — assuming the PCM passes muster with Texas lawmakers.

Committee members quickly eliminated options that included capacity contracts, a manually settled PCM, and a backstop reliability service suggested by Texas regulators that would set aside capacity for dispatch during scarcity conditions.

"These are largely alternative ideas or alternative information that we want to provide to the [ERCOT] board ... we're trying to get to a point where we're providing incentives for people to come into the market to provide dispatchable generation," TAC Chair Clif Lange said, referencing legislators' requests for more thermal generation in the ERCOT market. "I'm looking at it in the context of [2021 legislation in] which the intent was to try to provide additional revenues to dispatchable generation to come into the market."

ERCOT's ORDC values the wholesale market's operating reserves on their scarcity, reflecting that value in energy prices. The curve has been modified several times since it became part of the market in 2014. The value of lost load, which is set equal to the system-wide offer cap, was changed from \$9,000/MWh down to the \$2,000/MWh low-system-wide offer cap after the 2021 winter storm, then back up to \$5,000/MWh in January 2022. The minimum contingency level was also increased in 2022 from 2,000 MW to 3,000 MW.

The ISO's staff also has proposed changes to the demand curve by targeting increases in operating reserve ranges that are above emergency levels, while avoiding ORDC increases at times of substantial operating reserve surpluses.

As directed by the Public Utility Commission,



Reliant Energy's Bill Barnes comments on bridging options to the performance credit mechanism during recent TAC meeting. | ERCOT

staff's goal is improving market signals so they help retain existing assets, add new dispatchable generation, and reduce reliability unit commitments (RUCs) for system capacity. That would fit within the PUC's requirement that bridging options make minimal system changes and be implemented with a year, fit within the existing market framework, and continue to be hedged by market participants through their energy positions.

Kenan Ögelman, vice president of commercial operations, said staff studied adding multi step floors within the same range of operating reserves, as suggested by stakeholders. Analyzing 2020, a mild-pricing year, and 2022, a higher pricing year, they found that setting floors of 6,500 MW at \$20/MWh and 7,000 MW at \$10/MWh would have increased revenues by about \$500 million. That would align with the additional average revenue the PCM would provide, Ögelman told TAC.

He said the back-cast analysis for 2022 confirms that the multi step floors would direct the revenues largely to dispatchable resources. Setting a floor that first kicks in at the 6,500-7,000 MW range provides a self-commitment incentive better aligned with ERCOT's conservative operations posture, he said.

"The last ORDC change made no distinction between online and offline reserves," Ögelman said. "This is focused on online [reserves] and at the kind of scarcity bandwidth where we tend to take RUC actions. The difference really is the focus on online resources only getting the reward. So, if it brings more resources online ... that would reduce the need for us to RUC."

Stakeholders are still considering the additional procurement of ancillary services as an option, though it has received less support than ORDC changes. Dave Maggio, ERCOT's

director of market design and analytics, said increasing ancillary services is not one of staff's "preferred approaches."

"It's much less clear to us how that helps to bridge the gap and ... meet some of the criteria that we've listed. I don't think it has any of the same benefits that we've been talking about," he said. "It's also not as clear ... that we would have this ... same targeted change in revenues as we were seeing with [our recommendation]. It doesn't seem to do any of those as well as the preferred solution."

Staff and stakeholders will share their recommendations with the board's Reliability and Markets Committee as part of the directors' April 17-18 meeting. TAC will meet virtually April 10 to agree on its final pitch to the board and, as Reliant Energy's Bill Barnes suggested, to prevent a TAC meeting from breaking out during the R&M meeting.

"There are a lot of good thoughts behind some of these other options and concerns that I think would be valuable for the R&M to hear," he said.

The PUC in January recommended to the state legislature that ERCOT adopt the PCM as a reliability addition to its energy-only market to address resource adequacy and operational flexibility challenges. The PCM would issue incentive payments to dispatchable — and primarily thermal — generation that meets performance criteria during the tightest grid periods.

The legislature has pushed back on the PCM and filed a package of bills that includes building 10 GW of gas-fired generation to sit on the sidelines until load shed is imminent. (See Texas Senate Lays out Changes to ERCOT Market.)



Walter Reid | Advanced Power Alliance

Members Honor Walter Reid

Stakeholders and staff paused the workshop to share their memories of the Advanced Power Alliance's Walter Reid, who died March 24.

A technical and regulatory consultant for APA after a career with the Lower Colorado River Authority, Reid and his booming voice helped set the tone for ERCOT's stakeholder process.

"Walter has his handprints all over [the stakeholder process] and was an amazing leader in getting us where we are today," Ögelman said. "He coached me, and he always listened to what I had to say, so I truly appreciate having him in my life and getting to work with him."

Barnes noted stakeholders don't have a textbook to guide their work. Instead, they rely on those who have come before to share their knowledge.

"That's how we grow. That's how we improve on this market design, and Walter was always

generous with his knowledge," Barnes said. "I think back to the 2008 days when there were a lot of technical issues regarding the integration of wind. He was the leader in getting those changes adopted and was hugely successful in the amount of wind production that has been developed in the state and allowing ERCOT to operate it reliably. We owe it to folks like Walter for the success that we have today."

"Texas and ERCOT are better places and better markets thanks to his efforts. Renewable energy owes much of its success in this state to the work of Walter Reid." the APA said on its website.

Credit Group Members Approved

The TAC also confirmed 11 members for its new Credit Finance Sub Group (CFSG), which has been tasked to help ensure that procedures are in place to mitigate credit risk fairly for all market participants.

With the group's first members confirmed, it can now vote on its leadership. Austin Energy's Brenden Sager and Reliant Energy's Loretto Martin are running unopposed for the group's chair and vice chair positions.

The CFSG, which is still accepting membership applications, is scheduled to hold its first meeting April 21.

The TAC approved the group's charter during its March meeting. The CFSG replaces the Credit Working Group (CWG), which had reported to the ERCOT board's Finance and Audit Committee since 2004. TAC agreed to take on credit oversight responsibilities and consolidated the CWG with its Wholesale Market Subcommittee's Market Credit Working Group and disband the latter. (See "TAC Shares Changes with R&M," ERCOT Board of Directors Briefs: Oct. 18, 2022.) ■







Overheard at ISO-NE Consumer Liaison Group Meeting

By Sam Mintz

PORTSMOUTH, N.H. — The first meeting of a new era for ISO-NE's Consumer Liaison Group featured few fireworks but plenty of substantive discussion of the challenges facing New England's energy transition.

The CLG, a forum for connecting the RTO with the public, met Thursday, its first gathering since a December vote in which six climate activists were elected to its coordinating committee. (See Climate Activists Take Over Small Piece of ISO-NE.)

"Like the Red Sox, the Consumer Liaison Group is experiencing a reset," said Donald Kreis, a coordinating committee member and the state of New Hampshire's Consumer Advocate. "Our record is no wins and no losses. It's a new day at the CLG, and there's reason to be optimistic about making consumers have a stronger and better liaison to our grid operator."

Dan Dolan, president of the New England Power Generators Association, laid out what he sees as the stakes for decarbonization in the region.

"The responsibility we have in New England ... is to create a demonstration to other parts of the country and the world that you can move forward on a decarbonized future in a way that promotes economic prosperity, [that it] can be done in a resilient, reliable fashion and maintains affordability for the consumers," Dolan said.

A running theme of the meeting was identifying areas of agreement between ISO-NE, which has been criticized for moving too slowly on greening the region's energy mix, and those outside who have been pushing it for years.

"The ISO recognizes that climate change is happening right now, and that we need to reduce carbon emissions to solve this problem," said Susan Muller, a senior energy analyst at the Union of Concerned Scientists, who spoke on a panel during the meeting.

"It's really important common ground, and I know there's a struggle right now to find common ground," she said.

But where Muller argued the grid operator has not caught up to public sentiment is on the time constraints of climate change, which she said call for rapid action.

"We're concerned that without the time constraints being factored in, we'll perpetuate the situation, and we don't have a lot of time." she said.

Anne George, ISO-NE's vice president of external affairs, represented the organization at the meeting, as she's done many times before. She gave a rundown of key issues facing the RTO, including its recently completed Forward Capacity Auction and two capacity deficiency events from the past winter that have raised questions about New England's grid in cold weather.

Bob Ethier, a vice president for system plan-

ning at ISO-NE, also presented during the event.

"The big thing that I want to convey today is what we are doing to facilitate the transition to clean energy," he said.

Among those efforts: "a heck of a lot of studies," as well as providing technical expertise, working on transmission development and supporting interconnection, Ethier said.

Several speakers pointed to siting as another major challenge for the clean energy transition.

New Hampshire State Rep. Michael Harrington, a Republican and self-described "climate realist," said that New Englanders have shown they'll fight tooth and nail to prevent projects from being built in their backyards, pointing to the slow progress of the Northern Pass transmission line as one example.

"What's the message that New England's sending to the rest of the business world out there? Don't come here and build anything because we don't want anything built," he said.

New Hampshire itself is in a unique position in the region, as multiple panelists noted. Its progress on renewable energy has been slower than in surrounding states, even as the price of that energy has plummeted.

"While right now we might be sort of free riding off the policies of the states around us, pretty soon it means we're going to be missing the boat," said Sam Evans-Brown, executive director of Clean Energy New Hampshire.



Panelists speak at the ISO-NE CLG meeting last week. From left: Robert Ethier, ISO-NE; Dan Dolan, New England Power Generators Association; Susan Muller, Union of Concerned Scientists; Sam Evans-Brown, Clean Energy New Hampshire; New Hampshire Rep. Michael Harrington (R); and New Hampshire Consumer Advocate Donald Kreis. | ISO-NE

MISO News



MISO Board of Directors Briefs

Waivers May be Necessary to Retain **Directors Past Term Limits**

NEW ORLEANS — Todd Raba, chair of MISO's Board of Directors, said last week that it may pursue special term waivers next year to enable term-limited members to continue providing guidance and avoiding their loss of institutional knowledge.

Raba said during the board's March 23 meeting that more than half of the independent directors will reach term limits next year and could begin leaving the board.

Director Phyllis Currie said the board needs to be "intentional" about its succession planning to avoid gaps in expertise. She said she would like the board to conduct an annual, nonpublic discussion about the talents it needs.

MISO's board consists of nine independent directors and the RTO's CEO. The independent directors are limited to three three-year terms, but its bylaws allow some board members to serve an additional term under certain circumstances.

Currie and fellow directors Mark Johnson and Nancy Lange were re-elected to their final terms that began in 2022. They will hit their three-term limit at the end of 2024.

Raba, H.B. "Trip" Doggett and Barbara Krumsiek were also re-elected late last year. Their

final terms conclude at the end of 2025.

Director Theresa Wise will be up for her third and final election at the end of the year for a term that runs into 2026. Director Robert Lurie is currently finishing out his first term and will be up for his second election. Lurie ioined the board in 2020 to serve the one-year remainder of a former director's term, which does not count against his three-term limit. Jody Davids joined the board at the beginning of 2021.

MISO last used a waiver for board members in 2017, when it retained Baljit "Bal" Dail for an additional three-year term. Dail served 12 years on the board. (See MISO Board of Director Briefs: Dec. 10, 2020.)

Board Approves MISO-PJM Project

The board unanimously approved a targeted market efficiency project with PJM.

The \$200,000 project will upgrade a wavetrap on the Powerton-Towerline 138-kV tie line in Ameren Illinois and ComEd territory. It is expected to produce more than \$7 million in avoided congestion benefits over its first four years of operation. (See MISO, PJM Staffs Endorse 1 TMEP Joint Project.)

Project costs will be split 72% to PJM and 28% to MISO. Ameren Illinois' transmission pricing zone will cover all of MISO's \$57,000 tab.

The PJM board has already authorized the project.

Budget Reflects Hiring Uptick

MISO CFO Melissa Brown said the grid operator is poised to exceed this year's budget for new hires.

"That's really great for MISO that we're getting back to a pre-COVID level of employment," she told board members.

Staff expects to spend about \$2 million more than its allotted \$310.5 million base expense budget.

Given recent bank collapses, staff reassured the board and stakeholders that MISO's financial relationships are with large, secure institutions and said they don't foresee any risk.

Membership Applications Approved

Directors unanimously approved two membership applications, allowing City Water and Light of Jonesboro, Ark., to join as a transmission owner and Invenergy Transmission as a non-transmission owning member.

Jonesboro was already a market participant but sought TO status after acquiring transmission facilities. Invenergy Transmission will become a competitive transmission developer within MISO.

— Amanda Durish Cook



The MISO Board of Directors hears from FERC Commissioner James Danly at its March meeting in New Orleans. | © RTO Insider LLC

MISO News



Vistra, EPSA Protest MISO's Show-cause Order

By Amanda Durish Cook

Two competitive electricity organizations have protested FERC's recent show-cause order to MISO that will ultimately downsize resources' capacity accreditation values.

Vistra and the Electric Power Supply Association (EPSA), a trade group representing competitive suppliers, said the commission should terminate its proceeding and immediately issue an order preventing MISO from updating the unforced capacity to intermediate seasonal accredited capacity ratio and lowering capacity credits.

They said a reworked ratio would upend load-serving entities' supply plans that have been based on the capacity values MISO first published.

The grid operator is recalculating the ratio it uses to gauge supply in the capacity auction after FERC issued the show-cause order. It has delayed the first seasonal planning resource auction (PRA) until it can complete the calculation and notify market participants of any lowered accredited capacity values. (See FERC Order May Delay MISO's 1st Seasonal Capacity Auction and Danly Addresses Capacity Auction Snafu at MISO Board Meeting.)

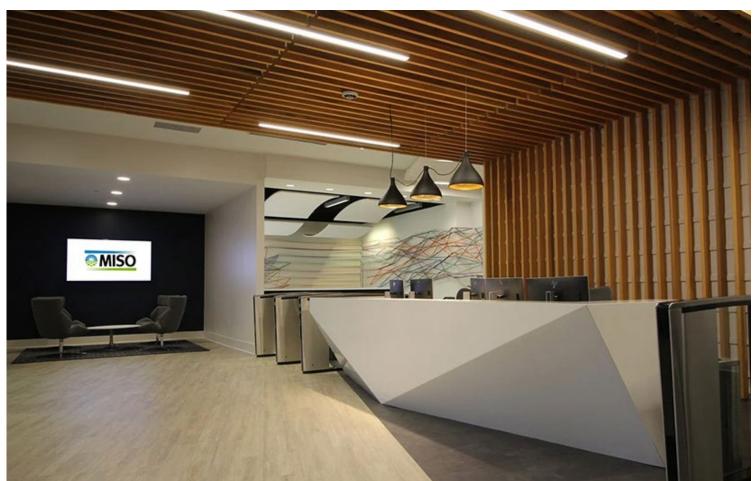
EPSA said a recalculated ratio "will create uncertainty by undermining bilateral agreements for the sale of capacity that have been entered into in advance of the PRA and upset the settled expectations of market participants that justifiably relied upon the ratio and seasonal accredited capacity values calculated by MISO."

"The effect of recalculating the ratio will be to reset the seasonal accredited capacity values of [planning] resources over three months after these values were first posted and just days before the PRA offer window was scheduled to open," Vistra said.

It said MISO's commitment to revise seasonal accredited capacity values at the 11th hour "has cast a cloud of uncertainty over the MISO market." It said revising the ratio at such a late stage will "fundamentally undermine" LSEs' "carefully crafted supply plans" by decreasing resources' accreditation.

Some LSEs' self-supply and bilateral contracts made in advance of and outside the PRA will now be insufficient to cover resource adequacy obligations. Vistra said. It described a situation where LSEs are "forced to scramble to cover their now unmet resource adequacy requirements at the same time that other LSEs across the region are doing the same and as capacity values are decreasing — likely forcing LSEs to purchase capacity at a premium to its existing bilateral transactions and supply arrangements."

"No amount of delay in the PRA will remedy the harm done to LSEs or customers by recalculating the ratio," Vistra said.



MISO's lobby at its Carmel, Ind., headquarters | MISO

MISO Says 2022 Value Proposition Tops \$4B

By Amanda Durish Cook

MISO said it created more than \$4 billion in value for its membership over the course of 2022.

That's according to grid operator's 2023 Value Proposition, which calculates last year's collective annual savings for members versus the lack of a resource sharing pool.

MISO said it has saved members about \$40 billion since the value proposition was first calculated at about \$1 billion in 2007. The RTO said the value proposition shows a \$12 return for every dollar of investment in MISO membership.

"I'm proud that MISO continues to deliver substantial benefits to our entire footprint." MISO CEO John Bear said in a press release. "We spend a lot of time with our members and stakeholders to better understand their needs and ensure alignment as our industry continues to rapidly change."

As with prior years, MISO said its large geographic footprint accounted for most of the cost savings. It said its ability to share capacity saved members between \$2 billion and almost \$3 billion.

MISO said its energy dispatch efficiencies, where its real-time and day-ahead markets deploy the most economic resources, saved members from \$620 million to \$690 million. The RTO also said its renewable resource optimization — which connects low-cost renewable resources where they're helpful, thus reducing the need for more capacity investment — saved members between \$410 million to \$480 million.

Last year, MISO estimated it saved members

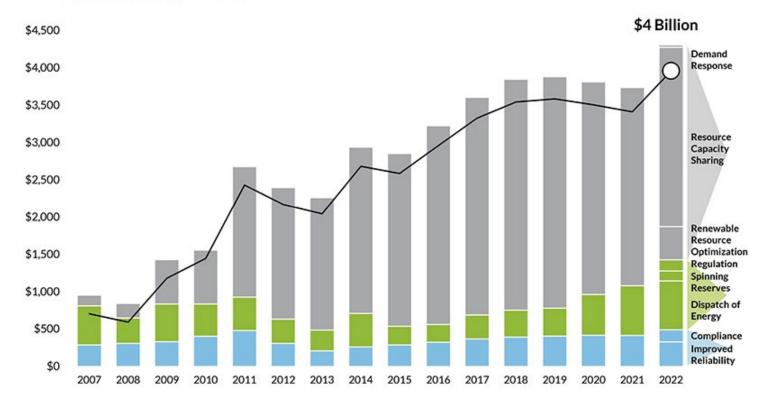
more than \$3 billion throughout 2021. (See MISO: 2021 Member Savings Exceeded \$3B.) It also said it expects the savings it delivers to more than triple within 20 years, to around \$11.6 billion to \$14.3 billion by 2040. (See MISO Membership to Become More Valuable in Future.)

"We work tirelessly to ensure that our region receives the most out of MISO membership," said Wayne Schug, MISO's vice president of strategy and business development. "Reliably building and operating the grid of the future while supporting our members' sustainability and affordability objectives requires close collaboration. As we advance the work discussed in MISO's reliability imperative and enable the future grid, we expect the value proposition to grow substantially."

"Reliability imperative" refers to the responsibility to ensure the clean energy transition occurs in a reliable and orderly manner.

- Total Benefits Less MISO Costs

\$5,000 Annual Benefit, \$millions



□ rtoinsider.com □

System Management — Optimization of Existing Assets — Reduced Need for Assets —

MISO News



Kentucky Officials Ask FERC to Deny AEP-Liberty Deal

By Amanda Durish Cook

Kentucky officials have asked FERC to again shut down American Electric Power's proposed \$2.6 billion sale of its Kentucky operations to Liberty Utilities.

The Kentucky Public Service Commission, Kentucky Office of the Attorney General and Kentucky Industrial Utility Customers said in a March 30 protest that AEP (NASDAQ:AEP) and Canada's Algonquin Power & Utilities (NYSE:AQN) conglomerate, whose North American assets include Liberty, have yet to address or propose mitigations for the "adverse impacts of the transaction on zonal transmission rates" (EC23-56).

FERC temporarily halted the transaction in December, directing AEP and Liberty to write in more consumer protections before it would approve the deal. AEP and Liberty responded in February by including a five-year freeze on the current return on equity and 55% equity capital structure; a commitment from Liberty

to maintain the same credit profile for five years; and a five-year cap on operations and maintenance and administrative costs at the 2022 rate. (See AEP, Liberty Utilities Try Again on Kentucky Territory Deal.)

However, the Kentucky intervenors said that AEP's and Liberty's pledge that Kentucky Power and Kentucky Transco would remain in PJM's AEP East transmission pricing zone "for the foreseeable future" is not good enough to protect consumers from rate increases.

The Kentucky PSC said even if Kentucky Power remains in the AEP East zone, its rates under Liberty's ownership will increase because the utility will have higher incremental fixed and variable costs caused by "building a new transmission organization from the ground up." The PSC said the zonal revenue requirement's extra costs will "far exceed" any savings AEP will experience from shedding its Kentucky operations.

The regulators said that if Kentucky Power is

separated from AEP ownership but remains in the AEP East zone, the PSC would lose its ability to use its "retail ratemaking jurisdiction to influence AEP's decisions" on transmission investment in the seven-state AEP East zone, regardless of the benefit to Kentucky consumers. The commission said AEP-affiliated companies would no longer be under pressure to avoid shifting costs to Kentucky consumers.

"Applicants cannot simply ask the FERC and other stakeholders to accept its ostrich-like approach to the impacts if a move is made, or if it is not," the Kentucky parties said.

They also argued that AEP and Liberty's "extensive reliance" on future retail rate benefits aren't relevant to FERC's decision because the PSC deemed them necessary to shield consumers from the transaction's rate hikes.

AEP and Liberty are hoping to close their transaction by April 26. If they fail again to gain commission approval by then, termination rights kick in for the parties. ■



Kentucky Power's Big Sandy Plant in Louisa, Ky. | AEP



Champlain Hudson Power Line Receives Landmark Delivery

Long-running Project Seldom an Express in Last 13 Years

By John Cropley

Thirteen years after the Champlain Hudson Power Express was first proposed, the first shipment of HVDC cable needed to build it arrived in New York on Thursday.

The 35 drums each hold 2,000 to 3,000 feet of cable. More than 500 drums will be needed to build the roughly 140-mile underground sections of the 339-mile, 1,250-MW line from Quebec to New York City.

The 190-mile underwater portion of CHPE will require an even greater amount of cable, which will be essentially the same except for an extra layer of exterior protective material.

The logistics of the shipment were fairly straightforward: a 3,829-mile journey aboard a freighter from Karlskrona, Sweden, to the Port of Albany, then another 53 miles by truck to CHPE's staging area in Fort Edward.

The regulatory process, not so much.

Since Transmission Developers Inc. submitted 10 paper and 10 electronic copies of its request for a certificate of environmental compatibility and public need to the New York Public Service Commission on March 29, 2010, the expected price tag has more than doubled; the designed electrical capacity has shrunk by more than a third; and 4,573 additional documents have been submitted into the public record as part of PSC case No. 10-T-0139.

The project is an important piece of New York state's clean energy strategy, importing emissions-free hydroelectric power to the largest U.S. city, which has very limited options for siting renewable energy generation within

its own borders and relies instead on fossil fuel plants.

When completed, it will be the longest fully underground power line in the U.S., with an expected carbon impact equal to taking more than half a million internal-combustion-engine cars off the road per year.

NYISO considers CHPE important to New York state's future grid reliability, so much so that if it is delayed, New York City's transmission security margins could be deficient.

Some developments in the last 13 years:

- The initial proposal was for two 1,000-MW HVDC circuits; it was subsequently revised to a single 1,000-MW line; in its final form, CHPE is a single 1,250-MW line.
- CHPE had to deal not only with state and federal regulators but owners of the railroad grades where much of the overland portion of the line will be buried. It also had to negotiate payments to 132 taxing entities along the route (total cost: \$1.4 billion over the first 25 years) and execute project labor agreements with more than a dozen unions.
- The initial 2010 request to the PSC indicated the developers would seek a \$2.3 billion loan guarantee; the price tag was publicly estimated at \$2 billion in 2013; the PSC raised the debt ceiling to \$4.5 billion in early 2022 and then \$6 billion later in 2022.
- The PSC approved construction and operation of CHPE in April 2013, but the docket shows very few filings over the next six and a half years; the PSC did not approve the CHPE contract until April 2022.
- \bullet CHPE in August 2022 said it was pushing the

- estimated in-service date of the line back from late 2025 to the spring of 2026, because of regulatory delays and supply chain constraints; on Thursday it said only that the line would start delivering power in 2026.
- A ceremonial groundbreaking was held in November 2022, but that was only for two staging areas; the PSC did not issue the notice to proceed with actual construction of the line until Feb. 27, 2023.
- And as all this was happening, the 2,100 MW of emissions-free energy produced by the Indian Point nuclear plant 20 miles north of New York City and right along the path of CHPE went offline permanently; New York state codified a clean-energy transition; and New York City moved to ban fossil fuels in new construction, simultaneously reducing the supply and increasing the demand for clean energy well beyond whatever CHPE will provide.

As of Thursday, 4,574 documents have been filed with the PSC in the CHPE case, for everything from the overland rock removal permit to requests for nondisclosure to electrical drawings to a special hauling permit (cost: \$40) for an oversized office trailer.

One of the newest documents, filed Wednesday, is an update on the regulatory situation on the other side of the border. It indicated three main authorizations are still required for construction of the Hertel-New York Interconnection Project, the roughly 35-mile underground line in Quebec that will connect to CHPE.

They are: authorization from the government of Quebec under the Environmental Quality Act; a permit from the Canada Energy Regulator; and authorization from the Regie de l'energie du Quebec (the Quebec Energy Board). All are expected by the end of this summer, the filing indicates.

Anticipating long lead times, Hydro-Quebec already has signed a contract with NKT to manufacture underground cables and is negotiating with NKT to install them. It expects to execute a contract with Hitachi to manufacture converter equipment shortly.

Hydro-Quebec is still negotiating property easements to site the line but has been authorized by the government of Quebec to take what it needs by eminent domain if necessary.



Reels of Swedish-made HVDC cable are unloaded March 30 at the Port of Albany for the New York portion of the Champlain Hudson Power Express. | Champlain Hudson Power Express



NY Utilities' Proposed Grid Planning Process Gets Tepid Reception

By John Norris

Stakeholders told the New York Public Service Commission it should modify utilities' proposed transmission planning framework, saying the plan lacks independence and could favor local upgrades over more efficient regional projects (20-E-0197).

In December, seven utilities proposed their Coordinated Grid Planning Process (CGPP) in response to the PSC's May 2020 order requiring the companies to develop distribution and local transmission upgrades to help meet the renewable energy targets of the Climate Leadership and Community Protection Act (CLCPA). (See NY Utilities Propose Plan to Coordinate Decarbonization Efforts.)

The PSC received comments from about 20 agencies, companies, nonprofits and trade coalitions. They said the CGPP's timeframe does not match NYISO processes and that the proposed independent body responsible for advising the PSC lacks diversity. In addition, the methodologies for identifying transmission upgrades appear biased, and advanced

technologies were inadequately considered, the commenters said.

Independence of Advisory Group

Stakeholders said the utilities' proposed makeup of the Energy Policy Planning Advisory Council (EPPAC) would make it a vessel for expanding utility interests.

As proposed, the EPPAC would include a representative and an alternate from each utility, Department of Public Service staff, NYISO, the New York State Energy Research and Development Authority, renewable generation and storage associations, power authorities (New York Power Authority, Long Island Power Authority) and environmental justice community associations.

New York City was forceful on this, writing that the EPPAC "creates an inherent conflict" because of how much control the utilities would have over its processes. It is hard to imagine why the council would advance results "inconsistent with their views, plans and proposals," the city said, calling it "mostly a plan for the electric utilities to coordinate among

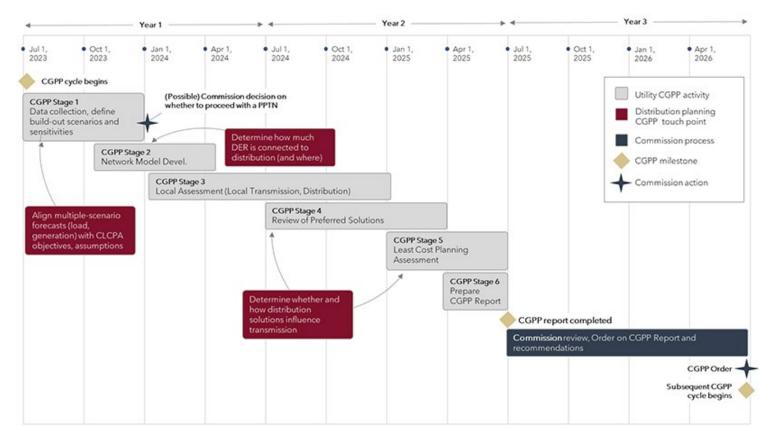
themselves with no requirement to incorporate input from others."

The New York Power Authority said that the proposed EPPAC leaves some sectors with "a reduced opportunity to provide valuable input"

NYISO, NYPA, Environmental Defense Fund, the Working for Advanced Transmission Technologies (WATT) Coalition, the "Clean Energy Parties" (including the Alliance for Clean Energy New York, Advanced Energy United and solar and battery organizations) and a joint filing by organizations including the Alliance for Clean Energy New York, the New York Offshore Wind Alliance, Natural Resources Defense Council and the American Clean Power Association ("the Alliance"), argued that the PSC should expand the EPPAC with non-utility members to diversify the council.

Synching with ISO Process

Most commenters also said the CGPP, which operates on a three-year life cycle, is incompatible with NYISO's two-year public policy transmission planning process for identifying and



Proposed calendar of the first CGPP cycle | New York Utilities



evaluating necessary transmission upgrades.

The CGPP "would not integrate well with existing NYISO transmission planning processes and would not fully reap the benefits available from competition in the identification and procurement of local and bulk solutions to transmission need," wrote NYPA.

This was echoed by the CEP, the Alliance and EDF Renewables, which proposed a compromise to reduce CGPP to a two-year cycle but complemented with a PSC review lasting no more than six months.

Threat to Competition

Commentators also complained that the CGPP gives utilities control over public policy transmission need processes, threatening competition.

The CGPP turns the "existing FERC-approved system on its head" and gives utilities opportunities "to displace bulk upgrades with smaller, less efficient local upgrades," LS Power wrote. It would threaten transmission competition and eliminate consumer benefits "including reduced cost per MW of incremental transfer,

increased production cost savings, reduced emissions, and cost containment," LS said.

"Placing [utilities] in charge of selecting a bulk solution raises potential jurisdictional issues and may create inefficient incentives" wrote NYPA. It warned the utilities' plan gives them the ability to "favor their own projects rather than exposing transmission needs to competitive selection."

NYISO said the PSC should "require clear criteria for the prioritization of solutions in a multifaceted planning process," since this provides the CGPP with "clearer workstreams and avoid a preference for local transmission solutions where a regional solution can more efficiently achieve the CLCPA targets and benefit ratepayers."

EDFR, the CEP, and the Alliance also highlighted this issue, which they said the PSC could address by encouraging greater flexibility in transmission evaluations and increasing transparency in competitive processes.

Grid-enhancing Technologies

Many commentators also said the CGPP

should be more open to future technologies, specifically distributed energy resources and energy storage.

The CGPP does not "adequately incorporate the value of grid enhancing technologies" while the CEP argued the proposal "does not establish a clear, transparent, timely or collaborative process for evaluating and including [new] technologies."

Transource Energy said that the utilities "limited their recommended list of technologies." The EDF said CGPP evaluations failed to provide "detailed distribution grid planning that will be needed in New York."

ECOGY Energy, a Brooklyn-based developer, advised the PSC to require more flexibility at the distribution level to improve long-term planning for future technologies, while Transource said the PSC should add several public review processes within the CGPP cycle to review technologies deployed since the last

The first CGPP cycle is scheduled to start July 1 and end on July 1, 2025. ■



New York Considering Standards for IBRs

NYISO Concerned Rules Would Further Jam Queue

By John Norris

The New York State Reliability Council (NYSRC) has proposed establishing a uniform set of requirements for inverter-based resources (IBRs) over 20 MW to connect to the NYISO grid, leaving the ISO concerned that its generator interconnection queues could become even more clogged.

PRR-151, published March 10, is based on IEEE Standard 2800-2022, itself approved by the Institute of Electrical and Electronics Engineers' board of directors in February 2022. It would direct NYISO to adapt the IEEE standard's specifications for IBR performance criteria, databases and model validation methods among other requirements — for use in its territory.

IBRs in the state would be required to be able to provide dynamic active support services during abnormal voltage or frequency situations, operate in active or reactive power control scenarios, and quickly communicate with NYISO during disturbances. Resource owners would be required submit self-certified compliance verifications to the ISO.

In its posting of the rule, the NYSRC cited the expected increase in the state's renewable resources and the disturbances in California and Texas during which "IBRs failed to perform reliably, creating system supply deficits." (See NERC, WECC Warn of Inverter Modeling Gaps and NERC Repeats IBR Warnings After Second Odessa

It also cited FERC's Notice of Proposed Rulemaking to direct NERC to develop standards for IBRs (RM22-12). The commission noted IEEE 2800, along with several other related efforts, as "voluntary industry standards."

"These efforts may enhance the operating performance and control capabilities of IBRs; however, these efforts remain at relatively early stages, do not apply to all relevant IBRs, and require adoption by state or other regulatory authorities," FERC said. "The proposed directives to NERC to develop new or modify existing reliability standards are intended to complement existing voluntary efforts underway and are not intended to supersede or interfere with these efforts." (See FERC Addresses IBRs in Multiple Orders.)

Comments on PRR-151 are due April 27.

NYISO, Stakeholders Tepid

The ISO presented the proposed rules to hesitant members of the Transmission Planning Advisory Subcommittee and Electric System Planning Working Group on Friday.

Roger Clavton, chair of the NYSRC's Reliability Rules Subcommittee, told the groups that PRR-151 was developed because of "the poor reliability performance of like-devices in Texas and California," and "the cumulative amount of IBRs in NYISO's interconnection queue ... warrants the implementation of IEEE 2800 to govern the interconnection of these devices."

According to the council's posting, as of Jan. 5, more than 50,000 MW of IBRs were in NYISO's queue.

Clayton said the requirements are "for new generators, and the intent is for PRR-151 to



Inverter-based resource with electronic power converter | Claus Ableiter, CC BY-SA 3.0, via Wikimedia Commons

not be looking backwards," noting that they would likely be effective after the current NYISO Class Year.

NYISO had told the council it was concerned that PRR-151 would increase the amount of time required for IBRs to complete interconnection studies; could require lengthy manual and tariff revisions; and did not specify a clear timeline for generator owners to begin demonstrating compliance. Many of these sentiments were shared by stakeholders at the meeting.

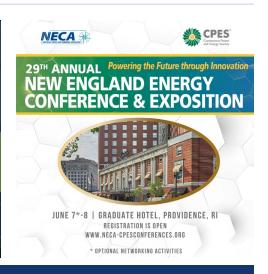
Doreen Saia, an attorney with Greenberg Traurig, said developers need to understand how the rules would affect them "because otherwise all we're going to have an unholy mess on our hands."

In response to the unease, Chris Wentlent. chair of the NYSRC's Executive Committee, said PRR-151 "is a draft rule" and that the council's goal "was to get [PRR-151] to the surface so everyone is paying attention to it," as well as "allow folks to start commenting."

Wentlent later promised to consider giving stakeholders an in-depth technical presentation on the proposed rules.









NYISO Receives 'Exceptional' Customer Survey Scores

Board Annual Retainer Increased

By John Norris

NYSO obtained its highest recorded customer satisfaction and performance score in Siena College Research Institute's seventh annual assessment, researchers *told* the ISO's Management Committee meeting on Wednesday.

Siena, a well regarded pollster, assesses two important aspects to the ISO: customer satisfaction, which measures basic consumer interfacing and engagement; and assessment of performance, a measure of whether NYISO is "realizing [its] mission through [its] performance."

Survey participants include both market participants and senior executives of market participants.

NYISO scored a 92.3 on satisfaction and 77.6 on performance, both of which were the ISO's highest recorded scores, Institute Director Don Levy said. Its 86.4 overall score — which Levy termed "exceptional" — combines the two with 60% weighting for satisfaction and 40% for performance.

"The satisfaction score really is quite impressive," Levy said. "You know, we have worked with a couple of the other ISOs across the United States, and their program is not as extensive as yours. ... Clearly your numbers are really standing out."

Levy cited ISO staff's professionalism and desire to "meaningfully address" feedback from previous surveys.

The customer inquiry satisfaction score — a measure of whether customers instituting a "ticket" with the ISO is handled efficiently and professionally — was a "near perfect" 98.7, Levy said.

The only measure that declined in 2022 was executives' assessment of performance, which



The enhanced "Customer Satisfaction and Assessment of Performance" program independently measures two important aspects to the NYISO: customer satisfaction and realizing our mission through our performance.

A unified score is achieved by combining 60% of the Satisfaction Score and 40% of the Assessment of Performance.

NYISO customer satisfaction and assessment of performance scores | Siena College

declined to 74.8 from 75.8 in 2021. Scores for market participants, by contrast, increased from 78.2 to 80.4.

Levy said the ISO could improve its explanation of its procedures and policies but added that the ISO has "already been making improvements in these areas."

The survey also found room for improvement on considering individuals' input, advancing its technological infrastructure and "administering open and competitive markets."

"I think [NYISO's] team deserves some kudos" he said. "There really is no area that has a glaring need."

Board Compensation

NYISO CEO Rich Dewey told the MC that

the Board of Directors approved a \$5,000 increase in directors' annual retainer to \$76,500, based on results from a benchmarking review.

The approved adjustment will be effective in April, when the new board calendar starts.

The review resulted in no changes to:

- chair retainer: \$50,000/year;
- vice chair retainer: \$12,500/year;
- board committee chair retainer: \$12,500/ vear:
- board meeting compensation: \$3,750/meeting day; or
- board committee meeting compensation: \$5,500/meeting day. ■

Northeast news from our other channels



NY Utilities to Seek Roughly \$900M from DOE

NetZero Insider



NY Climate Justice Panel Sets Disadvantaged Community Criteria



RTO Insider subscribers have access to two stories each monthly from NetZero and ERO Insider.

PJM Presents Details on Proposed Capacity Market Overhaul

By Devin Leith-Yessian

PJM presented the specifics of its initial proposal to overhaul the capacity market through the critical issues fast path (CIFP) process on Wednesday, addressing looming resource adequacy concerns brought by the Board of Managers.

Some of the core components include shifting to a new reliability requirement metric, a marginal accreditation framework that models risk for every hour of the year, creating a separate winter accreditation structure and a new model for assessing and valuing generator performance.

The presentation was part of the first stage of the CIFP process, in which PJM and stakeholders are introducing their packages. Several stakeholder proposals are also being carried over from the capacity market discussions previously held by the Resource Adequacy Senior Task Force (RASTF), which is being converted to the CIFP process. (See PJM, Stakeholders Present Initial Capacity Market Proposals to RASTF.)

Shift to More Detailed Reliability Requirement

The PJM proposal would switch the reliability requirement metric to be based on expected unserved load (EUE), a measure of how many customers are without power and for how long, from the current loss-of-load expectation (LOLE), a count of the frequency of outages. Taking the scale of outages into account will be increasingly important as the risk of extreme weather grows, PJM's Patrick Bruno said.

The threshold for an EUE value to meet the



Patricio Rocha-Garrido, PJM | © RTO Insider LLC

reliability requirement would be based on an equivalent to the 1-in-10-year LOLE standard for the RTO and a corresponding equivalent for locational deliverability areas (LDAs), which have a stricter reliability requirement.

Vistra's Erik Heinle guestioned if EUE could include additional parameters beyond a specified number of unserved hours, such as capping the length of a potential outage. Bruno said adding components would increase complexity, but that it's a conversation worth having.

The proposed risk modeling would exclude imports from PJM's analysis of the resources needed to meet its reliability metric, which PJM's Patricio Rocha-Garrido said reflects a belief that surrounding RTOs are likely to be experiencing many of the same reliability challenges.

"There's a degree of uncertainty around all these inputs for our neighbors ... and that's to a large extent driving our initial proposal on not counting on emergency imports," he said.

James Wilson, a consultant for state consumer advocates, said excluding imports from other regions reflects a deterministic approach to resource adequacy analysis, inconsistent with PJM's probabilistic approach.

Susan Bruce, representing the PJM Industrial Customer Coalition, said the capacity benefit margin, which is a value of the ties between regions, has long been a central component in determining resource adequacy. Eliminating its consideration would notably increase the amount of generation required, she said.

New Accreditation Framework

The marginal accreditation framework would model risk for each hour of the year under thousands of conditions and credit individual resources for their contribution to mitigating those risks. Resources' unforced capacity (UCAP) contribution would be determined by taking their expected performance over the course of a given month multiplied by the risk expected in that period. Those monthly values would be averaged to reach an annual UCAP for the generator.

PJM's Walter Graf said the new model would allow for an evaluation of the value resources provided compared to a "perfect resource" available all year. PJM is aware that the proposed method of calculating annual UCAP would not reflect the monthly differences in output, Graf said.



Patrick Bruno, PJM | © RTO Insider LLC

"We at no point forget that this resource doesn't contribute very much during certain months," he said.

PJM also suggested implementing a stricter winterization standard, which resources would have to reach to avoid a zero accreditation value for those months. The winterization requirements PJM supports would use stricter alternatives the ISO/RTO Council proposed to the NERC minimum requirements.

The proposal would create a two-tiered system for setting assessment periods, with differing non performance charges. The first tier would operate similar to status quo performance assessment intervals, being tied to intervals where there is a real-time reserve shortage and emergency conditions beyond the deployment of pre-emergency demand response.



Walter Graf, PJM | FERC

PJM News



The second tier would be implemented when there are fewer than 360 tier 1 intervals in a delivery year and would add in the tightest real-time operating reserve intervals to reach 360 intervals for the year. The methodology would ensure that there are a minimum number of assessment periods each year to provide sufficient data to evaluate generator performance.

Penalty charges for tier 1 would maintain the current calculation based on net cost of new entry (CONE), while tier 2 would use the weighted average resource clearing price. The annual stop loss would be based on annual capacity revenues rather than net CONE, with the cap at 1.5 times a resource's annual capacity revenues for tier 1 intervals. Tier 2 would be capped at annual capacity revenues.

The proposal would also seek to base the performance expectations underlying the penalties on generators' monthly ratings under the marginal framework.

All capacity resources, including intermittents, would be subject to penalties under the proposal, even under weather conditions when wind or solar are not able to produce power. Ken Foladare of Tangibl Group said that provision would likely lead to those resources viewing the capacity market as being too risky to participate in.

Jason Barker of Vitol said he suspects that the

tier 2 penalty structure could suppress energy prices and lead to increased uplift payments.

Longer Weather Lookback

The proposal would extend the lookback period for the weather history it incorporates in its reliability modeling to at least 50 years. Several stakeholders questioned whether a longer lookback period could lead to a less accurate forecast of the expected increase in severe weather in future years.

Steve Lieberman of American Municipal Power said a longer lookback period could be helpful with providing more data on how forced outage rates vary with temperature. But he said expanding historical data for evaluating risk could undervalue current trends.

"Is what you're getting of value? ... What you're saying here, it sounds good, but will the results have any meaning to what is on the system today and tomorrow?" he asked.

Wilson said many utilities have been moving in the opposite direction and shrinking their historical weather history to recognize that recent weather is likely to better resemble future expectations.

Next Steps in CIFP Process

The second phase of the CIFP process, which will run April 19 through May, will have stakeholders taking a more detailed look at all

proposals. Stakeholders and PJM will work to finalize packages through stage three in June and July, followed by a final CIFP meeting scheduled for Aug. 23, where the Members Committee will vote on each proposal.

PJM's Dave Anders stressed that the second and third stage are fluid and proposals can continue to be made or significantly altered throughout both phases. Stakeholders raised concerns that the report PJM plans to release on the December 2022 winter storm will not be available until the end of the process. (See "PJM Gives Update on December Winter Storm Report," PJM MRC/MC Briefs: March. 22, 2023.)

"We're going to have half of our CIFP meetings, all of stage one and all of stage two, ... that will be concluded before we have that report. And I think that report could very well be a significant driver" to the proposals, Lieberman said. "With this piece of the puzzle not available to us, I question whether this schedule really works or if we should reconsider how we get to Oct. 1."

PJM's Adam Keech said many of the major findings in the report will be presented during a "lessons learned" presentation being planned for the CIFP meeting on May 17. Anders stated that if additional discussion is needed to incorporate the study's findings, more meetings can be added. ■

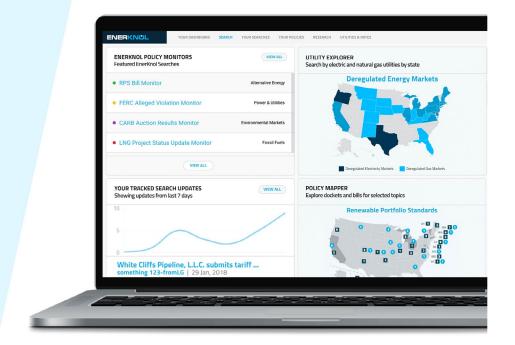
ENERKNOL

Our users don't have FOMO.

Don't miss out on real-time regulatory and legislative updates with EnerKnol, the comprehensive platform of US Energy Policy data.

START DISCOVERING TODAY

BEGIN YOUR FREE 7-DAY TRIAL AT ENERKNOL.COM



PJM News



PJM Board of Managers to Seek Capacity Auction Delays

By Devin Leith-Yessian

The PJM Board of Managers on Mrarch 27 announced that it will seek a delay in the 2025/26 Base Residual Auction (BRA), scheduled for this June, as well as future auctions to allow the RTO and stakeholders to draft market changes to address reliability concerns.

"In arriving at this decision, the board recognized that, despite the implications of auction delay, reforms are necessary to the capacity market design in order to conduct an effective Base Residual Auction," the board stated in a communication to stakeholders. "The board therefore determined that PJM should postpone executing any further auctions under the current rules until we go through the stakeholder process and file resulting rule change proposals with FERC."

A special meeting of the Members Committee



Adam Keech, PJM | © RTO Insider LLC

has been scheduled for today, during which PJM is set to provide an update on the delay and consult with stakeholders. PJM's tariff reguires that it consult with stakeholders at least seven days prior to making any Federal Power Act Section 205 filing. The board said that PJM will continue pre-auction activities if the filing is rejected by FERC.

The board did not specify an alternative date for the 2025/26 BRA, nor which subsequent auctions PJM will seek to postpone in an upcoming filing with FERC. But the RTO had presented three options for delaying future BRAs during past stakeholder meetings. including postponing the 2025/26 auction to May 2024. The following three auctions would also be delayed by sixth months under that alternative, bringing the auction schedule back to its normal cadence of three years in advance of the corresponding delivery year in May 2026 for the 2029/30 DY.

During a March 15 meeting of the Resource Adequacy Senior Task Force (RASTF), several stakeholders questioned whether it was too ambitious to expect an order from FERC and implement the changes, particularly if the commission issues a deficiency notice, before May 2024. PJM's Adam Keech told the task force he heard stakeholder's concerns that May could prove too optimistic and would share that with the board. (See PJM. Stakeholders Present Initial Capacity Market Proposals to RASTF.)

PJM spokesperson Jeff Shields told RTO Insider the RTO has no comment beyond the scenarios presented to stakeholders.

In a letter initiating the Critical Issues Fast Path (CIFP) process on revising the capacity market, the board asked stakeholders to provide



Mark Takahashi, PJM Board of Managers | © RTO Insider LLC

feedback on whether any changes should be made effective prior to the 2027/28 BRA and whether that should include delays to the auctions. The letter lays out a series of concerns the board has with reliability in future years and requested that PJM and stakeholders draft proposals for a capacity market overhaul. The board aims to evaluate the recommendations and vote on a proposal to file with FERC on Oct. 1, 2023. (See PJM Board Initiates Fast-track Process to Address Reliability.)

Stakeholders provided mixed feedback over a handful of meetings, with supporters believing a delay would provide time to change the auction parameters to yield more accurate price signals, while opponents worried about the impact to state auction timelines and the possibility that the market change proposal could be delayed or rejected by the commission.

Save your acrobatics for Cirque de Soleil.

Jumping through hoops was never really your thing anyway,

ERO Insider. Stay informed.

Staying on top of cybersecurity alerts and new reliability standards is a mighty challenge. That's why you subscribe to ERO Insider, your eyes and ears on electric reliability. Offering comprehensive, timely, unbiased reporting and analysis from inside the room at NERC and Regional Entity meetings, *ERO Insider* makes it easy for you to be prepared. Whatever the future brings.



PJM News



IPP Asks FERC to Dismiss PJM Performance Penalties over Elliott Outages

By Devin Leith-Yessian

Independent power producer Nautilus Power asked FERC to dismiss PJM's penalties against three of its generators that failed to operate during the December 2022 winter storm, saying two of the units were not needed to address capacity shortages and that the RTO failed to implement processes to address natural gas supply constraints.

In a complaint filed March 30, the company argues that the generators had not been properly notified that they would be required to go online and that the penalties would not incentivize any behavior that could avoid future charges.

The company wholly owns Essential Power, which owns a 383-MW natural gas generator in Lakewood, New Jersey, and Essential Power Rock Springs, which owns a 773-MW gas-fired generator in Rising Sun, Maryland. It has majority ownership of Lakewood Cogeneration, which owns a 237-MW generator with dual fuel capability. All three plants were hit with penalties related to Winter Storm Elliott on Dec. 23 and 24 (EL23-53).

"Under these circumstances, where the adverse impact to PJM was minimal, where the Nautilus Entities were not needed by PJM during many intervals of both [performance assessment intervals], where PJM itself failed to follow its own emergency procedures and therefore prejudiced the Nautilus Entities' ability to respond to PJM directives, and where the imposition of non performance charges on the Nautilus Entities will impose a significant economic burden on the Nautilus Entities, the non performance charges that PJM intends to impose on the Nautilus entities are unjust and unreasonable," the complaint states.

PJM has stated that it expects at least \$1 billion in capacity performance penalties to be assigned to generators following a peak of 46,000 MW of outages during Winter Storm Elliott, with the single largest cause being gas-fired generators being unable to procure fuel. PJM and stakeholders have raised concern that the scale of the penalties could lead to widespread defaults, leading PJM to ask FERC to permit a longer payment period of up to nine months. (See PJM Weighs Options for Winter Storm Elliott Follow-up.)

All three generators listed in the complaint had not cleared in the day-ahead market and were not listed as being required in the reliability

assessment and commitment (RAC) period and were unable to obtain fuel when they were called on by PJM to operate during the storm. Though the Lakewood generator possesses dual fuel capability, it was not able to procure the natural gas it needs for startup.

The complaint requests that FERC prevent PJM from assessing non performance charges to Essential Power and Rock Springs after 12 p.m. on Dec. 24, arguing that they were not needed during those periods. It also requests that Rock Springs not be subject to charges on Dec. 23 and for the first two hours of the Dec. 24 performance assessment interval (PAI), during which it states that it was not scheduled to operate.

As an alternative remedy, the complaint asks that all three generators be relieved of penalties for settlement intervals in which they were not running during both the Dec. 23 and 24 PAIs.

The argument that Essential Power and Rock Springs were not needed for reliability stems from LMPs falling around noon on the 24th, with prices being half what they were earlier in the day by 1 p.m. The complaint argues this shows that shortage conditions had alleviated and the maximum generation emergency and corresponding PAIs should have been lifted. However they remained in place until 10 p.m.

"Imposing substantial non performance charges on OPP and Rock Springs for non performance during intervals when they were



© RTO Insider LLC

not needed by PJM is highly unreasonable and arbitrary," the complaint states.

The complaint also states that Rock Springs was not contacted for dispatch for two hours after the maximum generation emergency was initiated at 4:25 a.m. on Dec. 24, which it argued was an intentional decision by PJM dispatchers due to the likelihood that the generator coming online would have exacerbated a constraint and could have led to an outage. It noted that PJM has previously rejected self-schedule requests for that reason.

Nautilus argued that PJM failed to provide enough notice for generators to procure fuel by not declaring a winter weather alert giving generators 24 hours' notice that they would be expected to be available. Instead it said the RTO "abruptly" jumped into emergency conditions and left gas generators to compete for limited pipeline capacity with elevated fuel costs. It argued the justification for high non performance penalties when the construct was proposed in 2015 was that generators would be given sufficient ability to prepare for emergencies and the risk would incentivize behaviors to avoid being charged.

"In its initial filing of the non performance charge proposal, PJM itself cited this progression of incremental steps as a justification for the severity of the proposal ... However, in the course of the two days at issue in this complaint. PJM skipped right over these interim steps, going from a preliminary notice that a cold weather alert might be needed (that is, the cold weather advisory) straight to an emergency action," the complaint argues.

It also said that due to firm day-ahead fuel service being sold in a package over weekends and the timing of the holiday weekend, generators would have had to purchase four days' worth of fuel or vie for scarce single-day packages that might not be filled by pipeline operators giving preference to residential and commercial customers. Since both the PJM dispatch and the forecast the RTO relies upon, as well as pipeline operator practices, are outside of the control of generation owners, the complaint argues that the charges don't incentivize any behavior other than potentially exiting the capacity market.

"The existing rules allow burdensome non performance charges to be imposed on natural gas-fired generators in circumstances where those generators have no reasonable opportunity to avoid those charges," the complaint savs.

Southeast

TVA Signs Multinational SMR Nuclear Investment Pact

By Amanda Durish Cook

The Tennessee Valley Authority last week struck a multinational agreement on small modular reactor development with GE Hitachi Nuclear Energy, Ontario Power Generation and Synthos Green Energy, a Poland-based wind and nuclear generation developer.

Under the partnership, the companies will develop and invest in a standard design for the GE-Hitachi BWRX-300 small modular reactor (SMR) that they hope will be licensed and deployed in the U.S., Canada, Poland and other countries. GE Hitachi expects the companies to invest \$400 million in the SMR's develop-

"It's a great collaboration that spans three countries. ... This is just the beginning, the foundation," GE Hitachi Nuclear Energy CEO Jay Wileman said during a March 23 press conference in D.C. "This is really the launch of a platform going forward to help solve climate change."

Wileman said nuclear energy will inevitably become part of the equation to reach net-zero carbon emissions by midcentury.

"Nuclear has to have a seat at the table, but we've got to earn that seat at the table," he said. "To do that, we've got to be on-schedule, on-budget, and it's got to be a competitive cost."

He said the BWRX-300 SMR's common design will allow it to be replicated at varied sites.

"I hope in 10, 20 years from now, people look back on this day and it will have aged well," TVA CEO Jeff Lyash said. "What you should see



The CEOs of GE Hitachi, TVA, Ontario Power Generation and Synthos Green Energy sign a pledge to work together on SMR deployment on March 23 in D.C. | TVA and GE Hitachi

here is partnership between a great technology company and three great industrial companies in the power sector."

Lyash said energy security and decarbonization are challenges that the U.S., Canada, Poland and every other country in the world must face. "You cannot sacrifice one for the other," he said.

"Nuclear is one of the critical solutions" to reach a secure, decarbonized energy future, Lyash said.

TVA announced last year that it will build a BWRX-300 SMR by 2032 at the Clinch River Nuclear site near Oak Ridge, Tenn. The federal agency received a voucher from the Department of Energy's Gateway for Accelerated Innovation in Nuclear to study future sites for advanced nuclear reactors. (See TVA Defends Rates, CO2 Reduction Plans in House Inquiry; TVA Receives Federal Assist on Future Nuclear Plans.)

Its Board of Directors in 2021 approved a nearly \$200 million investment for a New Nuclear Program that will examine advanced reactor technology options for future deployment at Clinch River and other potential sites.

TVA holds the country's only early-site permit from the Nuclear Regulatory Commission. The federal utility has said it could seek licensing for Clinch River as early as this year.

Lyash says the utility's goal is to demonstrate that it can build a fleet of SMRs in its footprint. TVA hopes to help design the next generation of reactors that will be ready to deploy in the 2040s, he said.

It plans to preserve and extend the operational life of its existing nuclear fleet, exemplified by



Artist's rendering of a GE Hitachi small modular reactor | GE Hitachi

Southeast

last year's replacement of the steam generators at Watts Bar Nuclear Plant Unit 2.

Ontario Power Generation also plans to install a BWRX-300 SMR as early as 2028 at its existing Darlington Nuclear Generating Station site on Lake Ontario. The project broke ground three months ago.

"We have a technology, we've got a project, we've got a plan to deliver new, clean electricity to our grid before the end of this decade," Ontario Minister of Energy Todd Smith said, adding that the process began with more than 100 potential designs.

Synthos' Orlen project aims to install 10 GW of capacity with dozens of small modular reactors across Poland between 2029 and 2036. The first 10 sites will use the BWRX-300 SMR technology.

Ontario Power Generation CEO Ken Hartwick said he hopes the partnership will inspire confidence to develop SMRs in other countries.

"I think this has been a long time coming," he

said. "This is what it's going to take to succeed with a nuclear build. It's going to be strong partnerships; it's going to be stakeholder engagement and a lot of hard work, but we will succeed."

Kathryn Huff, assistant secretary for the U.S. Office of Nuclear Energy, called the partnership a "model" for cutting-edge private investment efforts.

"It takes a lot of dollars to make real change happen, and the federal government can't provide all of those dollars," she said. "Our one dollar needs to turn into trillions of dollars on the private side, and this group of individuals is doing just that. This partnership is precisely what will result in commercial liftoff for small modular reactors, which the [Department of Energy] is really excited about as a technology. ... We love a public-private partnership, but a private-private-private partnership is even better."

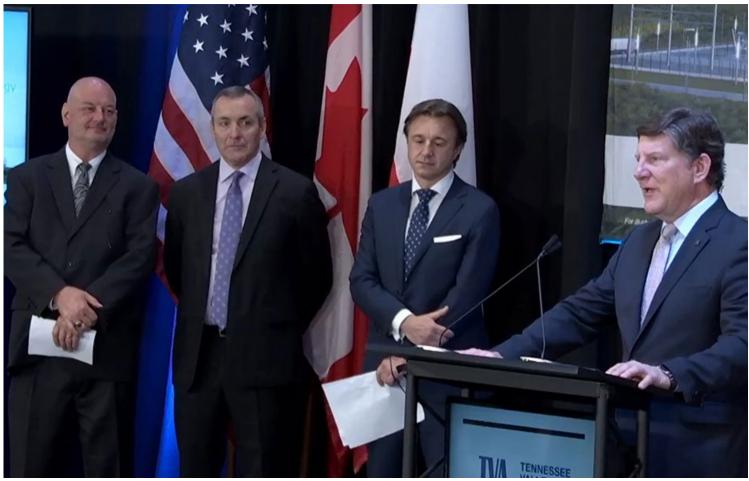
Huff said to meet climate goals, the world will need to double or possibly triple its current nuclear capacity by 2050. She said the partnership's companies are proving it's "implementation season."

Poland's ambassador to the U.S., Marek Magierowski, said that while he was trying to shy away from bold statements, he said he believed "nuclear is the future."

"I believe this is something we can all agree on, you as producers of energy and us, the consumers," he said. "If we want to breathe cleaner air, if we wish to satisfy our society's ever-growing energy needs, if we want to survive global economic turbulence, we need to put more chips in on nuclear."

Magierowski admitted that acronyms are not his forte and said he initially thought the BWRX-300 SMR sounded like a cute robot from "Star Wars."

"I'm confident that Poland, the U.S. and Canada will become even closer to each other through such deals. As close as Luke Skywalker, Han Solo, R2-D2 and BWRX-300," he said, jokingly. ■



From left: GE Hitachi CEO Jay Wileman, Ontario Power Generation CEO Ken Hartwick, Synthos Green Energy CEO Rafał Kasprów and TVA CEO Jeff Lyash | TVA and GE

SPP News

SPP Briefs

FERC Approves Public Service Colorado's WEIS Market Participation

FERC on Friday approved Public Service Company of Colorado's (PSCo) request to participate in SPP's Western Energy Imbalance Service (WEIS) market and revisions to its market-based rate tariff (ER23-949).

The commission accepted PSCo's change in status to join the WEIS market and found that it meets its requirements for both horizontal and vertical market power. Last April, FERC accepted PSCo's Western joint dispatch agreement with SPP that establishes the legal relationship between SPP and its market participants.

FERC's March 31 order directed the utility to file in 15 months a market-based rate change in status filing that includes an expost analysis with 12 months of price separation data to help determine whether the PSCo balancing authority area has become a submarket of the WEIS market.

It also directed the utility to include a price separation analysis between the WEIS market and the PSCo BA in its future Northwest region triennial filings.

"PSCo's participation in the WEIS market raises concerns of whether the PSCo balancing authority area could become a submarket of the WEIS market," the commission wrote.

FERC's approval was effective April 1. PSCo, a subsidiary of Xcel Energy, is the WEIS market's 10th participant. The Western Area Power Administration participates in three of its five regions.

SPP began administering the market on a contract basis in 2021. WEIS centrally dispatches energy from participating resources through-









The PSCo balancing authority brings much of Colorado into the WEIS market. | © RTO Insider LLC

out the region every five minutes.

SPP, MISO Staff Honored for Collaboration

The Energy Systems Integration Group (ESIG) has recognized SPP and MISO staffers as recipients of its 2023 Excellence Awards for their work on the RTOs' Joint Targeted Interconnection Queue (JTIQ) study.

The grid operators' staffs were honored for "identifying significant transmission limitations near the SPP-MISO seam" during the study. Their work resulted in five projects that could help reduce congestion and allow additional resources, primarily wind farms, to interconnect with their systems.

Antoine Lucas, SPP's vice president of engineering, was recognized along with David Kelley, Kelsey Allen and Clint Savoy.

MISO's honorees were Aubrey Johnson, vice president of system planning, and Andy Witmeier, Sumit Brar and Jeremy Nash.

SPP and MISO are collaborating with the Minnesota Department of Commerce and the

Great Plains Institute to seek funding from a Department of Energy program to help cover up to half of the JTIQ portfolio's \$1.06 billion estimated cost. (See DOE Clears JTIQ Projects to Proceed with Funding App.)

The awards recognize global energy professionals for their contributions and accomplishments toward the planning and operation of energy systems in ways that are reliable, economic and sustainable. They were presented during the ESIG's annual Spring Technical Workshop March 29 in Tucson, Arizona.

Other recipients included Grid United CEO Michael Skelly for his "pioneering efforts to build transmission infrastructure to unlock the nation's wind energy resources."

Tri-State Generation & Transmission Association's Mary Ann Zehr and WAPA's Lloyd Linke received awards for their service to the ESIG's Board of Directors and its Advisory Council, respectively.

Little Rock HQ Undamaged in Storms

SPP's headquarters in Little Rock, Arkansas, escaped damage during a tornado that touched down "just blocks away" Friday as a deadly outbreak of storms ravaged the South and Midwest.

More than 50 confirmed twisters touched down in the region, killing at least 32 people. Another round of storms is expected in the same region.

"SPP is saddened by the devastation to our community caused by yesterday's storms," SPP tweeted Saturday. "We look forward to joining in restoration efforts and doing our part to serve." ■





SPP's Antoine Lucas, Clint Savoy, David Kelley and Kelsey Allen | SPP

- Tom Kleckner

Company Briefs

Wärtsilä, Eolian Complete 200 MW Standalone Storage Facility in Texas

Technology group Wärtsilä and Eolian last week announced the completion of two major interconnected energy storage systems in South Texas totaling 200 MW.

The Madero and Ignacio energy storage plants will be operated using Eolian software and participate in the ERCOT market.

The facilities' multi hour continuous dispatch capability provides the longest duration of any storage assets operating in ERCOT, and as a combined site, is the world's largest (in MWh) fully merchant and market-facing energy storage facility built to date.

More: Wärtsilä

Amazon, Google Make First Investments **Toward Meeting Federal EV Goals**



The White House last week announced the first set of public

and private sector investments toward its EV acceleration challenge, which includes investments from companies such as Amazon, Google and Wells Fargo.

Amazon has rolled out more than 3,000 electric delivery vehicles as part of its commitment to bring 100,000 electric delivery vehicles to the road by 2030. Hertz is expected to announce it is committing to substantially increase its EV rentals this year; it is forecasting nearly two million EV rentals in 2023. Google and Wells Fargo are also announcing they will support the challenge through tools and resources.

More: The Hill

EEI President, CEO Kuhn to Step Down at End of 2023



Edison Electric INSTITUTE

Edison Electric Institute President and CEO Tom Kuhn announced last week that he will step down at the end of the year after more

than 30 years at the helm.

Kuhn, who joined EEI in 1985, was elected president and CEO in 1990.

More: EEI

Austin Energy GM Sargent Steps Down

Austin Energy General Manager Jackie **Sargent** has retired, effective immediately, according to interim City Manager Jesús



Garza. She served for nearly six years.

Sargent faced criticism earlier this year for Austin Energy's response to an ice storm that left. hundreds of thousands of residents without

power.

Stuart Reilly, Austin Energy's deputy general manager, will serve as interim general manager.

More: KUT

EV-related Company Microvast Plans \$500M Facility in Ky

Microvast Advanced Membranes, a company that manufactures synthetic materials used in the design of EV batteries, last week announced it will build a \$500 million facility in Hopkinsville, Kentucky.

It's the latest in a series of EV-related companies that have opted to do business in Kentucky. Last year, Ford and SK announced a manufacturing investment that will bring thousands of jobs to Hardin County.

More: Louisville Public Media

Federal Briefs

US Renewable Power Beats Out Coal for First Time in 2022

U.S. renewable electricity generation surpassed coal for the first time in 2022, according to data released by the Energy Information Administration.

The agency said renewables accounted for 21% of the nation's power production last year, which bested coal's 20% share. Wind and solar combined for 14%, while hydropower, biomass and geothermal added another 7% to the renewable total.

Natural gas remained the country's top source of electricity, as its share rose from 37% in 2021 to 39% in 2022.

More: Grist

Court Upholds Stream Crossing Permit for Mountain Valley Pipeline

The 4th U.S. Circuit Court of Appeals last week upheld a stream crossing permit for



the Mountain Valley Pipeline, saying it found no reason to deny a certification granted in December 2021 by the Virginia State Water Control Board.

A lawsuit by environmental groups contended that the water board and DEQ acted "arbitrarily and capriciously" by failing to consider alternative water crossings for the 42-inch diameter pipe, verify whether each crossing was the least damaging option, and properly assess whether the pipeline complies with water quality standards. In

rejecting the arguments, the court held that "there is evidence in the record which indicates that the agencies did not simply 'rubber stamp' MVP's proposed crossing methods."

The long-delayed natural gas pipeline needs the permit to finish work on 236 stream and wetland crossings in Virginia.

More: The Roanoke Times

US, Japan Agree to No Export Tariffs on EV Battery Minerals

The U.S. and Japan last week announced an agreement in which neither nation will impose export tariffs on each other with regard to EV battery minerals.

The deal comes after the Inflation Reduction Act limited consumer tax credits for EVs to cars with battery minerals mined or processed in countries where the U.S. has a free trade agreement.

More: The Hill

State Briefs COLORADO

Gunnison to Achieve 100% Renewable Energy

The Gunnison City Council last week signed an agreement that will make the city one of only three municipalities in the state to receive 100% of its electricity from renewable sources.

The Green Energy Program is offered by the city's power supplier, Municipal Energy Agency of Nebraska. By signing on to the program, the city calls for an increase in the amount of renewable energy sold each year to meet Gunnison's 100% carbon-free goal.

Council also approved a 3% rate increase on electricity for the city.

More: Gunnison Country Times

FLORIDA

Senate Committee Approves Bill That Would Add Costs to Customers' Bills

The Senate Community Affairs Committee last week unanimously approved a bill that would create incentives for the development of renewable natural gas and green hydrogen and allow utilities to add the cost of building the new technology to customer

The bill allows the Public Service Commission to let electric and natural gas utilities pass the cost of building renewable natural gas facilities and hydrogen fuel infrastructure projects on to customers or to purchase those fuels from vendors and recover the costs.

According to the staff analysis of the bill, if approved, consumer costs would rise because renewable natural gas and hydrogen fuel are more expensive to produce and transport than other sources and "customers of public utilities will pay higher rates than they would otherwise have paid."

More: Tampa Bay Times

GEORGIA

Senate Approves Bill That Would Tax Electricity for EVs

The Senate last week voted 51-4 to approve a bill that would tax the power used to charge EVs.

The bill would also require the Department

of Agriculture to regulate EV chargers much as it regulates gasoline pumps and would allow businesses to sell electricity by the kilowatt hour. The tax would be in addition to the \$211 annual registration fee paid by EV owners.

The bill now heads to Gov. Brian Kemp for his signature.

More: The Atlanta Journal-Constitution

ILLINOIS

ComEd Finishes Yearslong Project to Install 131,000 LED Smart Streetlights



After five years of work, ComEd announced last week that all 131.600

streetlights it owns in northern Illinois have been installed and upgraded to smart LED light fixtures.

The company said the effort will save more than an estimated 79 GWh of energy annually and remove more than 67 million pounds of carbon emissions.

The project cost \$75 million but should save ComEd \$2.6 million in annual operational savings.

More: Daily Energy Insider

Senate Votes to Lift Nuclear Construction Ban

The Senate last week voted 39-13 to lift a 1980s-era moratorium on nuclear power plant construction.

The bill would specifically allow for the construction of small modular nuclear reactors.

The bill now goes to the House for consideration.

More: The News-Gazette

IOWA

Bill to Restrict Eminent Domain Does Not Pass Legislative Deadline

A bill that would have required more voluntary landowner participation before eminent domain could be used to build a carbon capture pipeline did not advance ahead of a legislative deadline last week.

Sen. Michael Bousselot said the bill, which would have required 90% of impacted landowners to voluntarily allow a pipeline to be constructed on their land before the pipeline company could use eminent domain to force agreements with other impacted landowners, would not advance in the Senate.

Bousselot said he had not scheduled a subcommittee hearing on the bill because there was not sufficient time to get the bill passed out of the Senate's committee on commerce before last Friday's deadline. That means the bill will be ineligible for consideration for the rest of 2023.

More: The Gazette

Linn County Extends Solar Moratorium

The Linn County Board of Supervisors last week unanimously voted to extend its moratorium on new large-scale solar projects as renewable energy review committees wrap up their work to assess the county ordinance governing the projects.

The supervisors adopted the moratorium last October to last through Dec. 31, with the option to extend it up to three times through 2023. They extended it previously through March.

More: The Gazette

MINNESOTA

Xcel: Monticello Leak Fixed; Will Reopen This Week



An Xcel Energy spokesperson last week said the faulty pipe that allowed water containing a radioactive isotope of hydrogen to leak at the Monticello Nuclear Generating Plant has been repaired and the plant will return to service this week.

The plant will temporarily close again in mid-April for an annual maintenance project.

More: The Associated Press

Xcel to Pay Prairie Island \$7.5M More a Year to Store Spent Nuclear Waste



Xcel Energy last week agreed

to pay the Prairie Island Indian Community

an extra \$7.5 million a year to store spent nuclear waste near tribal land as the utility seeks to extend the life of its Prairie Island Nuclear Generating Plant.

Under a deal announced in the Legislature, Xcel said it would increase a yearly payment from \$2.5 million to \$10 million, a hike that Prairie Island leaders said would bring the tribe benefits more in line with the tax revenue that nearby local governments such as Red Wing get. They asked legislators to adopt the plan into state law.

Xcel hopes to extend the life of the plant to help it meet its climate goals and the state's requirement for a carbon-free electric grid by 2040. Without an extension, the two units are licensed to operate until 2033 and 2034. Xcel plans to ask regulators for an additional 20 years.

More: MinnPost

MISSOURI

House Votes to Ease Restrictions on **Nuclear Plant Construction Costs**



The House last week preliminarily approved legislation that would allow utili-

ties to add the cost of a new nuclear plant or renewable energy generator to customers' rates while they are under construction.

The practice was banned by voters in 1976 in response to Ameren's attempt to collect costs while it was building the state's first and only nuclear power plant in Callaway County. However, Rep. John Black, the bill's sponsor, said the change is needed to begin weaning companies such as Ameren off the use of coal-burning plants.

The Consumers Council of Missouri is among those who oppose the plan, saying if the plant is never completed, customers still bear the costs.

More: St. Louis Post-Dispatch

NORTH CAROLINA

Utilities Commission Adjusts Rooftop Solar, Net-metering Plans



The Utilities Commission last week approved a net-

metering plan that will cut the future value of rooftop solar systems for Duke Energy customers.

Under the new plan, customers who add rooftop solar in the future will be hit with new minimum bills. Duke Energy Carolinas customers will have to pay a minimum monthly bill of at least \$22, while Duke Energy Progress customers will have a minimum of \$28. These monthly minimums will limit the bill reductions customers can achieve by selling power back to the utility.

Customers who opt into solar net metering will also be required to switch to rate plans that charge more for electricity when that power is more expensive for the utility to supply to the grid.

More: Canary Media

NORTH DAKOTA

Summit Has 70% of Easements Needed for Pipeline

Summit Carbon Solutions, a company trying to build a carbon capture and storage pipeline project, says it now has secured about 70% of the right-of-way needs for the pipeline.

The company plans to capture liquid carbon dioxide from 32 ethanol plants in the Upper Midwest and pipe it to western North Dakota for underground storage.

Summit's announcement came the day before a second public hearing on its route permit application with the Public Service Commission.

More: Inforum

TENNESSEE

Chattanooga City Council Adopts Climate Action Plan

The Chattanooga City Council last week formally adopted Mayor Tim Kelly's Climate Action Plan.

The Climate Action Plan includes six goals and 104 strategies that include actions that fall into four main categories: transportation, buildings and waste, green spaces and waterways, and jobs and opportunity. The plan includes a series of actions to drive smart, clean-energy growth, protect natural resources, and strengthen the local economy.

More: The Pulse

VIRGINIA

Youngkin Signs Bill That Gives SCC **Power over Dominion Rates**

Gov. Glenn Youngkin last week signed a bill that returns broad authority to the State

Corporation Commission to review Dominion Energy's base rates.

Youngkin, who intervened during the General Assembly session to push a version of the legislation that carved out large chunks of what Dominion originally proposed, suggested some technical changes. Still, the heart of the bill remains and should mean savings of \$6 to \$7 a month for the typical Dominion customer.

The measure also eliminates some of the two dozen surcharges that account for about a third of a Dominion bill.

More: Richmond Times-Dispatch

WEST VIRGINIA

PSC Orders Audit of Mon Power. Potomac Edison Lobbying Expenses

The Public Service Commission last week ordered an audit of FirstEnergy's state subsidiaries' lobbying expenses, including costs related to the company's central role in the largest bribery scandal in Ohio history.

The PSC ordered its staff to manage an expedited audit to allow for review "prior to and in conjunction with" the base rate case to be filed by Mon Power and Potomac Edison next month. The audit will focus on "lobbying and image building activities" resulting in charges included on the companies' books and accounting for charges included in fuel cost recovery accounts. The scope of the audit will include lobbying and other costs of all FirstEnergy companies related to Ohio House Bill 6.

Mon Power and Potomac Edison will pay for the audit, with the contract between the companies and the audit firm selected by the PSC.

More: Charleston Gazette-Mail

