

RTO Insider

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

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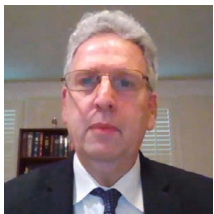
May 4, 2021

FERC Electrification Conference Considers Future Grid

By Michael Kuser, Michael Yoder, Hudson Sangree and Robert Mullin

The need for uniform electric vehicle charging standards and the limits of state efforts to price carbon highlighted FERC's technical conference on electrification and the grid of the future Thursday.

How electrification of the economy will unfold over the next few decades is unclear, speakers said, but there's no question new technologies and expanded electricity usage will transform the U.S.



FERC Chairman
Richard Glick | FERC

"Electrification is coming, no doubt about it, and it may be coming at a faster pace than some of us may have thought a few years ago," Chairman Richard Glick said in wrapping up the conference. "And it's going to have profound impact on a whole

bunch of variants, I think — at the state level more directly but even at the federal level."

The *conference* focused on the impact and risks of electrification, infrastructure requirements, transmission and distribution services provided by flexible demand and local, state and federal coordination (AD21-12).

Impacts

The first panel of the conference explored the current and future state of electrification in the U.S., discussing what is set to drive electrification and the magnitude and effects of the changes.

Katherine Hamilton, chair of 38 North Solutions and co-chair of the World Economic Forum's Global Future Council on Clean Electrification, cited research by the Rocky

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Panel: Grid Planners Must Abandon Silos for Renewable Future (p.7)

ERCOT Board Chooses Jones as Interim CEO

By Tom Kleckner

ERCOT's Board of Directors on April 27 selected industry veteran Brad Jones as the grid operator's interim CEO, effective today.

Jones, a native Texan, has more than 30 years of experience in the power industry — 11 with former Texas utility giant TXU — and was ERCOT's COO before being named NYISO's CEO in 2015. He will replace Bill Magness, whom the board fired March 3 following the February winter storm and ensuing long-term blackouts.

Jones' term is for one year or until a permanent CEO is chosen. Magness has remained at ERCOT during a 60-day transition period that expired Monday.

The Public Utility Commission selected Jones in March to consult with its director of ERCOT accountability and help guide a financial analysis of the damage wrought by the storm. (See *Texas PUC Strengthens Oversight of ERCOT.*)



Brad Jones (right) shares a laugh with Bill Magness during a 2016 conference. Hala Ballouz, Electric Power Engineers, listens. | © RTO Insider LLC

In a statement provided by ERCOT, Jones said he will meet with staff, elected officials and leaders of other state agencies over the next few weeks to develop a 100-day strategic plan to present to officials and the public.

Continued on page 23

PJM Proposes Shifting MOPR Determinations to FERC

By Michael Yoder

PJM has introduced its initial proposal to address issues with its capacity market model and the expanded minimum offer price rule (MOPR), suggesting to shift the burden of determining what resources are subject to the rule away from the RTO and the Independent Market Monitor to FERC itself.

Stakeholders engaged PJM for hours on Wednesday during a special meeting to fast-track a solution to the MOPR. A *letter* from the PJM Board of Managers on April 6 initiated the critical issue fast path (CIFF) accelerated stakeholder process mechanism contained in Manual 34 to modify the MOPR and have capacity market reforms in place before the 2023/24 Base Residual Auction is run in December.

Wednesday's Stage 1 special meeting in the

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With Wildfire Season Looming, BPA Prepares Shutoff Plan
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Michigan PSC to Decide MTEP 19 Project's Fate
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NJ Nukes Awarded \$300 Million in ZECs
(p.40)

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NetZero Insider is now live!
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FERC Electrification Conference Considers Future Grid

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Mountain Institute estimating that if electric power generation is decarbonized, emissions can be reduced by 30%. If systems in homes, businesses and transportation are electrified, Hamilton said, the U.S. can decarbonize by 70%.

Hamilton also pointed to an International Renewable Energy Agency report that predicted that renewable energy, electrification and energy efficiency together could provide 90% of the mitigation measures needed to reduce greenhouse gas emissions.

"If electrification is planned and deployed correctly, reliability and resilience should increase, not decrease," Hamilton said. "Based on my experience with experts around the globe, no one has the perfect pathway to electrification, but most agree we need to get there."

Jeff Dennis, general counsel and managing director of Advanced Energy Economy, said electrification of the U.S. economy is accelerating in response to a combination of low- and zero-carbon policy directives at the local, state and federal levels. He cited statistics that more than 204 cities and counties in 37 states have 100% clean energy commitments or achievements, saying cities are driving a significant portion of carbon-free renewable energy.

Dennis said the grid, including transmission systems and wholesale markets regulated by the commission, are the "foundation of decarbonization" and the electrification of the economy. Regional wholesale markets and expanded transmission systems, he said, are both essential to cost-effectively add gigawatts of low- to zero-carbon electricity generation needed to run the country.

Carlos Casablanca, managing director of distribution planning and analysis for American Electric Power, noted that as technologies become less expensive and more advanced, the business case for capital investment in electrification becomes "more attractive for everyone."

AEP sees enough available capacity to handle the increased load in the near term using existing infrastructure, Casablanca said, but sees an immediate need to build new transmission to integrate increased renewable generation.

"The modernization of the grid, in combination with the penetration of more modern electrified loads and resources, is expected to enable a future where the active management of loads is possible to address emergent, real-time

issues in the grid," Casablanca said.

Infrastructure Needs: A Web of Connections



FERC Commissioner Allison Clements | FERC

Asking how to manage the costs of electrification, including new transmission, and how to protect consumers, Commissioner Allison Clements said "the electrification scenario should implicate the whole planning process, from load forecasting"

to demand response.

"Most of the answers here have come all the way down to the end user and all the way back up again, right?" said Asa Hopkins, vice president of Synapse Energy Economics, referring to the comments of his fellow panelists during the second session, which focused on infrastructure requirements. "It emphasizes the integrated natural consequences of the system as it will be, where the state of charge of a car in a driveway is a transmission asset."



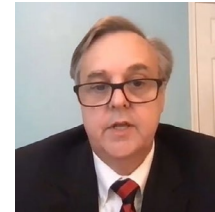
Asa Hopkins, Synapse Energy Economics | FERC

Electrification is but one piece of a larger societal transformation prompted by climate change, from public policy to information technology to the growth in renewable energy resources like solar and wind, Hopkins said.

This transition requires a shift from traditional, deterministic planning to a framework that's more scenario-based, said Edison International CEO Pedro Pizarro, vice chairman of the Edison Electric Institute. "Load may increase by 60% by 2045 and peak demand by 40%, so it's really 'all of the above' across the whole value chain."

Glick asked panelists how much infrastructure investment electrification will require at both bulk system and local levels, and whether they see a risk of overbuilding, "given the lack of clarity on how quickly we're going to get to

electrification and how extensive it's going to be."



Larry Gasteiger, Wires | FERC

Larry Gasteiger, executive director of the trade association Wires, estimated the need to increase transmission spending in the 2020s by as much as 50% over the average annual spending of \$15 billion for the past decade. After 2030 it

may require up to \$40 billion per year, "which is a whopping 50 to 170% increase over annual investment over the past 10 years," he said, calling the numbers "breathtaking."

On the potential for overbuild, Gasteiger said "the real risk is in the potential for underbuilding. Given the need for electrification and needs associated with meeting clean energy goals and resilience of the system, we have a tremendous amount of investment to go. We're in a hole right now."

It takes a long time to build transmission, but the need will come quickly when the change comes, so "the main thing is to make sure we're not caught short," said Jordan Bakke, senior manager of policy studies for MISO.

In New England the challenge will be managing the integration of massive amounts of offshore wind generation, said Roger Kranenburg, vice president of energy strategy and policy at Eversource Energy, which is partnering with Ørsted on the Revolution Wind and South Fork projects.



Roger Kranenburg, Eversource Energy | FERC

"The last mile of infrastructure that exists is very valuable in any transportation industry, so the challenge for us is how do we reimagine the use of that infrastructure," he said.

"We see the near-term transition needs as predominantly for connecting new supply, which means offshore wind" in New England, Kranenburg said. "In managing that, regional transmission is going to be key, and more [locally] we also see the need for transmission and distribution investment for solar. We've got pockets within New England where it's constrained."

FERC/Federal News



Gary Rackliffe, Hitachi ABB Power Grids | FERC

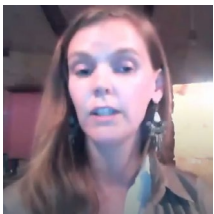
Gary Rackliffe, vice president of market development and innovation for Hitachi ABB Power Grids, said that new digital technologies are key at the distribution level for the ability to work with customers, and that “storage is also a game changer” on both sides of the meter, providing flexibility to better match generation with load.

The grid is going through two transformations, said Ric O’Connell, executive director of utility consultancy *GridLab*.

“We’re electrifying a lot of end-use loads over the next 15 years at the same time that we’re decarbonizing the grid, so we see 40% more wind, solar and batteries in the 90% [clean electricity standard] scenario through 2035 than without electrification,” O’Connell said.

Services from Flexible Demand

Speakers in the third panel discussed regulatory and technical barriers to the wider use of EVs as system resources.



Pamela MacDougall, EDF | FERC

FERC Order 2222 helped level the playing field for distributed energy resources, but more needs to be done to break down market hurdles and let EVs fulfill their potential to provide a range of grid services, said Pamela MacDougall, senior manager of grid modernization for the Environmental Defense Fund.

“I do firmly believe that electric vehicles have a vital role in providing grid services both at the distribution and the transmission levels ... keeping in mind they are actually batteries on wheels, storage services equivalent to what a fixed battery storage can provide,” MacDougall said.

Depots for fleets of medium- and heavy-duty EVs often include behind-the-meter solar and battery storage on site, providing the potential for aggregating those resources, she said.

“However, unlocking the benefits of [EVs and

other DERs] will require intentional technical and market design to enable DERs to be integrated into power markets, system planning and operations to ensure they receive appropriate compensation for the benefits they provide to customers and the system,” MacDougall said in her written comments.

“Through recent actions, particularly Order No. 2222, the commission has started a process for the needed integration,” she said. “[But] commission actions, such as opening this docket, are crucial next steps to elicit more extensive information and evidence necessary to ensure increasingly effective, efficient, resilient and competitive electric markets while accelerating the economic and policy-driven transition to clean energy technologies free of commission-jurisdictional barriers.”

MacDougall recommended removing obstacles to EV participation.

“For example, electric vehicles, having a physical battery on board, are often limited to demand response or utility-based time variant rates to offer grid services,” she wrote. “However, these resources [can] be active participants in the energy markets and provide frequency balancing services, peak and ramp reduction, congestion management, voltage control and capacity services, just to name a few. If resource types are able to respond and provide reliable services, they should be allowed to participate in the market for these purposes.”

“Further, regarding ownership, a growing trend for large businesses and fleets is to allow a third party to install and operate the charging infrastructure often coupled to behind the meter solar and storage,” MacDougall said. “Under the current interconnection rules, in order to sell into PJM, for example, the RTO requires that the owner of the meter ... sign a wholesale market participation agreement (WMPA), rather than allowing the owner of the DER to do so.

“This causes unnecessary barriers to wholesale participation, as signing a WMPA can be a deterrent to installing a DER for many businesses, as it potentially triggers federal jurisdiction by FERC, creating an unknown new regulatory obligation,” she said. “A third-party financier or the party responsible for the operation and maintenance of the DER should be able to sign the WMPA, as this would streamline the process for consumers and better align the market with common DER financing models.”

Technical Hurdles

Peter Klauer, CAISO’s senior adviser for smart

grid technology, said the ISO has “developed multiple market participation platforms for flexible demand to provide transmission services in its markets. ... [But] CAISO believes there is far greater opportunity to unlock the potential of flexible demand to help ensure reliable transmission operations in the grid of the future.

“The grid of today and the future includes increased variability and uncertainty,” Klauer said in his written submission to FERC. “Within the CAISO, we continue to set new limits for minimum net load during the day and three-hour ramps in the evening. The ability of flexible demand to shape and shift the load curve can provide a huge value to mitigate the operational conditions reflected by the duck curve.”

CAISO has taken part in vehicle-grid integration pilot programs since 2011 and successfully demonstrated vehicle-to-grid (V2G) participation in its wholesale markets, “where EV aggregations demonstrated the ability to respond to five-minute energy dispatch as well as four-second frequency regulation control,” Klauer wrote. “The current state of development for V2G technologies is relatively nascent, but the technologies exist and continue to evolve rapidly, reducing costs and improving interoperability.”

Because EVs’ main function is transportation, using them as grid resources could prove costly and inefficient in some cases, he said.

“Because the majority of these resources interconnect on the distribution system, often behind the customer meter, the distribution system operator must conduct reliability studies and assessments, which may result in distribution system upgrades and other costs to ensure the participation of these resources does not harm the reliability of the grid,” Klauer wrote.

“In addition, there are costs associated with a resource participating in the wholesale market. Given the smaller nature of some newly electrified resources, current methods of providing wholesale market-based services may be too costly and outweigh the benefit of obtaining services from these resources as compared to traditional resources.”

He also said a new system of coordination and information exchange between the distribution system operator, the transmission oper-



Peter Klauer, CAISO | FERC



Ric O’Connell, GridLab | FERC

FERC/Federal News



ator and third-party aggregator is necessary. “Little or no real-time coordination exists today to ensure that a market dispatch to an aggregation of newly electrified resources on the distribution system is feasible and reliable.”

Local, State and Federal Coordination

The conference’s final panel dealt with how local, state and federal government agencies should coordinate their activities to facilitate electrification and ensure that the grid is equipped to handle the additional load.



Ann Rendahl, Washington Utilities and Transportation Commission | FERC

In written comments, Washington Utilities and Transportation Commissioner Ann Rendahl said that while her commission does not have authority over all utilities within the state (which contains a large number publicly owned utilities overseen by local

governments), it can use its position to convene stakeholders to discuss and coordinate complicated, multijurisdictional issues such as transportation electrification.

“Coordination on electrification, particularly transportation electrification, the impacts of electrification on the electric grid, and transmission planning and development cannot occur without coordination between states and local jurisdictions, or without similar coordination between state, regional, and federal governmental entities,” Rendahl wrote.

“We are conditioned to stay in our own swim lanes or our own silo or whatever reference you want to use,” Rendahl said during the con-

ference. “We need to be able to talk and share and debate like we are today on how best to accelerate electrification and achieve goals and targets we all have.” A lack of coordination could result in inefficient investments and prolong the time for achieving targets, she added.

But Rendahl cautioned that coordinated efforts should still provide state and local governments the flexibility to address local conditions.

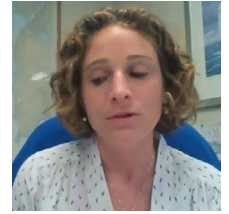
Rendahl wrote that state and federal officials should coordinate efforts to develop interoperable protocols and standards for EV charging networks. She said the UTC’s policy statement on EV supply equipment (EVSE) states that “the public interest would be served by greater interoperability that allows customers to move seamlessly between networks, and allows network data to be made available to utilities and state and local governments for system planning purposes.”

Interoperability must extend to processes as routine as how drivers pay for charging, Rendahl said. State officials must recognize that utilities installing EVSE in their service territories will rely on third parties to offer charging, payment and billing services.

The federal government can play a role in ensuring that low-income communities and communities of color benefit from the transition to a cleaner transportation system, she said. “Local and state government entities know and serve their communities, while the federal government can provide technical and financial resources and coordinate across states.”

In her filed comments, Rhode Island Public Utilities Commissioner Abigail Anthony wrote that the federal government could assist state electrification efforts “by using its resources

and reach” to lower upfront costs for EVs and efficient heating equipment. She said the federal government could also implement policies that ensure “strong, sustainable, equitable and predictable” price signals that help reduce the carbon intensity of transportation and heating.



Abigail Anthony, Rhode Island Public Utilities Commission | FERC

Anthony said states looking to transition to cleaner energy struggle to lower costs on their own because their influence is limited to relatively small markets. “This is because these states must collect enough funds to jumpstart the transition to clean electricity, but not so much that they cause migration — and carbon leakage — to other energy systems and jurisdictions that lag behind on fighting climate change,” she said.

State efforts to raise funds through increased charges on electric bills would become “counterproductive,” she said, because they would increase electricity prices relative to those of transportation and heating fuels — or even electricity in other jurisdictions.

“The federal government should find ways to help states accelerate adoption of cleaner transportation and heating equipment while avoiding counterproductive price signals,” she said.

Anthony said the additional load from electrification will require upgraded and expanded transmission and distribution systems, put upward pressure on supply costs, and increase the need for new clean energy resources. She

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hopes that increased demand will result in lower electricity rates as fixed costs are spread across a greater volume of sales.

Anthony pointed out that much of the “resource adequacy” for heating customers in her state is provided by individual residents and businesses keeping their oil tanks full and furnaces maintained.

Heating electrification on a large scale will centralize RA planning at the grid level. She warned that “it would be pointless and costly to tear out oil and gas boilers and furnaces only to build new oil and gas peaking plants.” Anthony’s preferred outcome would be reliance on “cost-effective” distributed RA as much as possible in the transition to electrification.

“Regulators should examine how programs and markets would best allow for distributed electric and non-electric resources to provide clean resource adequacy so they can fairly compete with more centralized solutions,” she said.



Philip Jones, Alliance for Transportation Electrification | FERC

Philip Jones, executive director of the Alliance for Transportation Electrification (ATE), wrote that utilities should take the lead role in developing transportation electrification plans (TEPs), which should be performed outside the “traditional” assessment of resources and loads in an integrated resource plan.

“The utilities know their systems in the most detail and are responsible for integrating these new loads reliably into the grid. TEPs should include utility plans and programs to encourage the market development of electric vehicles and EV infrastructure,” Jones said.

“Robust planning should be encouraged,” Jones said. “Developing a comprehensive TEP for review by the commission is a critical first step, and initially, these are best performed outside of a traditional IRP process. Programs and

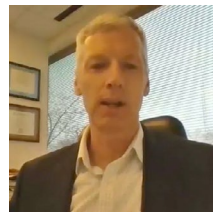
tariffs flow from the TEP.”

Jones thinks third-party EV service providers are also a “critical component” of the “EV ecosystem” through the provision of hardware and software, “and they need to play a key role along with utilities and others in building out this infrastructure.”

ATE thinks the EV sector must ensure interoperability standards and open protocols as it scales up in size, Jones said. “These are necessary to ensure a smooth customer experience as the nation transitions to EVs.”

The group also believes that any utility or organization hosting chargers should have the authority to require such standards and protocols in its procurement process and encourages state commissions “to use their authority to condition the use of ratepayer funding of EV infrastructure in such a way.”

FERC Commissioner Mark Christie asked the panelists how state-level rate design could facilitate the rollout of EVs, particularly with respect of time-of-use rates.



Bob Ethier, ISO-NE | FERC

“I’m an economist masquerading as a planner, so you probably know where I’ll come down on this one,” said Bob Ethier, vice president of system planning at ISO-NE. “As we increase our level of electrification, it’s only become more and more important

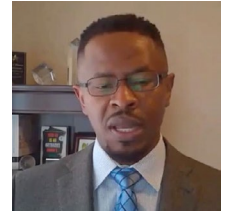
that we have those price signals sent out to customers.”

Emeka Anyanwu, Energy Innovation and Resources Business Unit officer at Seattle City Light, pointed to the need to keep equity in mind when thinking about time-of-use rates.

“A lot is predicated on the ability of consumers to have the flexibility to take advantage of those temporal pieces, so it will be important to make sure that we decide time-of-use rates

so that they consider different lifestyles and different considerations,” Anyanwu said.

Glick asked what his agency should do on both the infrastructure and grid services side to help prepare for the “next step” in electrification.



Emeka Anyanwu, Seattle City Light | FERC

“In in my view, FERC clearly has this critical role in planning for electrification,” said former FERC Chair Norman Bay, now a partner with Willkie Farr & Gallagher. “FERC has the authority and the responsibility to develop the policies that can enable electrification and can do this by focusing on [the] traditional priorities that it has had, including markets and competition, infrastructure development and innovation.”

Glick also asked about the need for coordination between states and RTOs/ISOs, whether with respect to transmission planning or “even in terms of how the markets will function in the future to address the changes that are coming with electrification.”

“The ties between [ISO-NE] and the states have grown stronger over the last 10 years in terms of coordination,” Ethier said, pointing to past EV, electric heating, solar and energy efficiency forecasts driven by data from states. “So we have a history of that and it’s ramping up, but it’s going to have to increase exponentially going forward.”

Ethier said transmission upgrades have historically been driven by clear-cut reliability criteria, with the RTO ultimately making build or upgrade decisions. In the future, ISO-NE will “have to work much more closely with the states to decide what is the right thing to build when there’s more uncertainty because it’s their constituents’ money that’s going to be spent and because it’s almost certainly not appropriate for us to make that decision.” ■

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FERC/Federal News



Panel: Grid Planners Must Abandon Silos for Renewable Future

By Rich Heidom Jr.

Energy economist Judy Chang spent more than two decades opining on electric markets and policy as a principal at the Brattle Group.

Since her *appointment* last June as under-secretary of energy for the Massachusetts Executive Office of Energy and Environmental Affairs, she's had to think about implementing policies to meet the state's goal of reducing emissions 85% below 1990 levels by 2050.

The state will need to add 15,000 MW of offshore wind to meet its goals, which include interim targets of a 50% reduction by 2030 and 75% by 2040.

"Now that I'm in this job, I'm staring at the numbers and developing policies to achieve these targets, and I will tell you it will be very challenging," Chang said at the *WIRES* spring meeting April 27. "And we certainly cannot do it without having a really close look about how to plan transmission and how to build the transmission that we need. ... We can't afford to develop the grid in a piecemeal manner."

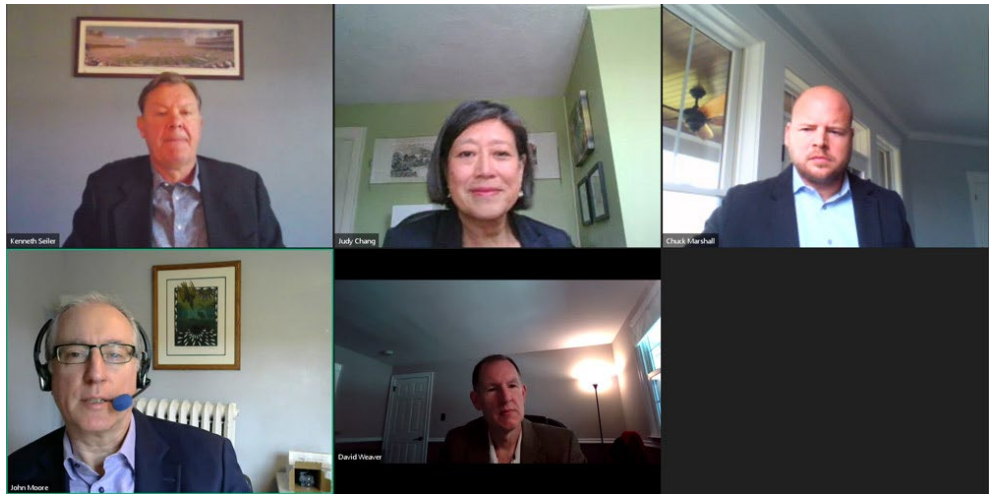
Chang and other speakers at the meeting said grid planners must connect renewable resource areas to loads and abandon their narrow categorization of transmission projects to allow broader cost allocation.

"Most transmission does not fit neatly into the distinct categories that we created as an industry," said Chang, citing projects categorized as being for system reliability, economic dispatch or public policy. "It's just not an either/or question. As we move into the future, all of the transmission, I would argue, support collectively all of these goals."

"What does not work [is] having one generator at a time queueing up ... and the one that has the worst luck has to pay for system upgrades," she said.

John Moore, director of the Natural Resources Defense Council's Sustainable FERC Project, agreed, saying that given the increasing dependence on intermittent renewable generation, transmission planning must be designed to ensure resource adequacy.

"The days of planning for each region's resource adequacy [separately] are fast drawing to an end," he said, citing recent studies by the *National Renewable Energy Laboratory* and *Princeton University* identifying the interregional transmission needed to fully deliver renewable



Clockwise from top left: Ken Seiler, PJM; Judy Chang, Massachusetts Executive Office of Energy and Environmental Affairs; Chuck Marshall, ITC Holdings Corp.; moderator Dave Weaver, Exelon; and John Moore, NRDC Sustainable FERC Project. | *WIRES*

energy to load centers. (See *Net Zero Price Tag: \$2.5 Trillion.*)

Renewable resources must be regionally shared, and that requires much more transmission, said Chuck Marshall, vice president of ITC Holdings Corp.

"The notion of planning the system for the peak hour of the year ... is growing increasingly irrelevant and really offers little value on a going forward basis in this renewable future," he said. "Simply put, we need our neighbors more than we ever have needed our neighbors, and we need infrastructure where we can really leverage one another."

Chang said leadership is needed to put "a stake in the ground to declare certain areas ... as renewable energy zones," citing the Texas' Competitive Renewable Energy Zones as a model. Then "the RTOs and ISOs and [transmission owners should work] to develop the best configuration that can be deployed in a phased manner, minimizing risks and minimizing costs."

To illustrate, she displayed a map of some of the 28,000 MW of offshore wind planned for the East Coast, with a theoretical transmission backbone connecting projects from North Carolina to Massachusetts.

To take advantage of renewable energy resource zones, the U.S. needs "broad interconnection-wide and hopefully cross-interconnection-wide planning," Moore said.

"We're also talking about asking FERC to

encourage the development of interregional planning boards" represented by the states, he added.

"FERC has the authority. It got up to — but didn't cross — that bridge in Order 1000, when it just required only the coordination between regions but not the actual interregional planning," Moore said. "I think FERC has the authority to remove the double hurdle or the triple hurdle [thresholds that have prevented neighboring RTOs from teaming up on joint transmission projects, and] to establish a single set of planning criteria between and among regions — and that includes the non-RTO planning regions like parts of the Southeast."

He added that FERC could assert more oversight of transmission costs, requiring that planning result in efficient projects to produce just and reasonable rates.

Glick Seeks Action on Queues, Cost Allocation



FERC Commissioner Richard Glick | *WIRES*

FERC Chair Richard Glick sounded many of the same frustrations during his remarks opening the half-day conference.

Noting that FERC is required to allocate transmission costs in a manner "roughly commensurate with the benefits," he said the commission should reconsider how it identifies benefits and beneficiaries. "Is there a way to

FERC/Federal News



spread out the cost recognizing that ... a particular transmission project or set of projects ... might provide significant benefits to a broader group of people than we might normally think of?" he asked.

Glick said the current method of participant funding of upgrades needed to connect generation is hampering the build-out needed to accommodate renewable growth. "The fact is, if you build one project in a windy area, you're going to build several projects in the area. There's certainly a disincentive to be the first one in line and have to pay for all the network upgrades."

Glick also elaborated a bit on his plan — first revealed at the April commission meeting — to develop a "more formal process between the states and federal government" on transmission development and policymaking. He said FERC and the National Association of Regula-

tory Utility Commissioners would be making an announcement soon.

"We can make more progress working together than doing it separately," he said, noting states' roles in siting, public policy, planning and cost allocation.

RTO Incentive

Glick also defended the commission's April 16 proposal to keep the transmission rate adder for utilities that join RTOs at 50 basis points and terminate the incentive after three years (*RM20-10*). The vote represented a sharp turnabout from last March, when the commission, then chaired by Republican Neil Chatterjee, proposed doubling the adder to 100 basis points. (See *FERC Proposes to Narrow RTO Incentive*.)

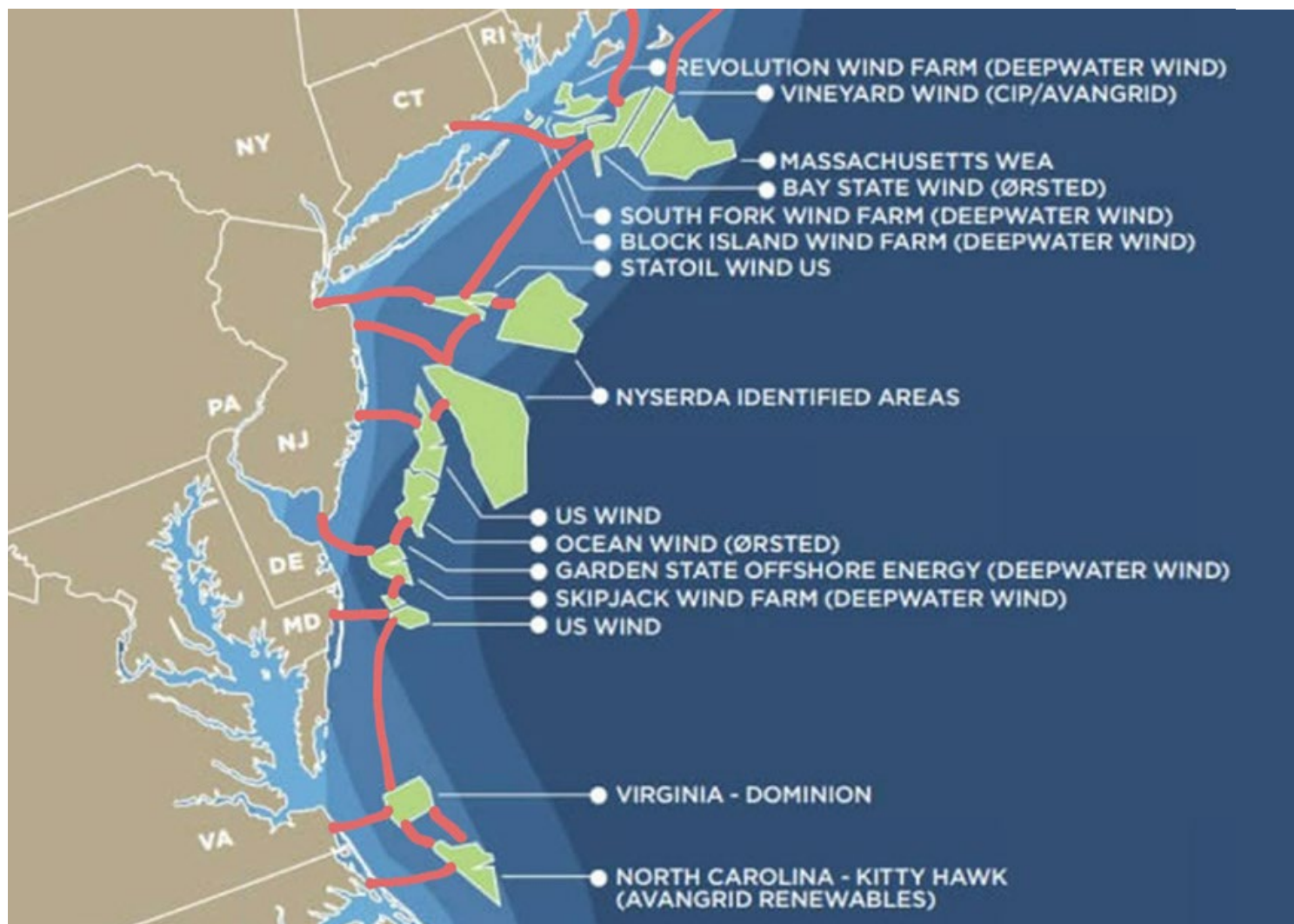
He said Republican James Danly opposed the

revised Notice of Proposed Rulemaking based on a "tortured analysis" of the word "that" in the Federal Power Act.

Chatterjee opposed the NOPR on the grounds that it could lead utilities to leave RTOs. But Glick cited Chatterjee's comments referring to the benefits utility ratepayers receive from RTOs independent of the adder as evidence that the companies will stay.

Comments on the NOPR are *due* May 26, with reply comments due June 10.

If the comments provide evidence that the change in policy will lead to an exodus from RTOs, "that's something we need to consider on a going forward basis before we finalize that proposal," Glick said. "I tend to think there's not a lot of evidence in the record to suggest that right now, but the record will be developed in the comment process." ■



Massachusetts Undersecretary of Energy Judy Chang displayed a map of some of the 28,000 MW of offshore wind planned for the East Coast, with a theoretical transmission backbone connecting projects from North Carolina to Massachusetts. | ISO-NE

FERC/Federal News



Biden Admin Announces New Tx Expansion Measures

By Michael Brooks

The U.S. Department of Transportation on April 27 issued [guidance](#) on working with its state counterparts to facilitate the use of existing highway rights of way for building electric transmission lines.

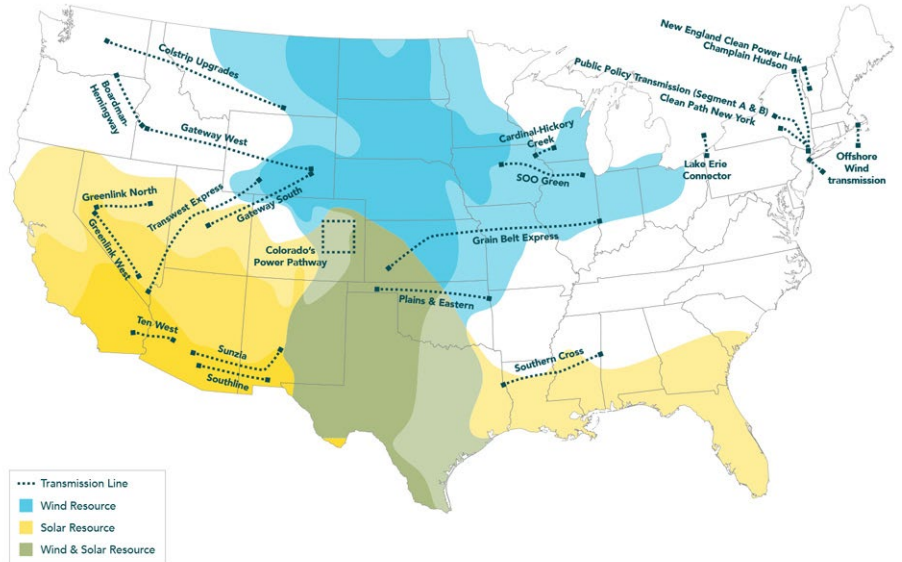
The memo encourages state transportation departments to consider not just transmission, but also renewable energy, broadband internet expansion, electric vehicle charging infrastructure and inductive charging lane projects for existing highway ROWs. It also urges Federal Highway Administration division offices to develop programs for handling requests to develop such projects.

"This announcement reflects the Biden-Harris administration's commitment to use resources across the government to combat climate change," Transportation Secretary Pete Buttigieg said in a statement. "Our new guidance will help states use their rights of way to expand clean energy, lower costs and create good-paying jobs in their communities."

The White House included the memo as part of a "[fact sheet](#)" pushing for expanded transmission infrastructure as a means of mitigating climate change and improving employment. The administration also announced up to \$8.25 billion in loans available from the Department of Energy: \$3.25 billion through the Western Area Power Administration's Transmission Infrastructure [Program](#); and \$5 billion in loan guarantees from the department's Loan Programs [Office](#) for "innovative" transmission projects and projects owned by Native American tribes.

"DOE is making financing available for projects that improve resilience and expand transmission capacity across the electrical grid, so we can reliably move clean energy from places where it's produced to places where it's needed most," Energy Secretary Jennifer Granholm said. "These investments will make our power system more resilient against threats and more reliable as we increase our clean energy capacity, creating thousands of jobs in the process."

The administration released the fact sheet in the middle of a webinar hosted by Americans for a Clean Energy Grid (ACEG) on a [report](#) the group released the night before detailing the 22 "shovel-ready" high-voltage transmission projects that could be built in the near term with just "an additional policy push."



There are 22 "shovel-ready" high-voltage transmission projects in the U.S. that are "ready to go," according to Americans for a Clean Energy Grid. | ACEG

The report, which the administration linked to in its announcement, serves as a primer on the many long-in-development projects across the U.S. It includes a map showing their locations and a table listing their mileages, voltages and costs. The White House touted the report's claims that, combined, the projects would create more than 1.2 million jobs and increase U.S. renewable energy capacity by 60 GW.

Among the projects are a few originally proposed by Michael Skelly's defunct Clean Line Energy Partners, including the Grain Belt Express and the Plains & Eastern Clean Line. (See [Out of the Game, Skelly Still High on Wind Energy](#).) Other names that would be familiar to RTO/ISO stakeholders include Cardinal-Hickory Creek, SOO Green, Lake Erie Connector, Southern Cross and SunZia Southwest.

"The reason we put these projects on the list is because they're sited, and they've got interconnect agreements, and they've got studies; they're ready to go," said Skelly, now a senior adviser at Lazard, who joined ACEG Executive Director Rob Gramlich and several representatives of the listed projects' developers in presenting the report.

Observing the report's map, Skelly said, "If you squint a little bit, you can see the beginnings of what would be a nationally connected system. Obviously, there are plenty of gaps here, but ... if these lines get done, then we have the beginnings of a something" that could "grow

organically into a national grid."

It was a busy day for transmission expansion policy watchers. The White House also noted the formation of the Grid Infrastructure Advisory Council, a 29-member group of stakeholders under the GridWise Alliance that will lobby for at least \$50 billion in federal spending on grid modernization, including distribution.

The group includes former FERC Commissioner Colette Honorable, American Electric Power COO Lisa Barton, Analysis Group Senior Adviser Sue Tierney, American Public Power Association President Joy Ditto and former New York Public Service Commission Chair Audrey Zibelman (now with Google X after serving as CEO of the Australian Energy Market Operator).

"GridWise Alliance's new Advisory Council will be a vital asset as we work to build support in Congress and throughout the country for grid modernization and for President Biden's ambitious and potentially historic infrastructure plan," said Gil Quinones, GridWise board chair and CEO of the New York Power Authority.

Additionally, transmission trade group WIRES held its spring meeting April 27, which similarly focused on grid expansion as a means of increasing renewable capacity. (See related story, [Panel: Grid Planners Must Abandon Silos for Renewable Future](#).) ■

FERC/Federal News



Creation of a DOE 'Foundation' Seen as Key to Modernizing the Grid *Would be Modeled on FDA-NIH Relationship*

By John Funk

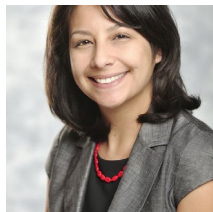
Moving the nation to net-zero carbon emissions will require a massive transformation of the grid, and that won't easily happen without a revolution in the relationship between regulators, energy providers and energy technology innovators, a panel of business, technology and government experts concluded last week.

One way to foster this revolution would be the congressional creation of a "Department of Energy Foundation," argued some participants of the second EnVision Forum sponsored by FERC, this time with the assistance of Virginia Tech.

More than 40 nationally recognized energy and entrepreneurial experts looked at decarbonization of the U.S. economy and its interplay with, and impact on, the nation's grid.

The idea of a DOE Foundation came up during the session "New Platforms for Partnership and Innovation." The foundation would be modeled after the National Institutes of Health, a division of the Department of Health and Human Services, but with longstanding simultaneous relationships with the pharmaceutical industry and regulator Food and Drug Administration.

"This foundation [would be] focused on creating those partnerships, a place where all those players to come together, share information and be supported by both philanthropic organizations [and] private sector companies," said Jetta Wong, an



Jetta Wong | *JLW Advising*

energy consultant, president of JLW Advising and senior fellow in the Clean Energy Innovation Program at the Information Technology and Innovation Foundation. Formerly with the DOE, Wong has worked with business incubators and universities for years.

"I'm focused on the creation of a Department of Energy Foundation, which would be an independent nonprofit with an objective to accelerate the commercialization of energy technologies through partnerships with the private sector and philanthropic organizations. This is important because there's no one entity in the United States that has the responsibility to commercialize new technology. And ... it really

does take a whole ecosystem," Wong explained at the start of a nearly two-hour discussion.

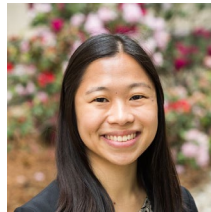
"The whole idea is to provide them the right resources and expertise [so that] their information and feedback loops can happen through this kind of public-private partnership. We've seen this by other agency-related foundations authorized by Congress," she added.



Mark Johnson | *Center for Advanced Manufacturing, Clemson University*

more than doubling the load on the grid."

Pointing to the electrification of transportation as one example, Johnson added, "You want to make sure the power grid itself is not putting constraints on these ancillary areas of innovation. ... Vehicle electrification is happening, so keeping contact between these two areas is really important."



Abigail Regitsky | *Breakthrough Energy*

decarbonization and a net-zero economy by 2050. She said new legislation creating a foundation has recently been introduced.

"This foundation [would be] focused on creating those partnerships, a place where all those players to come together, share information, and to be supported by both philanthropic organizations but also private sector companies that can provide the technology. The whole idea is to provide them the right resources and expertise, and that their information and feedback loops can happen through this kind of public-private partnership," she said.

Adam Rosenberg, staff director for the House Science, Space and Technology Subcommittee



Adam Rosenberg | *House Science, Space and Technology Committee*

ing various barriers to get from the lab to the marketplace," he said.

Wong, who established DOE's Office of Technology Transitions before going into private practice, said the department has done a good job of funding early-stage science but has not done well when it comes to taking that science and turning it into the first prototype, then scaling it up and then funding it ... to take it to a commercial demonstration."

Tim Heidel, a former DOE employee and now chief technology officer at VEIR, a developer of high-temperature superconductor transmission lines, said incorporating cutting-edge technologies in the grid is as much about people as it is about research and development.



Tim Heidel | *VEIR*

"I think bringing technology all the way to market is going to be a long, long slog in this industry. You are going to require different skill sets along those different pieces of the [R&D] pipeline. We either have to ensure that we're engaging different talent at those different stages of development or developing programs to really make sure that we're pulling people through those different stages," he said.

"Ultimately, what we're trying to achieve here is routinely deploying proven and cost-effective technologies. Proven is what the early-stage programs work on. Can you prove it? Can you build one?"

"And then you need to make sure it's cost effective, which means you need to scale it up from there, and you need to get experience; and ultimately you need to make it routine; you need to make it something that is deployed

FERC/Federal News



every day, all day.

“Unfortunately, a lot of the researchers and a lot of the early-stage folks are going to disengage before you hit that routine button, because it’s just not their interest. But if we stop before something becomes routinely deployable, we just don’t solve the problem that we are trying to solve,” Heidel said.



Cheryl Martin | Harwich Partners

Cheryl Martin, a former DOE employee experienced in dealing with competitive entrepreneurs and now principal at Harwich Partners, an energy consulting firm focusing on the acceleration and adoption of new technologies,

said federally financed competitive projects require “precompetitive guardrails.”

“I think the technology pipeline is one of a lot of different solutions,” she said of the responses to a DOE competitive bidding process on a new technology. But DOE has to be permitted to provide enough “inside” information, especially if teamed with industry, to enable the bidders to develop proposals that address the issue or technology in question.

Johnson said competitors for grants would often state that they were planning to commercialize a research product and become a monopoly.

They had missed the point of DOE’s involvement, he said. “This is really hard, and it’s going to take a whole ecosystem to get there!”

Martin agreed. “Well, we don’t often have, you know, incentive structures for everybody to think about their piece of the whole, and

how to bring together. So, I think this idea of system-level innovation thinking is still not well done. We’ve been successful in some places where you get consortia of people together who are focused on an outcome.

“That’s why I am super excited about what FERC has done here. They are bringing together people who may not interact every day together [in order] to try to bring together a different conversation. And I do think the more we can be thoughtful — what are the most important inflection points to get our electricity grid to where it needs to be and who needs to be in the conversations at those inflection points to share knowledge — that can help the whole thing come together as a system and would change the game.”

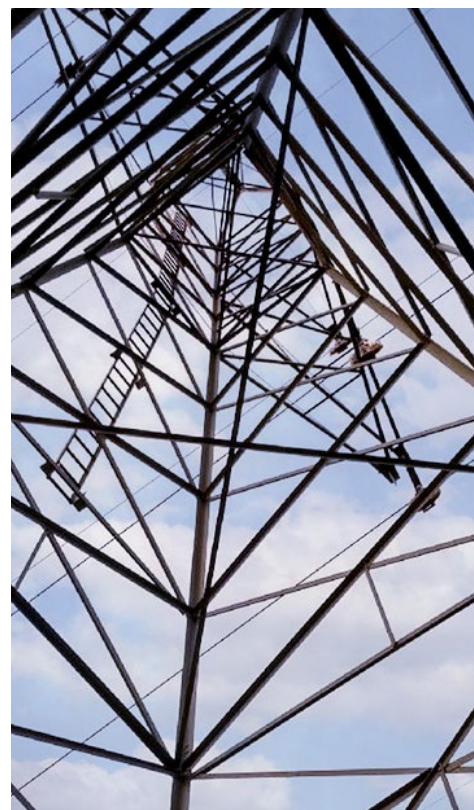
Tom Hassenboehler — formerly chief counsel for the House Energy and Commerce Committee’s Energy and Environment subcommittees, and now a partner with the Coefficient Group, a D.C.-based consulting company — said many of his clients include big tech companies and industrial companies who “absolutely what to be part of the solution” but question why grid policies can vary from region to region.



Tom Hassenboehler | Coefficient Group

“When it comes to innovation, you know, [commercial and industrial] consumers really are on the front line of this, and I hear about this quite often when it comes to standardization, electric interoperability to really drive the innovation that’s necessary to meet the climate goals,” he said.

“For example, our customers — in particular



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the Googles, the Walmarts of the world — as they seek to drive and scale their own renewable and climate ambition, they run into these issues across different regions of the country that are very problematic ... whether it’s a lack of access to data both behind and in front of the meter; whether it’s a lack of ability for their multistate operations to operate seamlessly on an interconnection-wide basis and replicate the on-site generation tools that they have in one region versus the renewable purchasing options they have in another.” ■

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EnVision Panelists Push New Solutions to Generation Mix

By Holden Mann

NERC will need to “scour through” its standards to keep up with the rapidly shifting generation mix in the North American bulk power system, particularly the spread of renewable energy resources like wind and solar, Chief Engineer Mark Lauby said during last week’s EnVision Forum, sponsored by FERC and Virginia Tech.

Lauby said the February winter storms and resulting mass outages in Texas and the Midwest had exposed pitfalls for which the system was not designed. (See *ERCOT was ‘Seconds and Minutes’ from Total Collapse.*) While many critics have focused on inadequate weatherization at generation facilities, Lauby observed that the cascading failures had also shown that the electric grid relies on other systems to a degree that operators and planners hadn’t realized.

“What we saw in Texas was gas alone becoming a critical asset ... [a] facility, system or equipment which, when destroyed, degraded or otherwise rendered unavailable, would affect the reliable operation of our system,” Lauby said. “This is a very serious matter for us. ... The two critical infrastructures were so interdependent that if one fails, the other fails, and we need to be able to build that into our scenario analysis.”

Lauby emphasized that he is “quite excited about the future,” pointing to emerging technologies such as battery energy storage systems, smart grids and microgrids that may help

provide a measure of local resilience when the larger grid is facing challenges. But incorporating these advances into the BPS will require “a new design basis” for NERC that recognizes the interdependencies between the electric grid and other systems, and the vulnerability of a BPS that relies on a much wider range of generation resources.

ISO-NE CEO Gordon van Welie agreed, noting that with once-in-a-generation extreme weather events likely to become more frequent in the future, traditional methods of planning for reliability may not suffice. He urged utilities to take these spikes into account in their planning when considering whether backup solutions are worth the investment.

“As Texas showed, reliability on average is not enough. You need to deal with reliability under more stressful scenarios,” van Welie said. “I think that’s where ancillary services comes in. ... That’s when we can specify we’re going to have enough energy stored in the system somewhere in some form, whether it be LNG, clean hydrogen or long-duration batteries; that when the wind doesn’t give us the output we need, we can turn on this other stuff.”

However, while these investments may be extremely helpful, van Welie also acknowledged they are often a big ask, especially for small utilities. He suggested that FERC can do more to incentivize these measures. Patricia Hoffman, acting assistant secretary at the Department of Energy, echoed this sentiment, calling for utilities and regulators to move their thinking out of the cycles in which they have



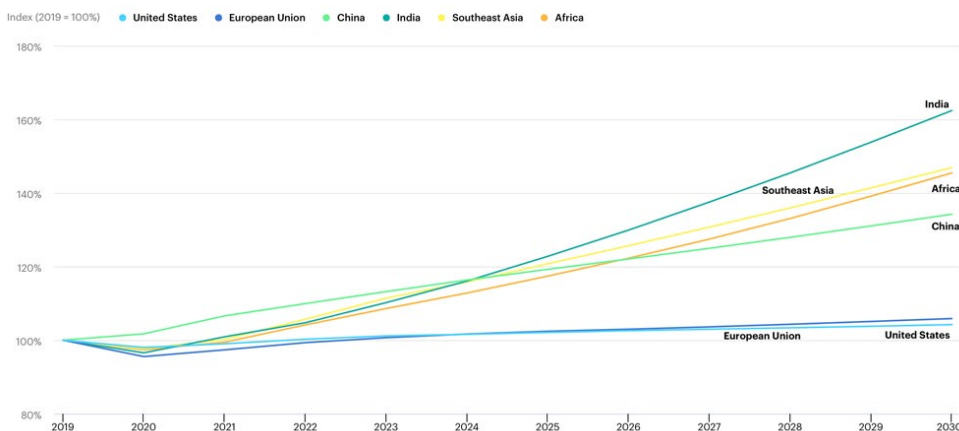
Mark Lauby, NERC | © RTO Insider LLC

been stuck for years — particularly with regard to storage, which she called a valuable tool to “complement the variable generation.”

“Storage may not be the total game changer, but it will be critical to providing important services to the grid. I do believe that storage needs to be looked at from a grid asset point of view,” Hoffman said. “We’ve spent ... greater than 10 years talking about how to value energy storage, and we need to get beyond that conversation.”

Brent Wanner, senior energy analyst at the International Energy Agency, reminded participants that the changing energy mix is an international story as well. With developing nations expanding their use of electricity, particularly in Asia, traditional energy sources will likely come under increasing pressure. That means that governments worldwide will look to diversify their energy mix, leading many countries to face similar questions of how to integrate the new resources.

“Over the next 20 years ... we see steady growth in China, and you’re doubling over that period. But the strongest growth is actually [in] India, [which becomes] the third largest market in the world,” Wanner said. “Already this growth means that globally, we’re talking about a 50% increase in electricity demand over that 20-year period. ... [So] you can already see that those decisions in Beijing ... Washington, D.C. ... [and] also in India” will have outside impacts. ■



Electricity demand outlook in selected regions/countries from the IEA's 2020 World Energy Outlook | International Energy Agency

FERC/Federal News

Overheard at 2021 EnVision Forum

More than 40 electric industry professionals, regulators and academics joined last week's EnVision Forum, sponsored by FERC and Virginia Tech. The two-day event — held virtually because of the COVID-19 pandemic — explored the “bold visions, novel theories and creative partnerships” needed to address the “innovations and limitations that are driving what's next in [the] energy future.”

FERC Commissioner Neil Chatterjee took a lead role in organizing the conference, as he did for the first conference in 2019. (See *Overheard at EnVision Forum*.) Expressing optimism for the future of the North American energy grid, he nevertheless warned attendees that the challenges on the horizon leave no room for complacency.

“We have the momentum to make huge strides modernizing our energy systems and creating a cleaner, more reliable grid to power the future for the next generation,” Chatterjee said. “But to be done effectively, big changes require everyone to be rowing in the same general direction. ... We may not agree on everything. In fact, we most certainly will not. But we can agree on the challenges we need to tackle and begin to pivot and face them together.”

Here are some more highlights from the event.

Hurdles Ahead for Renewable Integration

In a panel on “Electrical Energy Systems of the Future,” participants expressed excitement about the potential of new technologies to improve the efficiency of the grid. However, they also warned that system operators, planners and regulators are far from ready



FERC Commissioner Neil Chatterjee | © RTO Insider LLC

for their full adoption.

“We're seeing a wealth of new technologies finally becoming more economical ... from microgrids, to distributed renewables, to distributed energy storage, to things like electric vehicles and smart homes,” said Ben Kroposki, director of the Power Systems Engineering Center at the National Renewable Energy Laboratory. “The challenge is, how do we get all of these things to work together in a large, cohesive way so that we can make sure that we're creating the most intelligent and reliable power system and taking full advantage of all these distributed assets?”

Jill Anderson, senior vice president of customer service at Southern California Edison (SCE), provided a ground level view of the challenges of these rapid technological changes. Simply charging electric cars, for example, poses a major headache for utilities that are used to assuming that their customers' energy needs can be counted on to stay in one place.

“We're going to have all this demand coming from devices that are not even stationary. ... You can charge your car at your house one day and [at] the local grocery store the next day. And as a utility, that's going to make load forecasting a lot more difficult,” Anderson said. “It's going to require ... very sophisticated tools for us to be able to ... model such a dynamic demand, along with an increasingly dynamic supply coming from the intermittent resources” like wind and solar, along with battery electric storage systems.

In addition to preparing the grid for new pressures from the customer side, Anderson said utilities can also be proactive about researching and implementing new technologies to lower bills or improve reliability for consumers. For the latter case, SCE is actively pursuing the installation of distributed energy resources like rooftop solar and battery energy storage systems; the utility is seeing “3,000 to 4,000 new solar connections every month in Southern California” and expects the amount of storage systems deployed in its territory to grow by 50% this year.

CAISO CEO Elliot Mainzer continued this theme, saying that 2021 seems poised to be “the big debut for energy storage on the California grid,” with about 2,000 MW of batteries operating on the grid this summer. However, he also amplified Kroposki's warning that a lot of work lies ahead in integrating all these technologies into a functional whole.



Bob Cummings, Red Yucca Power Consulting | © RTO Insider LLC

“I think the evidence ... at this point tells us that we really haven't yet lined up on technology, economics and regulation to fully unleash the capabilities of those resources,” Mainzer said. “And we're spending quite a bit of time working with utilities in California that are really looking at that whole chain of activities, from interconnection to the capacity price, [trying] to figure out where is the friction in the system [and] what's the business model that really unleashes those capabilities?”

Prepare for Resources' Behavior Quirks

Another tipping point for the North American grid is the rapidly shifting energy mix, led by concerns about climate change and the falling price of renewable energy. With these new resources displaying their own unique behaviors, utilities will need to adapt quickly or risk the kind of instability that fueled February's winter crisis in Texas and the Midwest. (See *ERCOT was 'Seconds and Minutes' from Total Collapse*.)

“I think the biggest problem is going to be recognizing that 1,000 MW of wind is not equal to 1,000 MW of solar is not equal to 1,000 MW of gas. The capacity factors are all different,” said Bob Cummings, formerly NERC's senior director of engineering and reliability initiatives, and now president of Red Yucca Power Consulting. “Load balancing is going to have to be done on an instantaneous five-minute basis, and you're going to have to know everything there is to know about all those ... intermittent resources.”

Matthew Gardner, director of system protection at Dominion Energy, emphasized that the operation of these assets is still not fully

FERC/Federal News



known, particularly under the wide variety of conditions that may be found on the grid.

“We need to awaken to the fact that we’re not going to be able to simulate our way into the future; we really need to pivot and start to focus on pulling in rich data sets and leveraging cloud computing for planning the future grid,” Gardner said.

“Some of the advancements that we’ve made in the enterprise business intelligence space [are] not necessarily portable to some of the technology and data sets that we’re talking about in the grid space,” he added. “There still is room for improvement in terms of [developing] the full stack of technologies that we’re going to need for the future.”

Vehicle Charging Vexes Grid Planners

In a panel on vehicle electrification, Chris Nelder, manager of the carbon-free mobility practice at the Colorado-based Rocky Mountain Institute, warned that the charging resources needed for a large-scale deployment of electric vehicles are far different from garage chargers at home.

Most charging today is done at home because early adopters of EVs mostly live in single-family homes with a garage and a place where they can plug in reliably overnight. But in the U.S., between one-third and one-half the population do not. Those customers will need chargers too, including dedicated parking spaces.

The thought of installing charging stations in every parking lot may be daunting enough, but this challenge pales in comparison to those required in future for cars, buses and tractor trailers.

Level 2 charging systems installed in homes come in ranges of 3 to 8 kW, most often 6 to

7 kW, and require hours of charging. They are best for managing load based on rates and demand levels.

“For that kind of load, you can do what we call managed charging,” Nelder said. “You can turn the charging up or down depending on grid conditions. You can respond to a demand response event. You can moderate your load if you’re trying to deal with, for example, an employee parking lot full of level 2 chargers and you want to avoid or mitigate demand charges. When you have [a group of vehicles] plugged in for hours and hours at a time, you can do that.”

Level 3 chargers, also called direct current fast chargers (DCFC), are being built in sites with a capacity of up to 350 kW – the idea being “to show up, get the fastest charge you can ... and then go on with your day.”

However, “doing managed charging with DCFC is sort of antithetical to the use case. You can’t easily ramp power demands up and down. [So] with DCFC, you really can’t [do managed charging] unless you’re also deploying a significant battery array next to the fast charger and using that to pull power to, for example, avoid adding to the load during a grid peak condition or to respond to a demand response event. But that lards up the site with a very expensive slug of [capital expenditure], and that has its own problems.”

Level 3 isn’t where it ends though, he said. “If you’ve seen a Tesla Supercharging site, you’ve probably seen a whole row of like six Tesla chargers. Altogether those comprise about 1 MW of power demand. That’s significant, and it’s not cheap to provide that power. It’s not cheap to the site, and it’s not cheap to provide it for the utility either. So on an [operating expenses] basis, for those charging network



Invenergy's Grand Ridge Battery Storage Facility | BYD

operators, they are now running into serious problems with demand charges.”

As the electrification movement expands into medium-duty vehicles, such as buses, garbage trucks and municipal vehicles of various kinds, the charging needs to ramp up also. Depending on the type of vehicle, medium-duty vehicles may use charging stations as low as 60 kW. But as the attention turns to truck stops, semi-tractors could need on the order of 1.7 to 1.8 MW per vehicle.

Nelder said in a recent presentation to Minnesota Rural Electric Association he gave the example of one travel plaza in rural Minnesota with 10 diesel pumps for big rigs and 16 gas pumps for passenger vehicles.

“If you were to convert that one travel plaza over to fully electric at the same capacity, that one travel plaza would require 182.4 MW of power,” he said. “That is approximately 190% of the footprint of the entire electric cooperative in which that truck stop is [located].”

“I don’t think anybody has any idea how we’re going to do this,” he continued. “We have a very significant scale coming at us that we are not in any way prepared to accommodate.” ■

— Holden Mann and Hudson Sangree

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CAISO/West News

With Wildfire Season Looming, BPA Prepares Shutoff Plan

By Robert Mullin

In a sign of the growing threat of utility-sparked wildfires in the Pacific Northwest, the Bonneville Power Administration will this summer join the ranks of Western transmission providers adopting a public safety power shutoff (PSPS) plan.

The plan will allow BPA to pre-emptively de-energize specific power lines under conditions of high fire danger in order to prevent its equipment from sparking a conflagration like those that engulfed large heavily forested areas of Western Oregon last September. The complex of wildfires, unprecedented for a normally lush region, prompted widespread evacuations, destroyed thousands of homes and blanketed the region in heavy smoke for more than a week. At least 11 deaths have been attributed to the event.

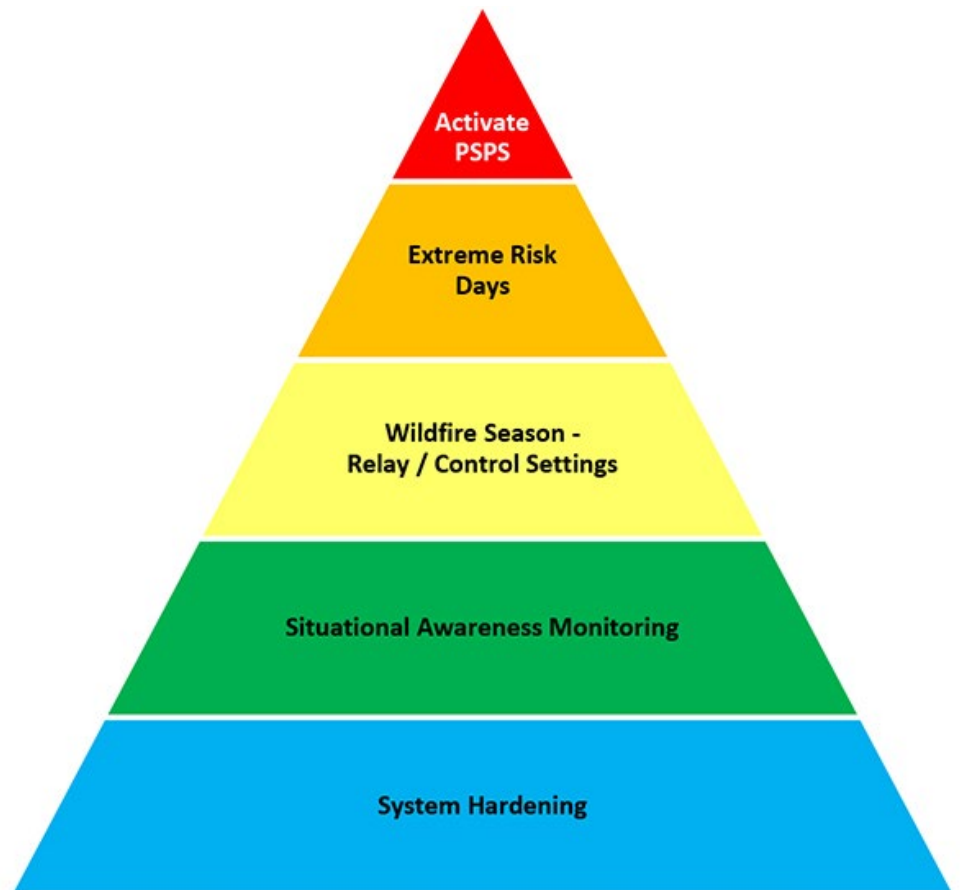
A lawsuit blames Pacific Power, the state's second largest utility, for one of the fires, although the cause is still under investigation. (See [PacifiCorp Faces Class Action over Wildfire Response](#).) Oregon's largest electricity provider, Portland General Electric, implemented the state's first-ever PSPS in the Mount Hood area just before the fires flared up over the Labor Day holiday weekend. (See [High Fire Danger Prompts First Oregon PSPS Event](#).)

"I think it's important to recognize that the risk of fire has always been a risk with operating any transmission system. One of the things that has changed is climate change," Michelle Cathcart, BPA vice president of transmission system operations, said April 27 during a virtual workshop to elicit feedback on the plan.

"We're seeing increasing winds, heat and drought throughout our region. Wildfire will likely continue to be an increased risk to our system," Cathcart said.

With more than 15,000 miles of power lines under its control, BPA is the largest transmission operator in the Northwest. Just 2% of its network will be subject to the new PSPS protocol, agency officials said, although they would not identify those lines because of "safety reasons."

"As we look at this, while we haven't specifically excluded any facilities from the possibility of a PSPS, we are focusing on our lower-voltage system, largely 115-kV and below," Cathcart said. "We recognize the role that Bonneville has in the region in supporting the backbone



BPA considers public safety power shutoffs to be the "last resort" in its broader wildfire mitigation plan. | BPA

of our transmission system, and so we are focusing on the parts of the system that have greater risk for wildfire."

'Last Resort'

In what appeared to be an attempt to dispel concerns about the potential scope of shutoffs, Cathcart characterized the PSPS program as "risk-based, facility-specific [and] condition-specific."

"But it is something that we feel is prudent to have a process for and to be clear and coordinated with you as our customers on how we are doing this," she said.

Meg Albright, BPA operations support manager, said the PSPS proposal fits into the agency's broader wildfire mitigation plan (WMP), comprising a "tiered approach" to preventing wildfire ignition.

"Only as a last resort would we get to activating PSPS," she said, showing a slide in which PSPS represented the pinnacle of a

WMP pyramid.

Sitting at the base of that pyramid is BPA's "system hardening" efforts, explained Dan Nuñez, BPA asset management risk and strategy expert.

Nuñez said BPA identified the "emergent threat and volatility" of wildfires in its 2016 strategic asset management plan, compelling the agency to factor the speed of climate change into its capital allocation strategy.

"And though we look at many risk dimensions and value streams to the region, wildfire absolutely is at the top of the priority list in informing where we're allocating and prioritizing resources for line rebuilds," including incorporating hardware redundancies into infrastructure located in areas of high ignition potential, he said.

The next tier of BPA's wildfire mitigation plan consists of "situational awareness monitoring."

"We have been noticing our fire seasons get-

CAISO/West News

ting longer, and the longer those fire seasons get, the greater the chance that you're going to have a 'red flag' situation, [with] very dangerously low humidity, very dry fuels, maybe even lightning — combined with a high-wind event," said Erik Pytlak, BPA's supervisory meteorologist.

Pytlak said those conditions alone would not cause BPA to shut down a line but would "trigger the analysis to start looking more intently at the possibility of needing to do this."

Núñez credited BPA's investment in improved line design standards with providing the agency "a much higher trigger threshold" for initiating the PSPS process compared with its "peers south of us" in California. Design redundancies also mean that PSPS events will not necessarily translate into a loss of load or generation for BPA customers, Cathcart said.

Further up the WMP pyramid are the preparations on days of extreme risk, which will entail standing up the PSPS decision team and coordinating with the U.S. Forest Service. Before activating PSPS, the decision team will assess local weather conditions and its confidence in the forecast; load and generation impacts to customers; impacts on grid reliability and stability; information about critical loads, where possible; and the potential wildfire risk from BPA equipment in an affected area.

Each asset will be evaluated base on its distinct profile, Albright said.

Coordination, Communication

Once the decision is made to trigger a PSPS, BPA operations and dispatch personnel will contact counterparts at adjacent utilities through "normal utility-to-utility operations channels." BPA hopes to provide customers with at least 48 hours' notice before de-energizing a line, Albright said. But Pytlak cautioned that changing weather conditions could warrant shorter notice: "We can't anticipate every scenario that's going to determine whether we need to de-energize a line or not."

BPA customer account executives will reach out to customers and stakeholders by telephone and email, while using the agency's website and social media platforms to inform media and the general public about developments.

Workshop participant Joe Lukas, general manager of Western Montana Electric Generating and Transmission, asked what input a local utility would have on a PSPS decision that would force it to take an outage.

"For the local utility or utilities in the area, they will have the same weather conditions ... and will very likely be considering PSPSes of their own, so we will want to talk operations to

operations to understand that collective PSPS picture so that we're understanding how our decision and their decisions are playing together," Albright said.

"We do intend to coordinate with the customer," Cathcart added. "Ultimately, it will be Bonneville's decision on whether or not we will de-energize a specific facility, but understanding the impact of that will be important."

Washington state Rep. Ed Orcutt (R) asked about the impact on retail electricity customers.

"I know sometimes when you shut a line down, you can reroute power in other directions so the people don't lose power," Orcutt said. "How are we going to know, when you're announcing that you're shutting down a line, what impact that's going to have on who and for how long?"

Cathcart reiterated that it's an open question whether a PSPS will result in a loss of load. "And that's why we have to coordinate so closely with the local utilities. I think we're going to need to rely to some degree on that coordination to make sure that the word gets out to end-use customers."

BPA has asked stakeholders to comment on the PSPS proposal by May 11 and will reply to those comments by May 22. It expects to issue a final plan June 1. ■

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CAISO/West News

Cold Snap Yields Record Q1 Benefits for Western EIM

By Robert Mullin

The Western Energy Imbalance Market provided its members \$101.01 million in economic benefits during the first three months of 2021, an increase of 75% over the same period a year ago and a first-quarter record, CAISO said last week.

The ISO estimated participant savings of \$15.77 million in January, \$61.7 million in February and \$23.54 million in March.

“The increased benefits observed in February 2021 were largely driven by the extreme gas prices in mid-February that resulted in high electric energy prices,” the ISO said in its EIM first-quarter benefits report. Gas prices were driven higher by a late-winter cold snap that gripped much of the U.S. and brought a wave of ice storms to the Pacific Northwest.

While January-March is typically the period with the lowest estimated volume benefits for EIM members, the most recent first quarter rang in as the market’s third highest on record, behind the third quarters of 2020 and 2018. (See *Heat Waves Spur Record EIM Benefits*.) The previous first-quarter record of \$85.39 million was set in 2019.

PacifiCorp earned the largest share of quarterly benefits at \$20.48 million, followed by Arizona Public Service (\$15.01 million), NV Energy (\$14.14 million) and Idaho Power (\$12.54 million).

Rounding out the list were CAISO (\$8.91 million), Portland General Electric (\$8.8 million), Balancing Authority of Northern California (BANC) (\$7.53 million), Salt River Project (\$5.52 million), Puget Sound Energy (\$4.31 million), Seattle City Light (\$2.6 million) and Powerex (\$1.17 million).

BANC’s figures include only Sacramento Municipal Utility District through March 24. BANC members Modesto Irrigation District, the cities of Redding and Roseville, and the Western Area Power Administration’s Sierra Nevada region only began participating in the market March 25.

CAISO was both the largest net exporter and net importer of energy during the period at 1,086,844 MWh and 658,486 MWh, respectively, followed by the PacifiCorp-East (PACE) balancing authority area at 442,496 MWh and 391,878 MWh.

Continuing a well established pattern, the NV Energy BAA – which often functions as a

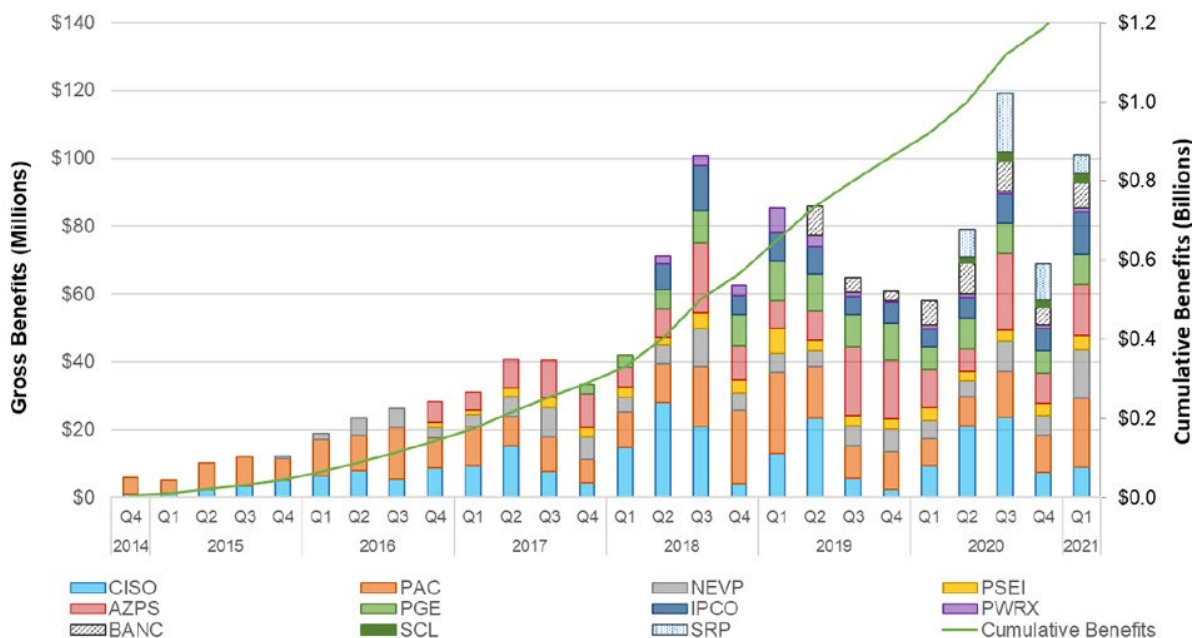
transfer point between the CAISO and PACE BAAs – showed the highest volume of wheel-through transfers at 529,312 MWh. The PacifiCorp-West and APS areas followed with 310,315 MWh and 300,603 MWh of wheel-throughs, respectively.

“As the footprint of the Western EIM grows and continues to change, wheel-through transfers may become more common,” CAISO noted in its report. “Currently, an EIM entity facilitating a wheel-through receives no direct financial benefit for facilitating the wheel; only the sink and source directly benefit.”

CAISO estimates that the EIM’s market operations helped to reduce renewable curtailments by 76,147 MWh during the quarter, helping avoid the emission of 32,591 metric tons of CO₂, assuming that renewable resources displaced output from other generators emitting at an average rate of 0.428 metric tons/MWh. Under that assumption, the EIM has helped the West prevent 599,144 metric tons since it began operations, the ISO said.

CAISO also calculated that the EIM reduced its members’ overall flexible ramping capacity requirements by 50% during the quarter through more efficient sharing of resources across the market’s footprint.

The EIM has provided participants \$1.28 billion in gross benefits since it commenced operation in November 2014 with PacifiCorp as its first member. This spring will have seen its single largest expansion with the addition of Los Angeles Department of Water and Power, Public Service Company of New Mexico, Turlock Irrigation District and the additional BANC members in March, followed by NorthWestern Energy’s scheduled entry in June. ■



The Western EIM’s first-quarter 2021 benefits set a new high for that period and were the third highest on record. | CAISO

CAISO/West News

Wildfire Liability, Criminal Charges Cloud PG&E Outlook

\$7.5 Billion in Bonds Key to Managing Debt, Utility Says

By Hudson Sangree

PG&E Corp. faces a long list of financial risks that include new criminal charges and wildfire liabilities not included in last year's bankruptcy settlement, company officials said in an earnings call and a *filing* with the U.S. Securities and Exchange Commission on Thursday.

California's largest utility is counting on the state's Public Utilities Commission to approve \$7.5 billion in corporate bonds this week to refinance roughly \$6 billion in debt incurred during its Chapter 11 reorganization and to accelerate payments to a multibillion-dollar fire victims trust that was part of the bankruptcy settlement.

"We expect the CPUC to vote out the decision on the financing order on May 6, giving us the authority to issue securitization bonds," CFO Chris Foster told analysts on the company's first-quarter earnings call. "We plan to move expeditiously to issue the securitized debt once the decisions become final and non-appealable."

Legal challenges could delay the process, "but we expect to complete this issuance later this year or early 2022," Foster said.

PG&E increased its estimated legal fees and associated bankruptcy costs by \$30 million; those costs now total \$1.4 billion to \$1.5 billion, Foster said.

It also raised its projected liabilities for the 2019 Kincade Fire in Sonoma County and last year's Zogg Fire in Shasta County, neither of which was part of the bankruptcy proceeding.

For the Kincade Fire, "we have increased the claims accrual by \$175 million to a total of \$800 million," Foster said. "I'll also note that we increased our accrual for claims related to the Zogg Fire by \$25 million to a total of \$300 million," most of which will be covered by insurance, he said.

The company *reported* first-quarter 2021 GAAP earnings of \$120 million (\$0.06/share), compared with earnings of \$371 million (\$0.57/share) in the first quarter of 2020.

The company's stock price — which had topped \$70/share in September 2017 but plummeted in late 2018 and early 2019 because of fires and bankruptcy — lagged in the past year. It fell 3.6% to \$10.42/share after Thursday's earnings call but rose to \$11.32/share by the

time the market closed Friday.

The fire victims trust owns 478 million shares of PG&E, or nearly 23% of the company. In a letter to fire victims in April, the trustee, retired California Court of Appeal Justice John Trotter, said he is exploring the sale of an unspecified amount of PG&E stock.

Charges and Probation

The utility's financial outlook remains clouded by pending criminal charges and ongoing wildfire litigation.

On April 6, the Sonoma County district attorney's office filed 33 criminal charges against PG&E in connection with the Kincade Fire, a 78,000-acre blaze that injured six firefighters, destroyed 374 structures and led to mass evacuations. The California Department of Forestry and Fire Protection determined that a PG&E transmission line sparked the fire.

The complaint accuses PG&E of committing five felonies and 28 misdemeanors, including "recklessly causing a fire with great bodily injury" and a felony charge of emitting harmful airborne contaminants, injuring children. (See [Prosecutors Charge PG&E for 2019 Kincade Fire.](#))

PG&E has acknowledged its line started the fire but said it will fight the criminal charges.

"I would say this: The Sonoma County district attorney has a constituency. She's elected. She has a job to do," PG&E CEO Patti Poppe said on Thursday's call. "We disagree with those charges. We don't think there's a criminal basis for those charges. We will fight those charges."

Because of the new charges, federal prosecutors have asked U.S. District Court Judge William Alsup, in San Francisco, to find that PG&E violated the terms of its probation related to the 2010 San Bruno gas explosion. Jurors convicted PG&E of six felonies stemming from the disaster, which killed eight residents and destroyed part of a suburban San Francisco neighborhood.

Alsup scheduled a hearing for today on the prosecutors' request for "revocation of supervised release."

On Thursday, Alsup backed off his threat to apply new probation conditions to PG&E that would have required it to de-energize lines that had not been cleared of dangerous trees. Alsup had proposed the conditions after a leaning gray pine tree struck a PG&E distribu-



One of the 174 homes in Sonoma County destroyed by the Kincade Fire in October 2019 | © RTO Insider LLC

tion line, starting the Zogg Fire, which killed four people. (See [Conflict over Power Shutoffs Grows in California.](#))

"Over many years PG&E robbed its tree clearance budget ... to enhance the bottom line," Alsup wrote in his order. "As a result, we now find ourselves with a power grid overgrown with hazard trees ready to strike onto PG&E's lines during windstorms, spelling wildfire disaster in our dry season."

He also cited PG&E's responsibility for starting the Wine Country fires of October 2017 and the Camp Fire in November 2018. "In those, 107 victims were burned to death, and 22,060 structures were destroyed."

PG&E pleaded guilty last year to 84 counts of involuntary manslaughter in the Camp Fire and a single charge of igniting the fire.

Alsup, however, said he would defer to the CPUC and state's Office of Emergency Services, which asked the judge to reconsider ordering the probation conditions because they could result in more PSPS events.

The judge took issue with that analysis but issued only a recommendation that PG&E consider "the extent to which trees and limbs bordering specific circuits remain in violation of California law or its own wildfire mitigation plan" when deciding which lines to de-energize during wildfire season.

He said he would "leave to the utility the decision on the extent to which it will adopt the recommendation." ■

CAISO/West News

Joint CAISO-EIM Authority Debated in West

EIM Dispute Could Cause 'Fragmentation' if not Resolved, CAISO CEO Says

By Hudson Sangree

Supporters and skeptics of a plan to give the Western Energy Imbalance Market's Governing Body more joint authority with CAISO over changes to the market debated the matter Friday in a webinar hosted by the Western Interstate Energy Board.

CAISO CEO Elliot Mainzer and Carla Peterman, senior vice president of strategy and regulatory affairs with Southern California Edison, voiced their concerns with the plan. Scott Bolton, senior vice president of transmission development at PacifiCorp, and Kristine Raper, a member of the Idaho Public Utilities Commission and the EIM Governance Review Committee (GRC), argued for it.

The joint authority plan is the most controversial part of the GRC's six broad categories of changes outlined in a *draft final proposal* on April 12. Five less divisive categories, including the selection of Governing Body members and stakeholder engagement, were discussed in a GRC meeting last week and will eventually be submitted separately for approval by the Governing Body and the CAISO Board of Governors. (See [Solid Support for EIM Joint Authority Plan](#).)

But the joint authority plan warrants more discussion and a separate decision-making process, the GRC determined. It would require both the board and body to approve tariff changes before submission to FERC, with impasses broken by FERC.

Friday's webinar continued the debate over the main sticking points.



Carla Peterman, SCE | Southern California Edison



CAISO CEO Elliot Mainzer | CAISO

Raper, a strong proponent of the plan, said it makes sense and should be approved without undue delay.

"The Governance Review Committee has been considering among other topics what amount of delegation of authority is appropriate for the [CAISO] board to be invested in the Governing Body," Raper said. "The Governing Body currently functions under a primary authority model, which means that changes to real-time market rules that apply uniquely or differently to EIM balancing authority areas — or any changes to generally applicable real-time market rules where the primary driver for change is an issue specific to the EIM balancing authority areas — go first to the Governing Body for consideration and if approved they advance to the [CAISO board]."

In its December 2020 *straw proposal*, the GRC recommended expanding the scope of delegation from the board to the Governing Body to a joint authority model, which would extend authority over all proposed changes to the EIM's market design and market rules, unless the rules fall within certain specified exceptions. Both bodies would have to vote on proposals within their shared authority, possibly during joint sessions. A majority vote by each would be necessary for proposals to be approved.

"With that said, it seems to me the proposed

change to the governance structure would allow for more collaboration and understanding between the two governing bodies," Raper said. "It would also provide a better view of the market to the Governing Body. But in reality, the [California] statutes and rules requiring limitations on delegations of the board's authority would remain in place, because the law requires that.

"So why the fear of a joint authority model by some California entities?" Raper asked. "The board still holds ultimate authority. Agreement on joint authority would be viewed as a gesture of good faith, I believe, on the part of the California entities. Failure to resolve this issue amicably could stall or even foreclose the opportunity for an expanded market under the CAISO umbrella."

The joint-authority plan comes as the ISO is pushing to expand the real-time interstate EIM market across the West and to establish an extended day-ahead market (EDAM), requiring new market rules covering transmission use, congestion revenues and other issues. (See [CAISO Proposal Sets Course for EIM Day-ahead](#).)

Threats to the EIM and EDAM are among CAISO's greatest concerns.

Bolton noted that his utility helped launch the EIM in November 2014. It was the first to

CAISO/West News



agree to join after CAISO proposed it, even though a governance structure was not yet in place.

The market has produced \$1.28 billion in benefits for its 14 active participants, with eight more scheduled to join over the next two years.

“As an early pioneer there were some risks and some figuring out that had to happen along the way,” Bolton said. “But we’ve clearly been validated, I think, in the assumption that this was a beneficial endeavor and the rising tide of expansion and more participants was definitely going to lift more boats in the region.

“I want to be very clear at the outset that the partnership and work with the California ISO and its staff has been exemplary. There’s been a lot of progress and trust built over our time in this market.”

As the EIM has expanded, however, the “need for equal voices and fair process in the overall power structure has certainly become a much more urgent and, I think, defining need for the rest of the non-California participants.”

He cited an ongoing dispute over wheel-throughs in CAISO as an example of the types of issues that need to be addressed by the EIM and ISO. (See [CAISO Approves Controversial Wheeling Limits.](#))

State and federal decarbonization policies are becoming a bigger EIM market driver, putting more pressure on the real-time market to adapt, he said.

An interstate trading market is necessary, Bolton said, but if CAISO doesn’t show it is willing to share power with out-of-state EIM entities, some may ask: “Is this the real-time market operator that will create that durable institution that we can rely on ... or is this something that has become a well accepted need, but we’re still in search of what that ultimate institution will look like?”

SPP positioned itself as a CAISO competitor with the opening of its Western Energy Imbalance Service market in February. (See [SPP Successfully Launches Western Market.](#))

Bolton said PacifiCorp is “optimistic that motivated parties are going to iron this out” but that CAISO must show its willingness to compromise on EIM governance to make sure EDAM succeeds.

“Lack of resolution around EIM governance casts a pretty dark shadow around EDAM,” he said. “And everyone needs to recognize that if we get this right for EIM, we can build momen-



Idaho PUC Commissioner Kristine Raper | © RTO Insider LLC

tum and trust to look beyond EIM and create a system that is going to be responsive to the operational policy needs we all see coming around the corner.”

California Perspective

SCE’s Peterman, a former member of the California Public Utilities Commission who recently accepted a new job with Pacific Gas and Electric, said she was speaking only for her current employer.

SCE has seen the benefits of regional trade of renewable resources through the EIM and remains a strong supporter of the market’s expansion, although EDAM likely will create difficulties over transmission and its costs, especially outside of CAISO, she said.

Edison prefers to maintain the “status quo in EIM governance,” Peterman said, because it believes the current approach is working well. That said, SCE is open to discussion and compromise over the joint authority model and has offered an alternative approach to the GRC’s proposal that would retain CAISO control over most core functions while sharing more responsibility for market design, greenhouse gas reduction rules, market power mitigation and other issues.

Peterman said the debate over EIM governance is not about a lack of trust, and she was sorry to hear some might feel that way.

“It’s really about appropriate governance structure and one that we think can persist,” she said.

CAISO CEO Mainzer, who headed the Bonneville Power Administration until last year, said he has had a “front row seat” to the formation of the EIM, its expansion over the last decade and BPA’s successful effort to join the market, starting in 2022.

“Just watching the maturation of the relationships and the development of trust ... says we can work with each other in a different way, and we can partner with each other in different ways,” he said.

Mainzer said he understood the Northwestern perspective on the EIM and CAISO, and he now sees the California perspective. The state dealt with capacity shortfalls last summer and now is dealing with the wheel-through controversy as part of its summer readiness plans.

“We’re dealing not with the theoretical elements of resource outages but with the pragmatic on-the-ground aspects of resource adequacy and scarcity in ways that we haven’t had to deal with for a long time,” he said. But amid the difficulties, he said, “I’ve seen the relationships hold together, and I am confident that we’ve built something that can be durable if we resolve these short-term issues.”

CAISO has built its “brand equity” and shown it can be a “transparent, good business partner” in the West.

Getting the EIM governance “issue resolved in a satisfactory fashion ... is very important, and I think that if we can get this issue sorted out, and we get it done here in the short term, I think it’s just another bolt in the foundation holding us together as a region.”

All sides are going to have to compromise to reach a resolution, he said. Otherwise, “I worry, having seen various versions of this movie before, about some fragmentation and some tough decisions that will be on folks’ plates.”

“We all have really important reliability responsibilities and resource development responsibilities, and we’re dealing with the changing West — coal plant retirements, different uses of transmission, different forms of hedging,” Mainzer said. “We have to be able to put our heads together [and] come together for regional solutions.”

The EIM will include 83% of the load in the Western Interconnection by 2023, he said.

“If we continue on our current course, I think that’s an amazing foundation for us to continue to coevolve regional collaboration,” he said. “I just don’t want to see that fall apart, so I’m very attuned to the needs across the spectrum. We’re going ... to listen as hard as we possibly can.

“This is a very dynamic conversation going on around the GRC,” Mainzer said. “Everybody wants to figure this out. We’re going to be a cheerleader for getting it resolved at the ISO.” ■

ERCOT News



ERCOT Participants Call for Tweaks, not Overhaul

Legislature May Oblige with Measures on the Market's Edge

By Tom Kleckner



NRG Energy's Bill Barnes has been spending more time than he would like lately at the Texas State Capitol behind him. | GCPA

As NRG Energy's point person in the Texas capital, Bill Barnes knows his way around Austin. The company's director of regulatory affairs, he is a prominent voice on ERCOT's Technical Advisory Committee and can dig into the market and its complicated issues with the best of them.

But the best were not prepared for the

sub-freezing temperatures that shut down more than 50 GW of ERCOT's installed capacity in February, leading to dayslong controlled outages that have been attributed for at least [151 deaths](#), hundreds of billions of dollars in damages and financial ruin for many market participants.

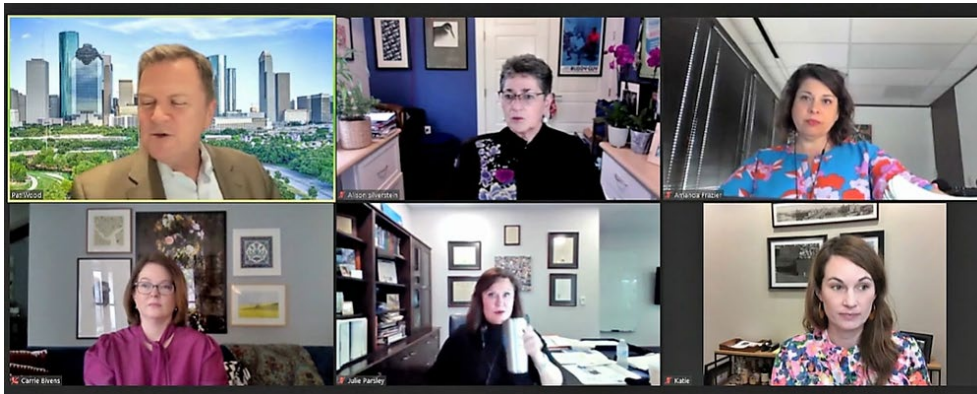
"I did not have on my bingo card in January that I would be spending the spring at the Capitol," he said last week during the Gulf Coast Power Association's Spring Conference.

Yet here he is, watching closely as legislation moves through the state legislature. He has been a frequent witness for the industry, testifying for or against various bills that could dramatically overhaul the ERCOT market and its governance. Penance, perhaps, after \$9,000/MWh scarcity prices during the week of the storm resulted in more than \$47 billion in market transactions and bankruptcies and lawsuits among and between its participants. (See [Is the ERCOT 'Casino' Going Bust?](#))

"Who won? A massive transfer of wealth from one side of the market to the other did not happen here," Barnes said. "This devastation has had severe financial consequences to every sector of our market."

"We do a funny thing in ERCOT: We deliver reliability through efficient markets," said MD Energy Consulting's Mark Dreyfus, who was at the Public Utility Commission in the late 1990s when Texas created its energy-only market. "For a week in February, that wasn't very funny at all."

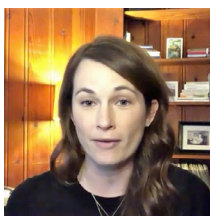
Under ERCOT's market construct, generators are paid only when they provide energy to the



Pat Wood (top left) moderates his "rock star" panel of (clockwise) Alison Silverstein, ResilientGrid; Amanda Frazier, Vistra; Katie Coleman, Thompson & Knight; Julie Parsley, Pedernales Electric Cooperative; and ERCOT IMM Carrie Bivens. | GCPA

market. The \$9,000/MWh prices are designed to incent new generation in the state. However, wind farms and utility-scale solar account for most of the generation that has been added to the market in recent years, with more on the way.

Natural gas plants (51.7 GW of installed capacity) still provide most of the energy for the market's 26 million customers, but wind (31.4 GW) is second with 28.8%. Solar (6.2 GW) accounts for only 5.7% of ERCOT's capacity, but along with wind, it is responsible for the bulk of the interconnection queue's projects.



Katie Coleman | GCPA

"It was a market failure, but it was not a fault of our market design," said attorney Katie Coleman, who represents industrial consumers. "We have a fantastic market that has served Texans well over two decades. It's

lean and sometimes mean, but it incentivizes top performance for customers at sometimes a low cost.

"The answer is not to completely redesign the market from scratch. I hope people can remember there has been a lot of work, a lot of thought, in creating the market we have today," she said.

Coleman was part of a GCPA panel of "industry rock stars," as described by moderator Pat Wood, former chair of both FERC and the PUC. She was joined by ERCOT Independent Market Monitor Carrie Bivens; Pedernales

Electric Cooperative's Julie Parsley, also a former PUC commissioner; consultant and ex-Wood aide Alison Silverstein; and Amanda Frazier, Vistra's senior vice president of regulatory policy.

They were nearly unanimous in their belief that Texas lawmakers should take a scalpel to the market, not an ax.

The winter storm "uncovered a number of flaws in our market design ... but our competitive markets have delivered an enormous amount of value to Texas consumer over last 20 years," Frazier said. "We should do some market design fixes, but we should not throw out the baby with the metaphorical bath water."

The most likely measures to pass the legislature are some form of weatherization mandate (though its funding is unclear), a requirement that ERCOT's board members be Texans, increased governance responsibility for the PUC, a ban on wholesale price-indexed plans, and better coordination and communications between the electric and gas industries — both of which have pointed the finger at the other over who was responsible for the lack of fuel supplies during the storm.

"That has created a conversation about a lack of integrity in our fuel supply, which we have not seen in previous events," Frazier said. "To me, that is absolutely the worst issue we saw in February and the one that deserves the most attention."

"We need to be very careful in the way we require companies to spend money in ways that load will have to start paying," Parsley said.

ERCOT News



“There’ve been complaints about [the lack of] weatherization. One thing that really should be looked at is weatherization of the natural gas system. I don’t know what that would cost or what it would require, but it’s a conversation worth having.”

What you won’t see coming out of the legislature is a capacity market or moves to link ERCOT with the Eastern or Western interconnections. Standby generation would likely have had the same problems that knocked off half of ERCOT’s capacity during the storm, while the neighboring RTOs were also struggling to meet demand.

“Are they going to reregulate? They’re not,” Priority Power Management CEO and keynote speaker Brandon Schwertner said. “Are they going to start a capacity market? They’re not. We’ll fix the market another way.”

That hasn’t stopped Starwood Energy Group Global from proposing to build and own 11 GW of new ERCOT-dispatchable gas plants, similar to a previous proposal by Warren Buffett’s Berkshire Hathaway Energy. (See [Berkshire Hathaway Offers Texas Emergency Power Supply](#).)

In a [letter](#) to the PUC and ERCOT, Starwood CEO Himanshu Saxena offered to invest \$8 billion to develop and build the “state-of-the-

art” plants. In return, the investment firm would create a regulated company that would hold the assets and recover a PUC-approved regulated rate of return, not to exceed 9%.

“I’m watching two outside investors falling over themselves to spend billions in Texas,” Wood said. “Why would anyone put one more kilowatt of gas-fired power on the grid?”

“I’m not sure the answer we need is a bunch of new gas,” Bivens said. “What we’ve seen over the past few years is certain incentives lead to certain outcomes. We have seen high prices in August; we have seen price spikes when there’s not enough rampable generation on the system. Storage has the potential to upend a lot of the conventional thinking we have, but I don’t necessarily think the answer to the event is a lot of natural gas.”

“This is a very complicated market, and it’s a complicated grid. There’s a lot of change that’s needed,” Frazier said. “I’m hopeful that with whatever comes out of the legislative process, we end with a workable system where we can get dedicated folks, whether they’re Texans or not, who are willing to dig in, consider the issues, learn on the job and fix the things we uncovered in the storm.”

Legislators and market participants seem to be coalescing around securitization products,

which would take the nine-figure bills some utilities are faced with and spread them out over 20 or 30 years. Customers would get a monthly charge on their bills, but the cooperatives and other buyers in the market would have the debt taken off their books. (See [Securitization Offers Texas a Way Forward](#).)

The two largest short pays to the market are held by cooperatives Brazos Electric Power, which has declared bankruptcy, and Rayburn Country Electric. Brazos owes 62.8% of ERCOT’s short pay (nearly \$1.88 billion of \$2.99 billion, as of April 23) and Rayburn owes \$641 million.

“There’s some light at the end of the tunnel there. Our legislative members have been very accommodating in terms of thinking of solutions to help this financial distress we’re seeing in the market,” NRG’s Barnes said. “The No. 1 priority is the cooperatives’ securitization. That would allow Brazos and Rayburn to get access to low-interest funds, and that’s what we all want ... that Brazos and Rayburn pay their bills.”

“This is all intended to help provide liquidity and financing to plug this massive hole and get it behind us,” Barnes said. “Then we can update our rules so we make sure we don’t ever live through this again.” ■



ERCOT operators monitor the market during calmer times. | ERCOT

ERCOT News

ERCOT Board Chooses Jones as Interim CEO

Continued from page 1

“The plan will put ERCOT on a solid foundation for providing reliable electric service year-round,” he said. “Electricity is the engine of the Texas economy, and Texas businesses expect the driver to be reliable, resilient, trustworthy and competent. I will work to restore ERCOT’s reputation as that reliable and trustworthy driver of our grid and the economy.”

The move was greeted as “good news” by the state’s industry insiders.

“Brad’s selection makes a lot of sense. He has a good reputation at the Texas Capitol, with ERCOT staff and among the Texas stakeholders,” Mark Bruce, Cratylus Advisors principal, told *RTO Insider*. “He understands the market, the system and the players, so he will come up to speed quickly.”

“He’s super competent and already knows the major Texas and ERCOT issues and players,” energy consultant Alison Silverstein said in an email. “There is a ton of important cleanup and new issues work that has to be done at ERCOT immediately ... so it’s good that we’ll have an experienced hand at the ERCOT wheel.”

Jones was ERCOT’s COO for two years before taking over at NYISO grid in 2015. Three years

later, he abruptly left the state and returned home to Texas in what was termed a “personal decision.” (See [Brad Jones out at NYISO](#).)

A graduate of Texas Tech University, Jones has served as chairman of the Edison Electric Institute’s Executive Advisory Committee and as a member of the Gulf Coast Power Association’s board.

The ERCOT board approved Jones’ nomination following just over two hours of deliberation in executive session. Given the highly unlikely probability of hiring a full-time CEO before Magness’ transition ended, ERCOT legal staff recommended the board select an interim CEO “with all of the rights, powers and duties” of the position.

Peter Lake, newly sworn in as the PUC’s chairman, led the meeting after being approved as the presiding director. The board has been without a chair since its unaffiliated directors resigned in February after the storms.

“I appreciate your trust in me running these meetings,” Lake said, one of his first public comments after being appointed to the PUC last month. (See [Lawmakers Wave Through Texas PUC Appointees](#).)

Magness drew political heat following the



Brad Jones | © RTO Insider LLC

grid’s near collapse in February that is thought to have killed as many as 200 Texans, caused hundreds of billions in damages and left the ERCOT market in financial distress. Testifying for almost 11 hours before four state Senate and House committees on Feb. 25, Magness said he would not have done anything differently in the leadup to the massive load shed, but he admitted that ERCOT’s communications efforts could have been much better. (See [Texas Lawmakers Dig into Power Outages](#).) ■

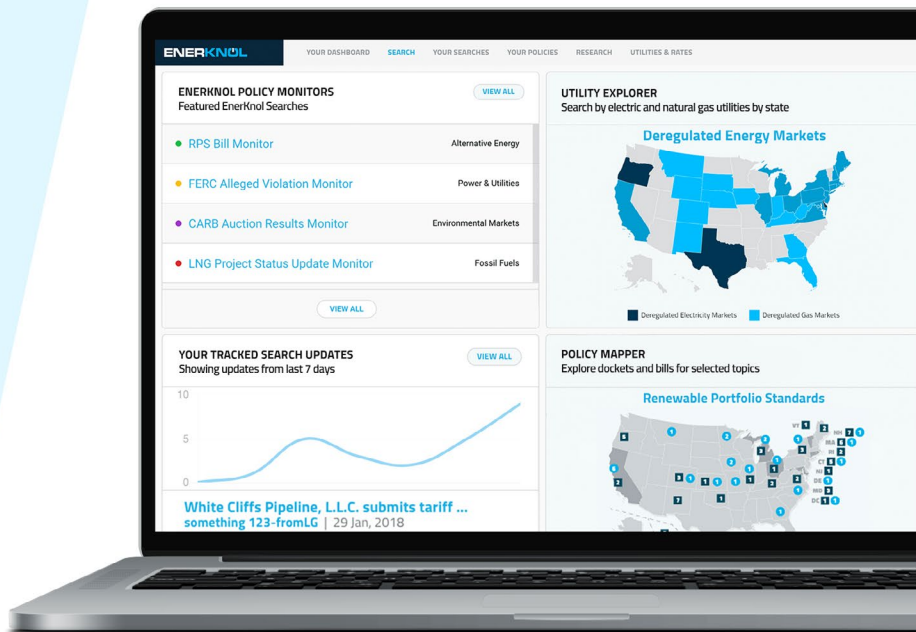
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ERCOT News



Transmission Key to Xcel's Renewables Development

By Tom Kleckner

Xcel Energy's push to add nearly 10 GW of renewable energy and meet its 80% carbon-reduction goal by 2030 will hinge largely on long-haul transmission projects, CEO Ben Fowke said Thursday.

Xcel filed a *proposal* in March to build 560 miles of 345-kV transmission infrastructure in eastern Colorado. The \$1.7 billion Colorado Power Pathway project would help the company access 5.5 GW of wind, solar and storage power and the state reach its 85% carbon-reduction target.

"There's a recognition that if we're going to achieve ... an 85% carbon reduction with almost 80% of it coming from renewable energy, we're going to need a strong backbone to be able to do that," Fowke told financial analysts during Xcel's first-quarter earnings call Thursday.

One analyst noted the Pathway project was among a list of 22 "anointed" shovel-ready projects released last week by Americans for a Clean Energy Grid. (See related story, *Biden Admin Announces New Tx Expansion Measures*.)

"The [regulatory] reception has been very favorable to the project," Fowke said.

The company's management also addressed MISO's long-range *transmission road map*, a massive, \$100 billion group of projects — if fully built out — designed to help the footprint's states and utilities unlock renewable energy and achieve their climate goals. (See *MISO Execs Defend Need for Long-range Tx*.)

"The MISO studies are preliminary, but ... that's an enormous investment opportunity," Fowke said, noting that Xcel holds the right of first refusal to build transmission in Minnesota.

"We expect all transmission owners to work through the process at MISO over the course of 2021," COO Bob Frenzel said, "ultimately, with a goal of by the end of the year, coming out with a series of recommended projects all over the territory."

The executives agreed that the infrastructure plans coming out of the Biden administration will only help them more quickly deliver low-cost renewable energy.

"Taking advantage of very low-cost renewables ... you make that even less expensive, more affordable with the tax policies that have a pretty good shot of getting passed," Fowke said. "That's creating a lot of headroom for our investment, while keeping our product affordable, allowing us to then focus on things like

electrification under the Biden administration proposal. It really is, I think, very, very bullish for Xcel Energy."

The company *reported* first-quarter earnings of \$362 million (\$0.67/share), up from last year's first-quarter performance of \$295 million (\$0.56/share). That beat analysts' expectations of 61 cents/share, according to Thomson Reuters.

Fowke said Xcel incurred \$1 billion of incremental fuel costs during February's winter storm, which enveloped the middle of the country. The company plans to recover over one to two years to mitigate the impact to customer bills.

"I think there are a lot of lessons learned from Uri," he said, referring to The Weather Channel's name for the storm. "The need to invest in resiliency, the increased interdependency between the gas and electric sectors, and the need to have 24/7 dispatchable generation available are a few that come to mind."

Xcel's stock price was trading down at \$70.38 in the after-hours market Thursday, still a gain of 57 cents on the day.

Entergy Beats Expectations, Despite Storm

Entergy's financials suffered few ill effects from Uri as the New Orleans-based company *reported* first-quarter earnings Wednesday of \$335 million (\$1.66/share), based on \$2.84 billion in revenue. A year ago, earnings came in at \$119 million (\$0.59/share).

The company's adjusted earnings of \$1.47/share beat expectations by 30 cents.

CEO Leo Denault told financial analysts that recent regulatory settlements in Arkansas, Louisiana and Texas have solidified "a clear path for our future growth."

The company did not address several regulatory investigations into poor performance and high customer bills. An *initial report* commissioned by the New Orleans City Council found Entergy mistakes in responding to MISO load-shed directions led to widespread power outages during the February storm. The Louisiana Public Service Commission has also launched its own investigation into Entergy's performance during the storm.

Entergy's share price lost nearly \$1 after the earnings release but recovered to close Thursday at \$108.58. ■



The February winter storm had little effect on Entergy's earnings. | Entergy

ERCOT News



ERCOT Technical Advisory Committee Briefs

Updated Storm Outage Report Minimizes Wind Energy's Contribution

ERCOT last week released an updated version of an earlier report on generator outages during the February winter storm that indicates natural gas was the fuel source most susceptible to being knocked offline or derated.

The *new report*, shared first with the Technical Advisory Committee on Wednesday, says wind energy was a much smaller contributor to the outages that almost brought down the ERCOT grid.

Gas outages or derates jumped from about 12 GW in the early-morning hours of Feb. 15 to more than 25 GW before the day ended. The outages were still above 25 GW on Feb. 17 before eventually scaling down. Weather was the primary cause of the outages, with equipment issues and fuel limitations being the primary causes.

In comparison, wind outages peaked above 15 GW Feb. 14-18, when based on nameplate capacity. However, when based on estimated lost-wind output, those outages peaked at about 12 GW Feb. 12 and were less than 5 GW for most of the rest of the week.

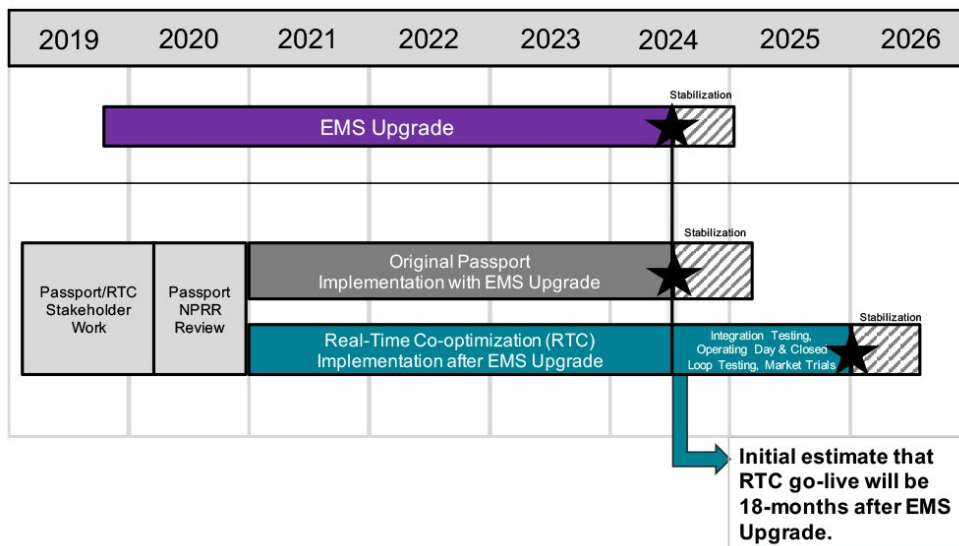
"We were really focused on outages and outage causes with this report," said Woody Rickerson, ERCOT's vice president of grid planning and operations. "The only reason we went into how much wind was actually produced was to provide different basis when evaluating the overall scope of this event."

Coal outages did not quite reach 6 GW, primarily because of fuel limitations. The system's combined outages peaked at just over 52 GW at 8 a.m. Feb. 16.

ERCOT used only nameplate capacity in its preliminary report, because that is how outages and derates are reported to its scheduling software. In the first report, one chart appeared to show generation losses from wind as just slightly smaller than natural gas losses that week. (See *ERCOT Blame Share: Weather (54%); Equipment (14%), Gas (12%).*)

In the latest report, staff used backcasted information on a unit-by-unit basis to allocate the lost wind output to each cause code, based on the proportion of total outaged wind capacity assigned to each cause for each hour. The outage causes were further subdivided into more granular categories.

"We don't consider the lack of wind to be an



Staffing constraints have forced SPP to pull the EMS software upgrade out of the Passport Program, delaying the rest by 18 months. | ERCOT

outage," Rickerson said.

"I know you don't, but the folks downtown [at the Legislature] do," MSCI's Clayton Greer said. "This is saying there was a serious problem with natural gas capability. I get it, but I'm not your only audience. I think we have to start thinking about the people who will be using these [slides]. They have less of a background to understand this offhand. We've got to help paint a bigger picture so they understand and they're not making inaccurate statements downtown."



Clayton Greer, MSCI | © RTO Insider LLC

Reliant Energy Retail Services' Bill Barnes was among several TAC members complimenting staff on the report. He pointed to slides 18-21, which break out the net generator outages or derates by cause for natural gas, coal and wind resources, as telling the "true story."

"This will certainly help our friends at the Legislature fix what needs to be fixed going forward," he said.

Rickerson was asked whether ERCOT would provide the underlying data so that others could do their own analysis. He pointed out that much of the data would be redacted, but he did offer that a final version of the report would include data from Feb. 9-20, not just the week of the storm.

"I'm not saying we can't do it, but it will be a very time-intensive effort to get that out," he said.

Passport Pushed Back 18 Months

ERCOT notified stakeholders that "unresolvable" staffing constraints have led management to pull the energy management system (EMS) upgrade from the *Passport Program*, which will result in an 18-month delay for the implementation of real-time co-optimization (RTC) of energy and ancillary services.

Passport Director Matt Mereness said there are not enough available personnel to deliver both EMS and Passport, which was to bundle EMS, RTC and several other high-profile initiatives. Passport had a 2024 deadline, based on an EMS critical path.



Matt Mereness, ERCOT | © RTO Insider LLC

"We had a plan, which was a big bang for everything," Mereness said.

ERCOT's plan was to refresh the EMS software's language this year and then build everything else — including RTC, battery energy storage, contingency reserve service and distributed generation improvements — on top of that. Passport has an \$85.5 million budget, with \$51.6 million dedicated to the

ERCOT News



RTC effort and \$27.1 million allocated to the EMS upgrade.

At issue is EMS' complexity. Mereness said the system was last upgraded in 2016; since then, staff have added an operating system, databases and other software that are no longer supported by vendors.

"The EMS refresh is the backbone and heart-beat of ERCOT," Mereness said. "The EMS upgrade is non-negotiable."

Staff will now develop an updated delivery schedule for EMS without Passport's scope and re-evaluate its options for completing the program's other initiatives. Mereness said that as the winter storm-related work picks up, staff may yet have to defer other parts of the program.

"It's a smaller problem to solve," he said. "We want to be honest and open where we defer a certain amount of work ... it won't be a quick and easy thing. We have these multiple projects we're trying to reweave together."

ERS Quickly Exhausted During Storm

Mark Patterson, ERCOT's manager of demand integration, told the committee that the grid operator has purchased more than \$20 million of emergency response service (ERS) since January because of the February winter storm, about half of what has been set aside for the annual program that ends in November.

ERCOT spent \$12.5 million procuring ERS during Feb. 1-23 alone, 30.4% of the \$41 million available this program year. It then purchased an additional \$7.7 million to take

the grid through May.

The grid operator *procures ERS* by selecting qualified loads and generators, including aggregations, to make themselves available for deployment during a grid emergency. It procures the service three times annually for four-month contract terms and two different response times: 30 minutes and 10 minutes.

Patterson said the ERS fleet response "generally" met or exceeded its aggregate obligation, most significantly when ERCOT began shedding load Feb. 15. Most of the fleet was deployed and exhausted its obligation within 12 hours of the first deployment, he said.

"Because of the [winter] event, a lot of businesses could open. Certain processes shut down because the cold weather kept them from operating," Patterson said.

Almost half of the grid's 107.5 GW of installed capacity was knocked offline; generators were able to meet only about half of their combined obligation, while loads met about 70% of their obligation, he said.

"We're paying a lot of money every year for them to curtail, and they had already curtailed," Greer ruefully remarked.

Virtual External Meetings Through Summer

Staff told stakeholders to plan for virtual meetings through the summer as they continue to monitor COVID-19 case counts and vaccination rates.

"Gathering in large groups in [ERCOT's Austin

facility] is not a good recommendation at this time," ERCOT's Kristi Hobbs said.

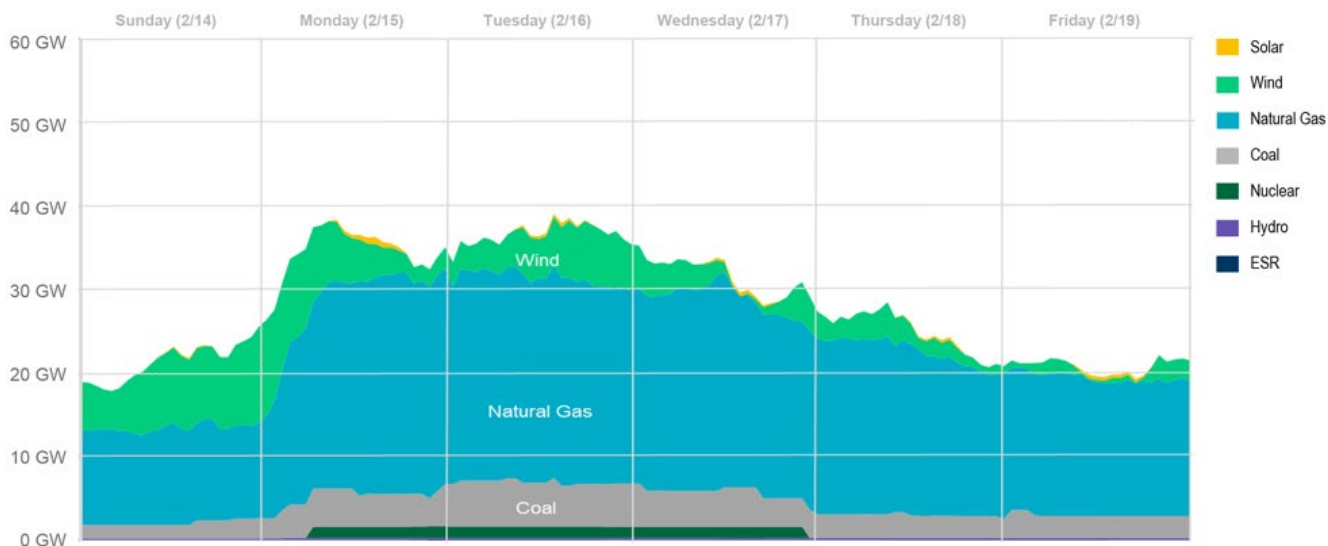
The grid operator is making plans to accommodate additional staff on site to handle summer operations. Another update is expected later this month.

Slim Combo Ballot Approved

The TAC's combination ballot passed by a hefty 29-0 margin and included two Nodal Protocol revision requests (NPRRs) and single changes to the Nodal Operating Guide (NOGRR) and the Retail Market Guide (RMGRR):

- **NPRR979:** incorporates the Other Binding Documents' (OBDs) "state estimator standards" and "telemetry standards" into the protocols.
- **NPRR1062:** adds advanced meters to the metering requirement for premises connected at transmission voltage and/or with a peak demand greater than 700 kW/700 kVA, which currently require an interval data recorder (IDR) meter.
- **NOGRR199:** realigns references to state estimator and relevant telemetry standards with their move from OBDs to the protocols.
- **RMGRR164:** removes language from the guide predating the implementation of advanced metering systems (AMS). It defines the business rules and processes to be followed when transitioning a customer from an IDR meter to an AMS profile type. ■

— Tom Kleckner



Version Date: 4/22/2021

ERCOT's latest report on generator outages during the February winter storm shows natural gas plants played a much larger role than renewable resources. | ERCOT

ISO-NE News

Conn. Utilities Found Deficient in Tropical Storm Isaias Response

By Jennifer Delony

Eversource Energy and United Illuminating are facing potential fines for what regulators say was a poor response to Tropic Storm Isaias, which left hundreds of thousands of Connecticut residents without power last summer.

Connecticut's Public Utilities Regulatory Authority unanimously adopted a [ruling](#) on Wednesday finding that Eversource failed to comply with performance standards and manage its response to the storm "prudently and efficiently." In addition, the ruling found that while UI's response was "underwhelming," it was better than that of Eversource.

Isaias hit Connecticut on Aug. 4, 2020, damaging power lines, utility poles and transformers, and blocking roads with debris, according to the ruling. During the storm, 50% of Eversource customers and 33% of UI customers lost power. It took nine days to restore power to all customers.

PURA Commissioner Michael Caron expressed respect for utility employees who restored power after the storm, but he was critical of the utilities themselves during PURA's regular [meeting](#).

The companies are "well run," but when it comes to "showtime, [they] cover in the corner," he said. "Worse, decade after decade it is always the same usual suspects: lack of preparedness, lack of communication, lack of coordination and a lack of timely restoration."

PURA's ruling criticized the companies for not understanding their obligations as public



It took Eversource nine days to restore power to all of its customers in Connecticut after Tropical Storm Isaias hit the state in early August 2020. | Eversource



AG William Tong  @AGWilliamTong · 2h

PURA found Eversource was "imprudent." That's the technical term for "they blew it."

Eversource must be held accountable for their failure.

| Connecticut AG William Tong via Twitter

service providers.

"Our public utilities, and Eversource in particular, have failed us and continue to fail us by putting shareholders above the rights and good of the citizens of Connecticut," the ruling said, adding that the companies likely will appeal the decision, "given the financial consequences at stake."

The ruling requires Eversource and UI to reduce their rates of return on equity by 0.9% and 0.15%, respectively. That measure "is meant to align the electric distribution companies' management performance in future storm response efforts with their financial performance," the ruling said.

Eversource spokesperson Tricia Taskey Modifica told *RTO Insider* that the company stands by its response to the storm and credits its employees' skill and dedication to restoring power as quickly as possible.

"There are many areas for improvement that we are already addressing, and we continue to work in good faith with our communities, customers and regulators to improve our performance," she said. PURA's "decision deserves careful consideration and review, and we are committed to moving forward in the best interest of our customers."

UI is "disappointed" that PURA's ruling imposes a penalty on the company despite the finding that "it generally met the standards of acceptable performance and conducted itself prudently and efficiently," spokesperson Edward Crowder told *RTO Insider*.

The company, however, remains mindful of the "deficiencies cited by PURA," and it's "well aware of the difficulties that extended outages cause for our customers," he said. But UI believes that the facts show that the company "faithfully" followed its emergency plan.

"As we consider our next steps, we will continue to use what we learned during Isaias and from PURA's investigation to serve our valued customers, and to improve our readiness for and response to future extreme

weather events."

Eversource needs to regain the trust of the state and its citizens, Connecticut Attorney General William Tong said in a [statement](#) in response to PURA's ruling.

"Their failed response to Isaias put lives in danger and left families in the dark and disconnected during a deadly pandemic," Tong said. "PURA has rightly opened the door to strong penalties and corrective action, and we will continue to advocate for full accountability at every step of this process."

PURA Findings

After an eight-month investigation into what happened leading up to and following Isaias, PURA determined that Eversource did not satisfy performance standards for:

- managing its municipal liaison program;
- executing its responsibilities to clear blocked roads;
- communicating critical information to its customers; and
- meeting its obligation to secure adequate resources in a timely manner.

In addition, PURA determined that UI did not meet all of its obligations to clear blocked roads and ensure public safety.

The ruling requires both utilities to make enhancements to their emergency response plans and undergo management audits that will be conducted by a third-party this summer.

Recognizing the risk of increasing frequency and severity of storms because of climate change, PURA directed the utilities to review options for "climate change-related storm insurance policies."

PURA opened a second phase of the investigation proceedings to consider civil penalties for instances of noncompliance identified in the ruling (Docket No. [20-08-03RE01](#)). It also said it may reject any future requests for storm cost recovery from the companies. ■

MISO News

Michigan PSC to Decide MTEP 19 Project's Fate

By Amanda Durish Cook

Michigan regulators will assess a 2019 MISO transmission project to determine whether it is transmission or distribution in nature and if it should remain in the grid operator's 2019 Transmission Expansion Plan (MTEP 19).

FERC last week said it will allow the Michigan Public Service Commission to apply a seven-factor test to determine whether the \$8.6 million, 120-kV interconnection project in eastern Michigan is a transmission project and should maintain its MTEP 19 eligibility (EL21-41).

DTE Energy representatives in late 2019 objected to the project's inclusion in MTEP 19, saying the line was radial in nature and resembled a distribution, not transmission, project. DTE asked for a hold on the project's approval until regulators could evaluate it. (See "Disagreement on Michigan Interconnection Project," *MISO Board OKs \$4 Billion MTEP 19*.)

The city of Croswell wants to use the line to relocate its load from DTE's 41.6-kV distribution system to International Transmission Co.'s (ITC) system.

MISO has said that if regulators classify the line as distribution, it will remove it from the MTEP 19 lineup. The RTO's previous analysis classifies the project as a transmission line.

DTE must file a petition with the PSC to initiate the decision making.

DTE argued that the line is unlikely to become networked in the future. The utility said it was approached by Croswell in 2017 about improving its system reliability. DTE proposed to build a dedicated 41.6-kV distribution line and bill the city. According to DTE, Croswell rejected the proposal and pursued the interconnection project, which would shift costs to DTE customers.

ITC responded that its transmission pricing zone contains other projects similar to the

Croswell interconnection, pointing to a pair of radially fed 120/13.2-kV substations approved in MTEP 17 and MTEP 19. It said because similar facilities have been categorized as transmission projects, the Croswell interconnection should get comparable treatment.

DTE Energy's territory is located within the ITC pricing zone.

FERC said it has deferred to the Michigan PSC's expertise in the past when "Michigan utilities have requested commission approval of facility classifications for the purpose of determining eligibility for cost recovery in transmission rates in joint pricing zones."

The situation is reminiscent of MTEP 18's Morenci project, which Consumers Energy disputed. The PSC reviewed the \$21 million, 138-kV line near the Michigan-Ohio border and *classified* it as a distribution project, making it ineligible for the MTEP. (See *Michigan Regulators Intercede in MTEP Complaint*.) ■



Croswell's Opera House | *The Croswell*

MISO News

MISO Stresses Importance of Long-range Tx Plan

By Amanda Durish Cook

MISO planners last week again drove home how essential a long-range transmission plan is, although some MISO South representatives remain skeptical.



MISO's Jeff Webb |
© RTO Insider LLC

"Planning should take a long-term view of the system," MISO's Jeff Webb, senior director of transmission planning, said during an April 30 virtual stakeholder workshop. "If you don't do that, you end up with incremental, patchwork

planning."

He said MISO's generator interconnection planning and baseline reliability planning are "reactive" and study short-term horizons of five and 10 years, respectively. On the other hand, market efficiency projects are purely driven by economics, despite having a 15-year study horizon, he said.

Webb said a long-range study will be MISO's only planning that looks more than 20 years into the future.

"If we never look beyond our skirts ... we won't know how the system might best be developed," he said.

MISO System Planning Principal Adviser Matthew Tackett said that until now, staff hasn't needed much beyond incremental planning be-

cause the footprint was overbuilt years before.

"Load hasn't grown much over the last 60 years," he said.

However, he said the energy industry is on the precipice of transformational change.

MISO in March said it may need more than a dozen 345-kV additions, a handful of 500 kV and 765 kV lines, and even a massive footprint-wide network of DC lines as part of the long-term planning package. Staff estimates the long-term transmission package could cost anywhere from \$30 billion-\$100 billion. (See [MISO Reveals Contentious Long-range Tx Project Map](#).)

Tackett said the possible projects are only a "start" and based on known and anticipated issues from prior MISO studies, rather than a new, dedicated analysis. He told stakeholders that need and routes are destined for alteration.

Mississippi Public Service Commission consultant Bill Booth asked whether MISO will assign transmission costs based, in part, on states' individual renewable penetration goals, which vary from aggressive to moderate.

"We know that not everything is created equal," Webb said, adding that MISO is working with a regional aggregate renewable penetration model.

"The push for renewable energy is very widespread across the footprint," he said.

Webb said MISO isn't pursuing a long-term plan simply to make it easier for new resources to interconnect. He said "the real reason is

the grid will fall apart" under a likely future resource mix.

Simon Mahan, Southern Renewable Energy Association's director, said he noticed that MISO's map of possible transmission needs includes new lines in areas in MISO South that shed load during Winter Storm Uri. He said new southern lines might have helped limit the emergency.

"We're going to pay for this either through new transmission lines or not having enough power," Mahan said.

Mississippi Public Service Commission counsel David Carr said that while parts of the South may need "targeted" transmission projects in certain load pockets, he wasn't sure that the scale should be in the order of billions of dollars.

"It's not clear, at least to this southern regulator, why we need massive transmission projects to ensure that this event doesn't happen again," he said.

MISO CEO John Bear said the MISO's load-shed orders during the winter storm were a matter of inadequate transmission capacity, not short power supply.

"We didn't have resource shortages; we had transmission problems. We had enough resources, we just couldn't move them to where they needed to be," Bear said during a Gulf Coast Power Association forum in mid-April.

MISO will hold another long-range transmission workshop with stakeholders at the end of May. ■

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MISO News

Overheard at the Midwest Energy Policy Series

Experts appearing at the Missouri Energy Initiative's virtual Midwest Energy Policy Series on Wednesday and Thursday touched on thoughtful infrastructure expansion, cybersecurity and FERC Order 2222.

Infrastructure

GridWise Alliance CEO Karen Wayland said there's "a lot to like" in President Biden's recently announced *American Jobs Plan*, but the infrastructure proposal probably doesn't go far enough.

The draft package includes \$174 billion worth of consumer incentives for electric vehicles; \$100 billion for resilient transmission systems, with a goal of 20 GW in new high-voltage transmission lines; another \$50 billion to safeguard critical infrastructure, including the grid; and a production tax credit for storage.

Wayland said that while the proposal is investment-heavy in new transmission, it doesn't include enough grid innovation, like microgrids, to handle multiplying distributed energy resources and the large-scale electrification of buildings and vehicles. Electrified vehicles and buildings should soon be able to provide ancillary services to the grid, she added.

"We're really grappling with the concept of what does it mean for the grid to be ready to be the platform for all these things that we want it to do," Wayland said. "We don't see a big investment in the grid itself in this package."

Wayland said today's federal grid investments must be more substantial than the \$10 billion in grid spending that was included in the stimulus package during the Great Recession.



1898 and Co.'s Jason Vigh | Burns and McDonnell

"The grid is so much more important now than it was 10, 12 years ago that the scale of investment in the grid itself needs to be larger than it was in the [2009] recovery act," she said.

She said the grid needs better software, controls and sensors to take advantage of all the services energy storage can provide.

"I think we're in the decade of storage," Wayland predicted, pointing to a "striking" 88% decline in the past 10 years in the cost of lithium ion batteries.

"I keep hearing the focus on building new transmission as a way to harness the power of renewables, but we also need to invest in the grid itself because we've got to manage how that power flows over the grid, and that's going to be grid-enhancing technologies," she said.

Jeffrey Schub, executive director of the nonprofit Coalition for Green Capital, said clean energy furnishing a steeper demand because of pervasive electrification only works if there's "a huge amount of storage on the grid connected to a smart, well constructed grid."

Schub said the American Jobs Plan must include funding and policies for regions already left behind in the clean energy transition. He said the areas include the polluted "fence line" communities next to coal plants and "communities in Wyoming and West Virginia that are being rotted out from the inside — economically speaking — because the markets for coal are evaporating and there are no other job opportunities."

"And that's not a trivial concern," Schub said.

RTO Perspectives

MISO and SPP planners said mid-February's deep freeze likely has implications for their respective infrastructure buildouts.

SPP Director of System Planning Casey Cathey said transmission congestion in the South had the RTO backing down some generation during the winter event. He said the question remains whether SPP will need to test more extreme winter events for resource adequacy standards or include them in transmission planning.

"We have some transmission assets that are 80 years, 60 years in the ground. And the question is: Do we want to build those types of facilities to be able to mitigate situations such as this event? It gets into risk-based planning, probabilistic planning. There are a lot of things



Gridwise Alliance CEO Karen Wayland | Gridwise Alliance

that we could do to help address it, but the question is if the event and when this event happens again, will it be the same resource that will be offline? Will it be the same transmission facilities that are out?" he said.

MISO System Planning Principal Adviser Matthew Tackett said his RTO also faced transmission congestion that hindered power delivery and that more transmission could have prevented some load shed. He said MISO is "looking hard" into whether transmission buildout can assist resource adequacy.

"But you've got to look at the risk, the cost, the probability of this happening again. Are there other benefits that transmission can provide?" Tackett told attendees.

He said markets are going to increasingly become weather-driven, not just in terms of reliability during extreme events, but in that weather will determine how much "just-in-time" energy can be generated. MISO will have to rethink historic trends, he said.

Cybersecurity

Federal infrastructure dollars should be reserved for the development of a cybersecurity workforce in the energy industry, Wayland argued.

"The lack of trained cybersecurity workforce in the utility sector is a huge threat," she said.

"'Cybersecurity' has become that scary word," CyberUp Executive Director Tony Bryan said. "We see it in the news; we read about it all the time. ... It really came to a head with SolarWinds and updates and patches and all these

MISO News

other terms and words. ... But the reality is there are lots of risk.”

Maryville University cybersecurity instructor Brian Gant said today’s cybersecurity milieu entails more malicious hackers trying to crack larger grids that use more online applications.

“These are some of the same threat actors that have attacked the financial industry or health care for years. And they’re seeing a prime opportunity to go after the energy sector,” Gant said.

Joe Scherrer, of Washington University in St. Louis, said utilities’ operational technology was never designed for security and is “especially vulnerable” to attacks and exploitation.

“It’s going to take a very concerted and deliberate effort to overcome these [challenges],” he said.

Center for Internet Security Phyllis Lee said the energy sector is susceptible to ransomware attacks and utilities must design post-attack recovery plans.

Jason Vigh, of Burns & McDonnell’s consulting arm 1898 and Co., said utilities should insist that their vendors’ software be equipped with encryption, authentication and data validation features.

“If nobody’s asking for it, then the vendors

aren’t going to do it,” Vigh said. He urged executives not to think about the price tag of a cybersecurity program, but the cost savings of prevention.

All employees need to be mindful of threats in day-to-day work, he said. “Cybersecurity is no longer one individual’s or one department’s responsibility.”

Vigh also said energy companies shouldn’t be the proprietors of cybersecurity measures and should collaborate on what protections work.

“I know that there’s a lot of competition in this industry. ... There’s a time for competition and then there’s a time for teamwork across an industry. ... Although there’s money to be made in cybersecurity, we need to do the right thing,” he said.

Order 2222

Arkansas Public Service Commission Chairman Ted Thomas said FERC’s Order 2222 — which admits distributed resource aggregators into RTO markets — also demands infrastructure development so RTOs can communicate with distribution utilities.

“It’s like laying out a highway system, not entirely knowing what the traffic patterns will be, but knowing if there is no highway system,

there will be no traffic at all,” Thomas said.

Former FERC Commissioner Tony Clark, now senior adviser with Wilkinson Barker Knauer, predicted a jump in end-use costs in order for RTOs to implement Order 2222 properly.

“Whatever happens on the distribution side of the grid ... it has to be visible to the grid operator; it has to be predictable for the grid operator; and it has to be in some way controllable,” Clark said.

Thomas said that while implementation costs are ultimately borne by the consumer, the expense can be justified through the benefits of bringing DERs into aggregations.

“To me the cost is worth it because it opens up the technological possibilities that will hopefully avoid even more costly carbon mitigation,” he said.

Thomas also warned that bickering over state-versus-federal jurisdiction in the course of Order 2222 implementation can hobble a response to the climate crisis.

“The question of who decides can itself become a barrier to technology, because you get a decision and you fight over whether the decision was lawful or not because of who decided,” he said. ■

– Amanda Durish Cook



EDF Renewables' McHenry storage project in Illinois | EDF Renewables

MISO News

Winter Storm Uri Dominates GCPA Discussion

By Amanda Durish Cook

Winter Storm Uri continued to command attention in the energy sector last week, dominating the conversation during the Gulf Coast Power Association's annual spring conference.

"Every story does need a villain," EDF Energy North America President Mary Anne Brelinsky said in a keynote address during the April 27-29 virtual event. "And it really was the winter weather that was the villain in our story."

She said the "unstable" polar vortex hit the state with the destructive equivalent of a Category 5 hurricane. Texas' infrastructure isn't built to handle extreme cold temperatures for days on end, Brelinsky said.

"There was a decent amount of finger-pointing going on, but I do think this storm was an equal-opportunity villain," she said, calling out across-the-board performance issues with natural gas, nuclear, wind and coal generation.

"It's a mess," Priority Power Management CEO Brandon Schwertner said, predicting a ripple effect of widespread and costly winterization requirements stemming from the winter storm.

ERCOT's energy-only market has produced low-cost power for a decade, he said, but prices are poised to rise.

"As a state, we might have been a little bit over our skis," Schwertner said. "Maybe we didn't fully recognize the cost of balancing the grid with renewables with unwinterized pipes ... and we had a one-in-a-century weather event that none of us expected to have ... so it didn't work. We didn't live up to the obligation of



EDF Energy North America President Mary Anne Brelinsky | Burns and McDonnell

providing reliable power."

Other experts said Uri was not outside of the imagination.

"We're seeing [demand] peaks in the winter that we see in the summer," said Kristen Senechal, COO of transmission for the Lower Colorado River Authority. "Someone can call it a 100-year event; I'm not sure I'm convinced it's a 100-year event."

"I think it'd be very nice if we removed from our language 'unprecedented,'" Austin Energy's Karl Popham said. "Unprecedented winter storm, unprecedented heat wave, one-in-100-years ... I think we can replace that with, 'As predicted by climate change science.'"

Popham said planners can no longer rely on the past 100 years and must start using more realistic futures to inform infrastructure investment decisions.

Brelinsky said three of the past eight winters contained arctic patterns that stretched into the South. She said the situation is only poised to become more dire with continued customer growth in Texas and increased use of intermittent resources.

"Human beings tend to be fairly optimistic creatures and underestimate the probabilities of bad things happening," she said.

If the ERCOT grid had collapsed, Brelinsky said, it would have taken four to six weeks to restore power to customers.

"Four to six weeks is four to six weeks too long," she said. "It needs to be four to six days."

"This cannot happen again," AEP COO Lisa Barton said. "The question always that I think Texas wrestles with is what level of risk is the state willing to accept?"

Barton called SPP's response to the same storm "a tale of two cities."

"You have the system that I would say operated extremely well in SPP [with minor load shedding] ... to [ERCOT] being within two-one hundredths of a frequency deviation from an interconnection-wide blackout," she said.

The focus should be on how bad it could have been, not how bad it was, Barton said. She said grid planners examine the cost of making necessary changes versus "the cost of the status quo."

Barton called the grid "an eclectic mix of new and old" that constantly needs investment,

"I think it'd be very nice if we removed from our language 'unprecedented.' Unprecedented winter storm, unprecedented heat wave, one-in-100-years ... I think we can replace that with, 'As predicted by climate change science.'"

—Karl Popham, Austin Energy

especially to endure more extreme weather.

Schwertner said the cold snap will translate into a bump in behind-the-meter infrastructure, driven by escalating transmission and distribution costs.

"People are tired of what has happened," he said. "It's not out of the question that [transmission] and [distribution] could become 80% of your bill in the not-too-distant future."

February's events mean that utilities should gravitate toward more price transparency with customers and customers could begin contributing more demand response and load flexibility, Schwertner said. "The market has woken up."

He also said while his company has spent the past 10 years helping customers link to the grid, it's now focused on keeping them off the grid through distributed assets.

"The world is going to look a lot different five years from what it does today," Schwertner said.

MISO News

Decarbonization and EVs

Several speakers agreed that even before Uri, the grid was ripe for restructuring.

“We are going to decarbonize this grid. That is going to happen. We need it to happen,” Calpine COO Andrew Novotny said. “And that is going to involve a significant amount of transmission that is going to get built. Not just because we’re going to connect new renewable resources ... but we’re also going to need to electrify everything. We’re going to need to build new transmission on the demand side.”

Lynnae Wilson, CenterPoint Energy’s senior vice president of high-voltage operations, said her territory is seeing more projects successfully exit the interconnection queue.

“Historically, we’ve only seen about a quarter of studies mature,” she said. “Now, it’s more like 60%.”

Apex Clean Energy Vice President of Transmission Fred Von Pinho said the grid operators’ cluttered GI queues are a barrier to clean-energy goals.

“You have pretty significant renewable goals, but the generators by themselves cannot afford it and the queues are not set up to socialize those costs equitably,” he said.

ERCOT is an outlier among RTOs because load pays for interconnection costs.

Novotny said it’s time to revisit the ISO’s interconnection procedures so that generation shells out some of the costs. Transmission costs have tripled for end-use consumers in the decade, while wholesale prices have remained relatively unchanged, he said.

Britta Gross, RMI Mobility’s managing director, said utilities have to be “at the center” of vehicle electrification and ready additional resource capacity. She said in order eliminate 50% of transportation emissions by 2030, the country must have 70 million electric vehicles on the road.

“I don’t want to cast this out as, ‘It’s too daunting. Don’t start,’” Gross said. “We have to start. The grid goals are really tough, the building targets are tough. Everything is tough.”

Popham said Austin’s planned fleet electrification of 333 vehicles will save the city about \$3.5 million over 10 years, even considering the costs of charging infrastructure.

Every electric vehicle within the city represents \$385 of annual new revenue to a utility, Popham said. He said by 2033, Austin could add an extra \$240 million of new utility



Priority Power Management CEO Brandon Schwertner | GCPA

revenue through EV adoption alone.

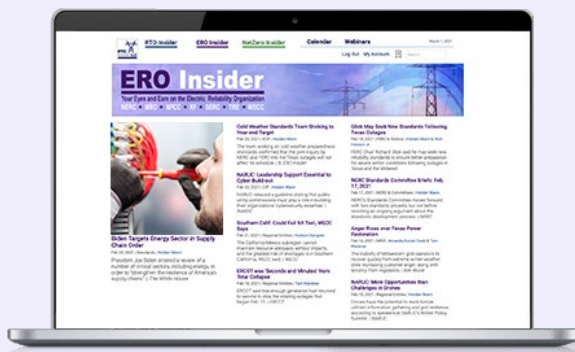
“And it’s different than load growth because the load profile is shaped completely different,” he said. “A lot more [charging] is done at night, it’s not about summer peaks and it’s not really seasonally adjusted. It just keeps chugging through ... It’s not about competing with air conditioning [loads].”

“Here in Texas, I call that spice on a rib. That is a lot of money hitting the bottom line.” ■

ERO Insider

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NYISO News

NYPSC Considers Two Utility Storage Petitions

By Michael Kuser

New York officials last week heard conflicting stakeholder comments on energy storage proposals by two utilities, both of which want to sell their battery power into NYISO's wholesale electricity market — Consolidated Edison from a 100-MW project in New York City, and National Grid from a 2-MW unit on the shores of Lake Ontario (Case Nos. [18-E-0130](#), [16-M-0411](#)).

In 2018, the Public Service Commission directed New York's electric investor-owned utilities to procure dispatch rights for bulk-level energy storage systems to be operational by the end of 2022. The PSC directed 300 MW to be procured by Con Edison and 10 MW by each of the five other IOUs: Central Hudson Gas and Electric, New York State Electric and Gas, National Grid's Niagara Mohawk Power, Orange and Rockland Utilities, and Rochester Gas and Electric.

The utilities last fall petitioned for an extension of the in-service deadline and contract lengths.

The PSC granted the request in an April 16 [order](#), but reaffirmed “that competitive ownership of energy storage assets, and of DERs in general, is a core principle and the existing limitations on utility ownership of energy storage should be maintained if possible.”

New York Supports Con Ed Project

The major stakeholder in the Con Edison case ([21-E-0122](#)), New York City, [supports](#) the transformation of a defunct gas-powered peaker plant on the East River into an energy storage system (ESS) to be built this year and next to provide peak capacity, energy and ancillary services, and enhanced grid reliability. In contrast, generators and storage advocates oppose National Grid's petition to sell its storage power into the wholesale market.

Susanne DesRoches, deputy director for infrastructure and energy at the city's Office of Resiliency and Office of Sustainability, said the city needs storage in its supply portfolio as it retires aging, dirty fossil generation. “Today, New York City's generation fleet contains facilities that are almost 70 years old, with

the median age of the fleet at about 50 years old,” she wrote in comments supporting the Con Ed project. “The existing units are inefficient and heavily polluting, and the city has concerns regarding their reliability given their advanced age.”

A public hearing on the Con Edison project last week, at the site of the former Charles Poletti Power Plant, drew no commenters.

Irvine, Calif.-based solar developer [174 Power Global](#) proposed to build the East River ESS on land owned by the New York Power Authority in Astoria, Queens, and to operate it on behalf of Con Edison under a seven-year contract, after which the developer would own the facility.

IPPNY Opposes National Grid Proposal

April 26 marked the comment deadline on the smaller proposal regarding the ESS located at National Grid's East

Pulaski Substation. The company says it wants to sell wholesale power “in order to aid understanding of such transactions in advance of the deployment of two larger-scale, bulk ESS projects,” one of 20 MW and one of 10 MW.

Although the PSC's 2018 order said net revenues from bulk storage assets should be allocated 30% to utility shareholders and 70% to customers, National Grid proposed allocating 100% to customers.

The Independent Power Producers of New York (IPPNY) [opposed](#) National Grid's petition, arguing that “private developers are best positioned to develop power generation resources at lowest cost to consumers ... and instances of utility-owned generation participation in the wholesale markets operated by the NYISO should be limited to only the most narrow of circumstances.”

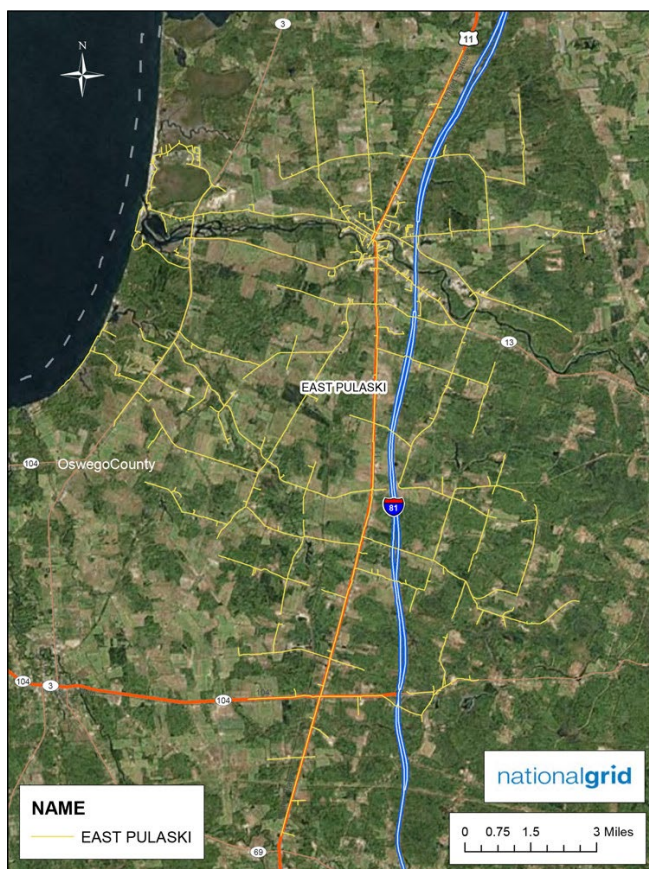
The New York Battery and Energy Storage Technology Consortium (NY-BEST) on April 21 [urged](#) the PSC to reject National Grid's petition as violating commission precedent with respect to utility-ownership of distributed energy resources and energy storage.

The petition goes beyond the commission's narrow definition for permissible utility ownership of energy storage and, if approved, has the potential of creating a “camel's nose under the tent” scenario which could lead to additional cases of utility-owned storage seeking to participate in non-distribution level services, NY-BEST said.

“This would seriously undermine the playing field for third-party energy storage providers and would have a chilling effect on the budding energy storage industry in New York state,” the consortium said.

Should the PSC choose to approve the National Grid petition, NY-BEST said the commission should allow no more than five years until the project should be divested. It also should require the utility to publicly share its learnings from the project, and should reaffirm that utility ownership of storage should be restricted to allow third-party providers into the market, NY-BEST said.

At the end of 2020, about 79% of the 2025 target of 1,500 MW and 40% of the 2030 target of 3,000 MW had been awarded or contracted, and over 8,000 MW of energy storage projects are presently in IOU and NYISO interconnection queues, the commission said in its recent modification order. ■



National Grid

NYISO News

NYISO Management Committee Briefs: April 28, 2021

No In-person Meetings Before September

NYISO CEO Richard Dewey informed the Management Committee on Wednesday that Sept. 1 is the earliest date on which in-person stakeholder meetings would resume, but that the ISO will wait until later to decide.

“We continue to look at infection rates,” Dewey said in response to a stakeholder question about when pandemic restrictions might be lifted.

Dewey also reminded participants that the ISO’s semiannual performance survey is out and ready to be completed. He also asked stakeholders to RSVP by May 14 for the joint Board of Directors/MC meeting in June.

2021 Summer Capacity Deemed Adequate

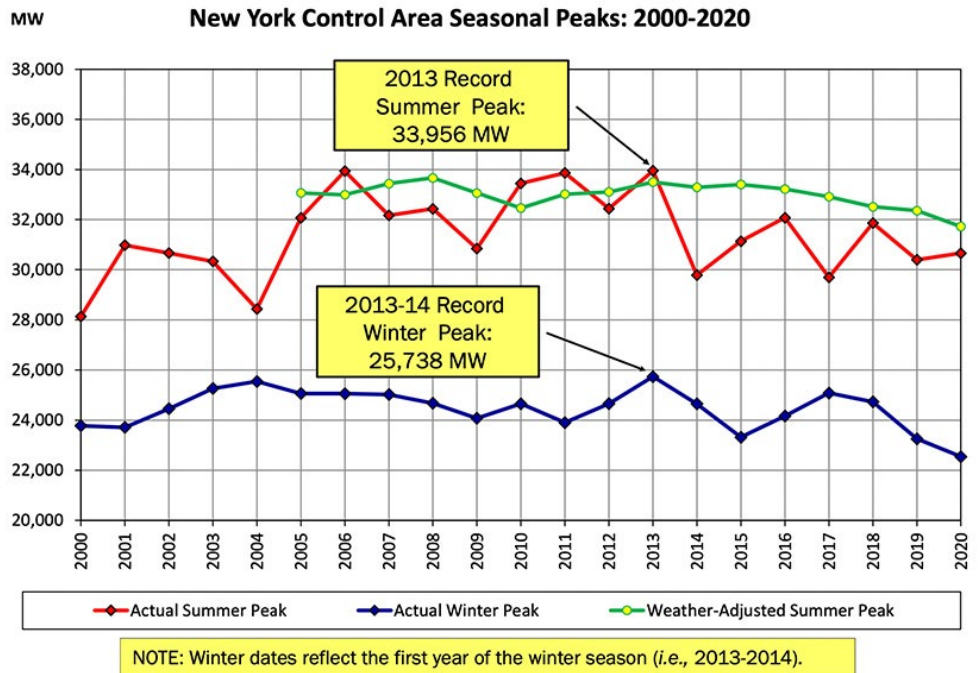
New York will experience its first summer after the retirement of the 1,040-MW Indian Point Unit 3 with capacity to spare, Vice President of Operations Wes Yeomans said in delivering the 2021 summer capacity *assessment*. At 50/50 baseline peak weather conditions, NYISO this summer is projecting 1,344 MW of capacity margin surplus, a decrease of 377 MW over last year’s baseline forecast.

“Common sense would say you’d expect about 1,000 MW derate because of Indian Point 3, but as a result of a few other small wind farms and some additional purchases as projected in the capacity market, the surplus is really only dropping by 377 MW for this summer,” Yeomans said.

At extreme weather conditions – the 90th percentile forecast – the ISO projects -860 MW of capacity margin surplus, a decrease of 456 MW compared to the 2020 extreme weather forecast. This is the projected capacity margin below the 90th percentile load plus 2,620 MW of operating reserves, he said.

2021 Emergency Operating Procedures		
Procedure	Effect	2020 MW Value
Emergency Demand Response Programs	Load Impact	4
Voltage Reductions	Load Impact	605
Voluntary Industrial Curtailment	Load Impact	259
General Public Appeals	Load Impact	80
Emergency Purchases	Additional Resources	1,000
Thirty Minute Reserves to Zero	Allow Operating Reserve to Decrease to Largest Single Contingency	1,310
Total Emergency Operating Procedures		3,258

NYISO



NYISO

“We’ve had negative projected capacity margins for the 90th percentile weather before, so that is minus 860 MW relative to the reserve requirement on top of the 90/10 peak load; but there are emergency actions we can take, and [we] have market systems that may be able to schedule additional non-[capacity market] imports that will certainly help to mitigate this,” Yeomans said.

Emergency operating procedures may provide up to 3,258 MW of relief in 90/10 conditions, he said.

“This assessment from the Operations Department is really utilizing a deterministic approach for what we think our capacity margins will be for 50/50 and 90/10 weather conditions, along with the margin as calculated above and beyond reserve requirements,” Yeomans said.

Emergency operating procedures start with 4 MW of emergency demand response measures outside the capacity market; voltage reductions from utilities totaling 605 MW; voluntary industrial curtailments at 259 MW; general public appeals at 80 MW; emergency purchases at 1,000 MW; and the 30-minute

reserves to zero procedure for 1,310 MW.

The amount of emergency purchases is a rough estimate that depends on the ISO’s external transmission capability at the time of the peak or tight conditions, and of what excess capacity neighboring regions have available to sell out of their reserves, Yeomans said. ■

– Michael Kuser

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PJM News



Comments Come into FERC on PJM Capacity Market

By Michael Yoder

FERC received dozens of comments April 26, the final day for stakeholders to answer questions on the future of PJM’s capacity market and solutions for the expanded minimum offer price rule (MOPR).

A total of 40 stakeholders issued comments on a series of questions the commission posed after its technical conference in March on capacity markets and the role the MOPR plays in PJM’s (AD21-10). (See *FERC Seeks Comments on PJM Capacity Market*.)

The stakeholder comments almost universally criticized the MOPR and urged both PJM and the commission to come to a resolution to improve the design of the capacity market to ensure reliability while incorporating state goals for more renewable energy resources.

PJM’s Comments

In its *comments*, PJM cited the Board of Man-

agers’ *letter* from April 6 emphasizing a desire for stakeholders to reach consensus on any changes to the MOPR. PJM said it currently anticipates filing amendments to the current MOPR in a Section 205 filing by July 16.

“Although PJM retains Section 205 rights to make filings concerning changes to the capacity market, consensus is clearly desirable both to ensure a durable solution and to lessen the litigation burden on parties and the commission, particularly given the accelerated timeline to address these complex issues,” the RTO said in its comments.

PJM said it wanted to restate that the expanded MOPR in its current form “may not prove to be a durable solution in the long term” and also “may have paradoxically unintended consequences over time and may result in less economic efficiency.”

Some of PJM’s concerns related to the expanded MOPR included:

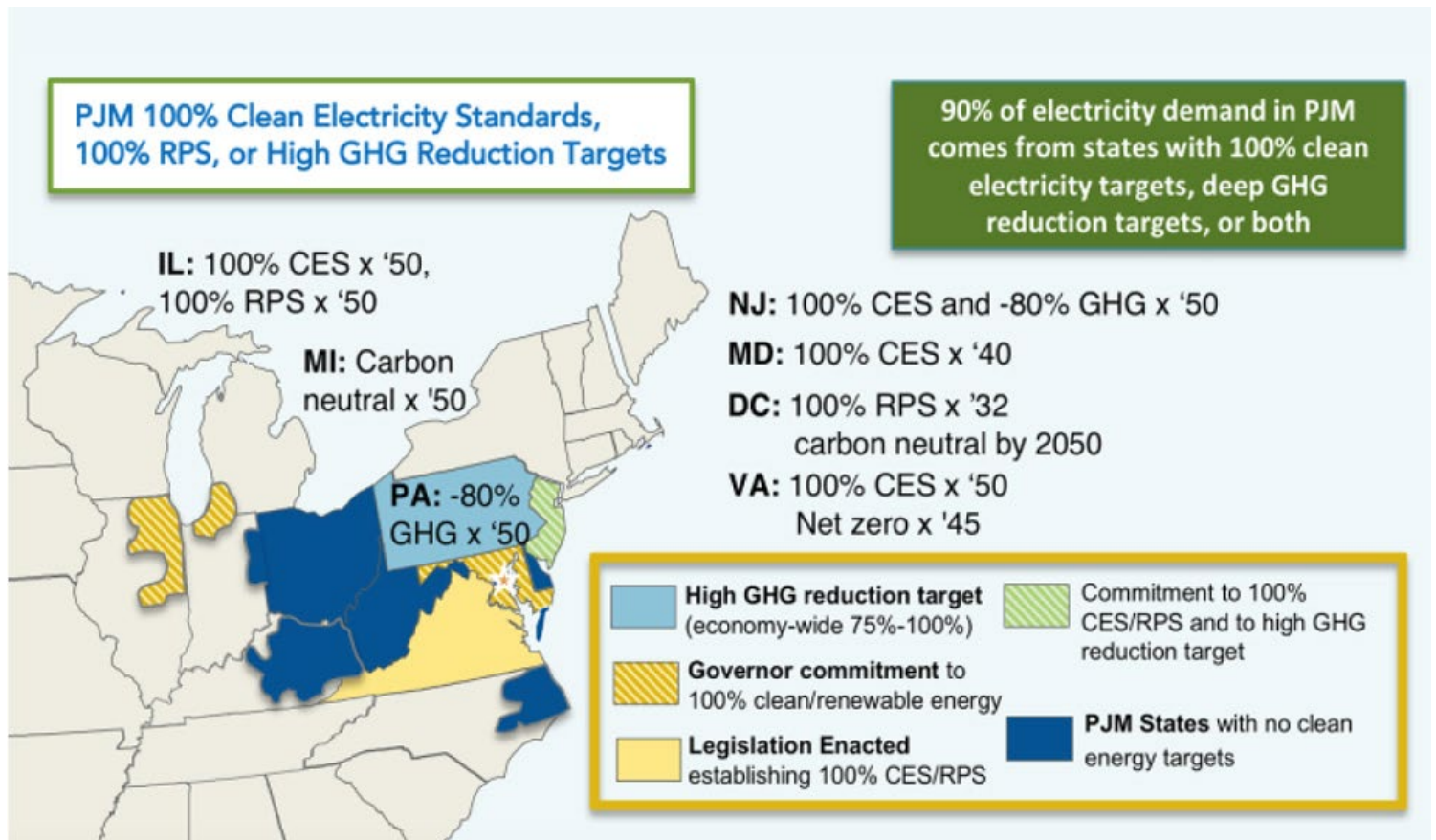
- the potential for consumers to pay for

resources that meet public policy objectives while not receiving credits for the resource contributions in the capacity market;

- procuring more capacity than needed;
- interference with state policy objectives; and
- the potential removal of load from the market, diminishing the economic efficiencies of a regional and competitive wholesale market.

PJM said that even though the expanded MOPR should be amended to better accommodate state policies in the capacity market, other areas of the Reliability Pricing Model (RPM) also need to be examined by stakeholders and FERC “immediately” after to “ensure the continued reliability of the PJM system given the evolution of PJM’s resource mix and composition of capacity resources.”

The RTO cited aspects related to the appropriate level of capacity procurement and a possible option for clean capacity and energy auctions to allow for procurement



Clean energy standards of PJM states | PJM

PJM News



of clean resources.

PJM said the expanded MOPR is expected to have “limited impact” in the upcoming 2022/23 Base Residual Auction scheduled for this month, but it “may not be a sustainable and durable long-term solution” because of its lack of ability to “adequately accommodate state policy objectives” and also address the exercise of buyer-side market power. (See *PJM Sets BRA for May 2021*.)

“PJM urges the commission to monitor PJM’s stakeholder process and defer any action of its own until it first examines PJM’s expected Section 205 filing,” the RTO said in its comments. “PJM further requests the commission to ensure that any action it is contemplating will not further delay the already delayed December 2021 Base Residual Auction and subsequent auctions, each of which are already occurring without the benefit of producing the full three-year forward price signal that remains a key component of the capacity market design.”

Utilities and Stakeholder Groups

The incumbent utilities that loom large in PJM also urged FERC to take swift action on correcting the expanded MOPR.

Exelon’s *said* states have been at the forefront of the transition to clean energy through the adoption of clean and renewable portfolio standards “in the absence of robust and timely

federal action addressing the climate crisis.” Exelon said states have retained and procured clean electricity sources and adopted targets for reducing greenhouse gas emissions, with more than 90% of electricity demand in the PJM region located in states that have adopted some form of clean energy standards.

Current PJM market rules “stand starkly in the states’ path,” Exelon said, with capacity market results differing from state clean energy goals because of the design purpose “to satisfy resource adequacy targets based solely on reliability considerations.” Exelon said the expanded MOPR makes state clean energy procurement issues even harder by “undermining” actions to support clean resources outside of the capacity market.

“The expanded MOPR will force PJM to retain an increasing amount of unneeded fossil generation and transfer potential capacity revenues from the clean resources that states wish to preserve to the fossil units they desire to use less,” Exelon said. “While the challenge of accommodating state goals and objectives exist in all eastern centralized capacity markets, they are most acute in PJM.”

Public Service Enterprise Group *said* it’s “incumbent” upon FERC to direct immediate steps by PJM to “eliminate or significantly modify the expanded MOPR.” A failure to take action, PSEG said, will hinder states in addressing their environmental goals through the

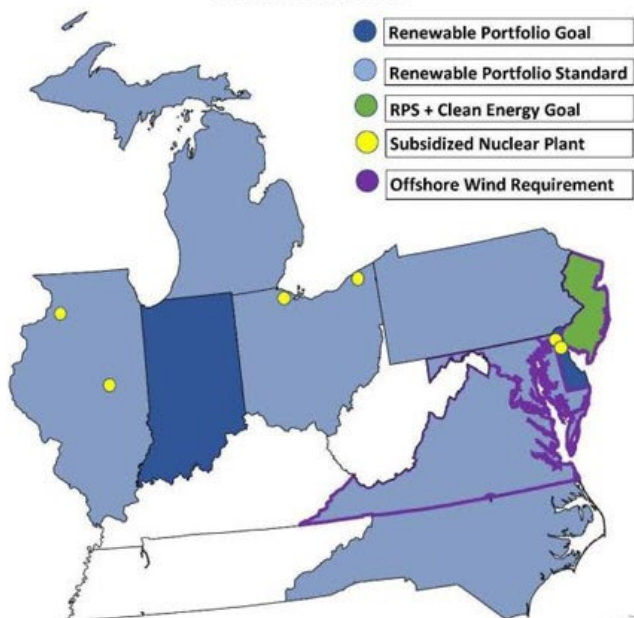
implementation of renewable resources.

PSEG said it would prefer changes to the MOPR to be directed toward “preventing the exercise of buyer-side market power through funding by states or local governmental entities of combined cycle resources intended to suppress competition in the capacity market.” The company indicated the expanded MOPR could also be modified to include a unit-specific fixed resource requirement alternative that could “facilitate states’ ability to avoid MOPR impacts” or to not to interfere with actions taken by state and local governments “consistent with the federal government’s valuation of the social cost of carbon.”

“Neither the PJM energy market nor the PJM capacity market incorporates a price on carbon notwithstanding its documented impact on the environment,” PSEG said. “This is a serious market design flaw that understates the costs of fossil fuel plant operations.”

In its *comments*, the PJM Industrial Customer Coalition (ICC) said an increasing share of stakeholders “favors an accommodative, rather than a punitive, approach to state public policy decisions around resource adequacy.” The ICC said the capacity construct “must benefit” retail customers, while any reforms and accommodations of state goals should not penalize customers and require them to pay more for resource adequacy.

PJM States



State	Overall Clean Energy Target	Offshore Wind Plan
DE	40% by 2035	
IL	25% by 2025/2026	
IN	10% by 2025	
MD	50% by 2030	1,568 MW by 2030
MI	15% by 2021	
NJ	50% by 2030 (100% by 2050)	7,500 MW by 2035
NC	12.5% by 2021	
OH	8.5% by 2026	
PA	18% by 2020/2021	
VA	100% by 2045/2050	5,200 MW by 2034
DC	100% by 2032	

Renewable portfolio standards of PJM states | PJM

PJM News



As PJM looks to accommodate state resource adequacy policies in the capacity market, the ICC said, FERC should direct the RTO to maintain “reliability at the lowest cost” as the guiding principle. The ICC said PJM “must preserve the consumer and price-disciplining benefits of competitive wholesale markets” even as state resource adequacy decisions are contemplated.

“At this time, PJM ICC is not advancing a specific answer or solution to how PJM ensures competitive wholesale markets while accommodating state policy decisions,” the ICC said in its comments. “As PJM is encouraged to allow for accommodation of state policy decisions, PJM ICC members are acutely aware that subsidies are contagious and can undercut the ability of the capacity market construct to work effectively.”

The PJM Power Providers (P3) Group said in its *comments* that it agreed with the opinions of other stakeholders that FERC “should strive to create durable solutions” related to the MOPR and the capacity markets. P3 said PJM’s capacity market construct has been “lacking” stability because of uncertainty around the MOPR and the continual delays of the capacity auctions.

Capacity markets work best when “orderly entry and exit is managed by price signals” reflective of market conditions, P3 said, and “preserving the integrity” of PJM’s capacity market price signal will allow consumers to make “appropriate decisions regarding energy efficiency, demand response and energy management.” P3 said producers also benefit from the price signals by “knowing a future revenue stream upon which decisions can be made regarding construction of new facilities or upgrades to existing facilities.”

“While PJM’s capacity construct is not without its challenges, the general framework has worked well to achieve resource adequacy at just and reasonable rates,” P3 said. “The commission should look to build upon the work that has been done to date as opposed to answering the calls of those who would seek to rip apart its foundation.”

NRG Energy *said* the grid is evolving with “significant technological advances and changing energy policies that often, though not always, prefer low- and no-carbon resources.” NRG said. It is reasonable for all market participants “to expect the market to evolve too.”

“NRG remains open to further constructive adjustments to MOPR so long as market protections remain in place while those adjustments are being contemplated and implemented,” the

company said. “The tensions between state electric generation policy preferences and wholesale market efficiency will not go away simply with a snap of one’s fingers. The MOPR drew a bright line between the domains belonging to the federal and state jurisdictions.”

Calpine’s *said* that several states in PJM have established “aggressive targets and mandates” to reduce carbon emissions, including contracting with zero-carbon resources “at above-market pricing to encourage resource development or to ensure existing zero-carbon resources stay on the system.”

Calpine said the impact on the competitive market from the state mandates is “significant and growing,” and traditional generation resources do not receive similar subsidies but “continue to participate in the same markets as subsidized units.” When subsidized suppliers participate in markets along with unsubsidized suppliers, Calpine said, the “market results become skewed.”

The commission is faced with a “difficult balancing act,” Calpine said, and it’s not clear that “anything has changed since the June 2018 and December 2019 orders to impact or negate the commission’s findings that the expanded MOPR is needed to protect the capacity market from price suppression.”

“While Calpine believes that the expanded MOPR is an appropriate and necessary mechanism to protect market pricing, Calpine would also accept elimination of the MOPR’s application to state-subsidized resources provided that other mechanisms are put in place that ensure fair and adequate compensation in the capacity market for those resources needed for reliable operation of the power grid,” the company said.

Consumer Advocates and Regulators

Consumer advocates, including the D.C. Office of the People’s Counsel, the Citizens Utility Board, the Delaware Division of the Public Advocate, the Maryland Office of People’s Counsel and the New Jersey Division of Rate Counsel, jointly *commented* that the expanded MOPR is “not sustainable and will neither serve the PJM region’s nor its consumers’ needs” and that it “must be rescinded as expeditiously as practicable.”

The group said a “significantly curtailed MOPR” complementing state policies is necessary but is not “sufficient to ensure a just and reasonable resource adequacy construct.” It said the development of a resource adequacy construct that is just and reasonable while maintaining reliability and cost efficiency will

“require several significant reforms.”

“Markets must be designed holistically,” the joint consumers said. “While competitive, wholesale markets are the foundation for addressing resource adequacy, these markets do not and should not operate in silos. Changes to one market, be it energy, capacity or ancillary services, necessarily impact the other markets, and these impacts must be reflected in market design.”

The Maryland Public Service Commission *said* its support for renewable resources has complicated its relationship with the PJM capacity market. Even as the RTO’s markets evolve to incorporate more state preferences for renewable resources, the PSC said, the “most immediate and critical action” FERC should take would be to “reinstate the accommodation of state preferences inherent in the RPM since its inception” and prevent the possibility of double payments for capacity.

“Until then, resource developers should be allowed to continue to recognize foundational entry and exit signals based on legitimate state policies, as expressed in state statutes and regulations that identify preferred resource type, location, timing and price,” the PSC said.

Maryland is currently in the second phase of its offshore wind development process, the PSC said, involving offers for “three sequential 400-MW tranches of projects.” It said meeting the state’s OSW targets “would be exceedingly difficult” if the ratepayers are required to pay twice for capacity.

“The sooner MOPR is reformed, the sooner new cost-effective resource adequacy paradigms can be earnestly pursued,” the PSC said. ■



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PJM News



PJM Proposes Shifting MOPR Determinations to FERC

Continued from page 1

CIFP process came two days after final comments were due to FERC regarding questions surrounding the capacity market design and the expanded MOPR, highlighting stakeholder's desire to do away with the current MOPR. (See related story, [Comments Come into FERC on PJM Capacity Market.](#))

Adam Keech, vice president of market design and economics for PJM, *highlighted* the RTO's draft *problem statement* and *issue charge*, along with a draft *matrix* comprising the design components and status quo.

Keech said PJM's proposal looks to directly address several topics cited in the board's letter, including:

- implementing changes to the MOPR to ensure the capacity market accommodates state policy choices related to resource mix, as well as long established self-supply business models, while adequately mitigating buyer-side market power;
- evaluating all aspects surrounding the appropriate level of capacity procurement;
- examining the need to strengthen the qualification and performance requirements on capacity resources;
- considering clean capacity/energy auctions as an option to allow for procurement of clean resources; and
- evaluating the need for PJM's procurement of additional reliability-based services, with a particular focus on reliability needs in the face of the changing resource portfolio and increased penetration of intermittent resource technologies.

"We took a lot of the narrative here from the technical conference comments that FERC had and also the board letter initiating the critical issue fast path," Keech said.

The Proposal

PJM's proposal specifically seeks to define the entities who will determine if buyer-side market power exists in the capacity market. Keech said the RTO wants to put the responsibility of examining state policies regarding MOPR determinations with FERC.

PJM believes states have the right to support resources through policy initiatives, Keech said, and interpreting state statutes is not the RTO's area of expertise. He said the interaction of state and federal authority is better

resolved by the commission and not PJM or the Monitor.

The RTO's proposal says a state policy would initially be presumed to be in "good faith" and not an exercise of buyer-side market power and, therefore, not subject to the MOPR. Any stakeholder, including PJM or the IMM, wishing to challenge a state policy would be able to make a Federal Power Act Section 206 complaint to FERC, allowing the commission to decide the merits of the complaint.

The proposal says PJM would not apply the MOPR to a resource that is the subject of state support unless FERC grants a 206 complaint.

"This is an authority issue between the states and FERC in our view," Keech said.

PJM's proposal regarding self-supply models, including vertically integrated utilities, municipal utilities and cooperatives, calls for the entities to be subject to net long and net short thresholds.

If the net portfolio is between those thresholds, Keech said, that resource would not be subject to a unit-specific review or the MOPR. If the portfolio is outside of long/short thresholds, Keech said, it would trigger a unit-specific review of the most recent resource additions.

Keech said PJM is still working on the finalized thresholds in the proposal. He said that while using the long/short tests can help identify scenarios where a self-supply entity could exert buyer-side market power, its implementation becomes more complicated when additional supply types are subject to the MOPR and will require further stakeholder discussions.

In the proposal to deal with bilateral contracts between a buyer and seller in the market, PJM used FERC's request from the post-technical conference comments, which said, "a buyer could contract with a seller outside of the PJM capacity market and direct the seller to submit an offer below the supplier's cost (e.g., at zero) in the PJM capacity auction to lower the market clearing price. Such a strategy would lower the buyer's total capacity procurement costs if the savings the buyer achieves from the lower market clearing price paid for the total quantity of capacity the buyer purchased in the PJM capacity market exceeds the losses (excess costs in this example) the buyer incurred from the out-of-market contract with the seller."

Keech said bilateral contracts instructing a supplier to offer below their cost to lower the market clearing price may be subject to

referral to FERC, but PJM would not apply the MOPR. He said the cases are "fact-specific and require investigation."

Stakeholder Opinions

Reactions to PJM's proposal by stakeholders ran the gamut. Some challenged the RTO's idea to hand more responsibilities to FERC.

Monitor Joe Bowring said that early on in discussion with PJM, the RTO indicated it did not want to be the entity to identify buyer-side market power. Bowring said that if PJM does turn the determinations over to FERC, the Monitor would still look at individual cases and make Section 206 complaints to the commission if it feels buyer-side market power exists.

"We will not ignore any state policy or program which we believe is an exercise of market power," Bowring said. "It's our job to file complaints at FERC when we see that."

Tom Rutigliano, an advocate with the Sustainable FERC Project at the Natural Resources Defense Council, said PJM's proposal would allow "clean energy to compete with dirty fossil fuel plants." The proposal is a "welcome change" from the RTO's previous stances and helps to recognize the authority of states to make their own energy decisions, he said.

"If it comes down to a choice between addressing climate change and participating in capacity markets, state leaders can and should choose confronting the climate crisis," Rutigliano said. "This proposal would help sidestep that choice and allow clean energy to thrive in the region."

Formal Process

Wednesday's discussion was the first step in the CIFP process.

Discussions continue with Stage 2, in which PJM and stakeholders will develop the matrix options during meetings on May 10, 17 and 26. Stage 3 follows with finalizing proposals on June 7 and 16.

The final CIFP meeting takes place on June 30, with a final vote on the PJM proposal and one or more alternate stakeholder proposals at the Members Committee meeting later that day. The RTO said it plans on making a filing to FERC by July 16 after the board reviews the approved proposal.

"We recognize members want feedback as early as possible after the 30th of what the board determined," said Dave Anders, PJM director of stakeholder affairs. ■

PJM News



NJ Nukes Awarded \$300 Million in ZECs

BPU Says It Had No Choice, but Critics Question PSEG's Threats of Plant Closures

By Hugh Morley

The New Jersey Board of Public Utilities on April 27 awarded annual subsidies totaling \$300 million a year to the state's three nuclear power plants; board members said they had little choice but to make the award as the state strives to achieve 100% clean energy by 2050.

The board's unanimous vote approved the three-year subsidy agreement, running from June 2022 to May 2025, under the state's Zero-Emission Certificate program. The subsidies of \$10/MWh will go to the Hope Creek nuclear power plant, which is owned and operated by Public Service Enterprise Group, and the Salem 1 and Salem 2 plants, which PSEG operates and co-owns with Exelon.

The ZEC program provides subsidies to nuclear power plants at risk of closure so they can remain open to generate carbon-free power. The New Jersey legislature created the program in 2018, and in 2019 the board awarded ZECs totaling \$300 million to the three South Jersey nuclear plants. (See [NJ Approves \\$300M ZECs for Salem, Hope Creek Nukes.](#)) State law now allows the BPU to set the size of the award, but as discussions on the 2022-2025 subsidy unfolded, PSEG said it would close the plants unless it received the \$10/MWh rate, which is the maximum the program allows.

The award triggered vigorous criticism from the New Jersey Division of Rate Counsel, the state's consumer advocate, and environmental activists, some of whom said PSEG had exploited its market dominance to extract an unnecessarily large payoff.

"It puts New Jersey ratepayers at the mercy of an unregulated market entity that is looking to get more profit," said Stefanie Brand, Rate Counsel director. "And that is really not how this is supposed to work."

However, BPU commissioners who balked at the size of the award said the environmental and financial cost of not awarding the ZECs would be too great.

Commissioner Bob Gordon said he had hoped, "somewhat naively," that PSEG and the BPU could reach an agreement on a subsidy level that was



Hope Creek Nuclear Generating Station in New Jersey | NRC

lower than the maximum but would "provide adequate support" for the plants.

"Unfortunately, that never happened," Gordon said.



BPU President Joseph L. Fiordaliso | NJBPU

Gov. Phil Murphy has said he wants to boost the state's share of energy generated by carbon-free resources to 50% by the end of the decade and reduce greenhouse gas emissions 80% below 2006 levels by 2050. But at present, nuclear power

accounts for 90% of the state's carbon-free power, said BPU President Joseph L. Fiordaliso.

"The reality is that we need the nuclear plants to minimize harmful emissions," he said. "If the nuclear power plants were to be retired today, that retirement would significantly and negatively impact New Jersey's ability to comply with state air emissions reductions."

PSEG welcomed the board's decision, releasing a statement that said "The BPU's actions today helped the environment, saved jobs and

avoided higher energy costs." The company did not respond to a request from *RTO Insider* for a comment on the criticisms about the size of the award.

Market Dominance

The BPU made the latest award based on information gathered from several sources — a public hearing in March, a study by consultant Levitan & Associates and an evaluation by BPU staff. Executive Director Paul Flanagan told the board that based on the agency staff review, "there is financial risk in the continued operation of the units pursuant to the ZEC Act, and an award of less than the full authorized ZEC amount may not be sufficient to prevent the closure of the unit."

But Gordon expressed disappointment with "the level of intransigence and this exercise of market power" by PSEG. "We were told in testimony by the senior leadership of Public Service, and then [in] statements issued by the company's board of directors, that unless the maximum ZEC subsidy of \$10/MWh were provided, the nuclear plants would be shut down."

He called on the legislature to rethink the way that ZECs are awarded.



Commissioner Bob Gordon | NJBPU

PJM News



Commissioner
Mary-Anna Holden |
NJBP

However, Commissioner Mary-Anna Holden saw no viable alternative to maintaining the nuclear plants in operation. Regardless of the state's support for wind and solar power, those industries are still immature, and not ready to meet the

state's requirements, she said. The \$10/MWh subsidy to the nuclear plants would be much smaller than the subsidies needed to build up solar and wind energy sources to rapidly take the place of nuclear generation, she said.

The BPU's decision came as the Division of Rate Counsel seeks a ruling from the state Supreme Court to overturn the BPU's 2019 award of \$300 million in ZECs to the three power plants. After that award, the Rate Counsel filed suit, arguing that the awards were arbitrary and capricious and that none of the plants needed them to remain financially viable.

That argument was dismissed by the state Appellate Division in March (see [Appeals Court Backs NJ Nuclear Subsidies](#)), and the Rate Counsel filed a petition with the Supreme Court to overturn the ruling. (See [NJ Rate Counsel Turns to State Supreme Court over Nuke Subsidies](#).)

In awarding the ZECs in 2019, the board rejected a conclusion by its staff evaluation team, which had found that all three units would operate profitably through May 2022 and were, therefore, ineligible for the subsidies. PJM's Independent Market Monitor also said the plants are profitable, an assessment it reiterated in its State of the Market report in March. (See [PJM Monitor Sounds Market Power Alarms](#).)

But the BPU said the evaluation team improperly excluded from its calculations consideration of PSEG's operational and market risks, as required by the legislation creating the ZEC program.

'Akin to Hostage Taking'

Brand said the BPU's decision to award the

subsidies suggested that all the studies and evaluations of the plants' financial position were a "meaningless exercise." PSEG used its "market and political power" to obtain the subsidies by saying that without them it would close the plants, she said.

Doug O'Malley, state director of Environment New Jersey, said the lack of transparency in the process made it difficult for those outside the proceeding to assess whether the ZECs are warranted or not. "Instead of practicing transparency, PSEG continues to exert a lobbying strategy that is akin to hostage taking," he said.

Jeff Tittel, director of the New Jersey Sierra Club, called the subsidies "unnecessary" and said the awards could have long-term negative implications for the state.

"This will take money away from offshore wind, solar and energy efficiency programs in New Jersey," he said. "We are concerned that it will prevent this state from moving forward with our 100% renewable goals by 2050." ■

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PJM News



FERC Partially OKs PJM Monthly Netting Provision

By Michael Yoder

FERC last week partially accepted PJM's compliance filing to amend its tariff regarding the station power monthly netting provision.

The commission ruled that PJM's new subsection 1.7.10(d)(iv) of the tariff largely addressed requested clarifications required by a September 2020 order that ruled that generating facilities that are not online and producing energy must pay for their station power at retail rates subject to state jurisdiction (EL20-56).

But FERC found one portion of the new subsection required clarification and requested an additional filing within 30 days.

FERC said in its September order that an offline generator that requires power to operate its lighting, air conditioning and other facilities "is consuming electricity as an end user and thus, consistent with the boundaries of the commission's jurisdiction under the [Federal Power Act], the provision of station power is a retail sale subject to state jurisdiction."

The ruling came in response to a March 2020 complaint filed by Lawrenceburg, Ind., and the Indiana Municipal Power Agency against PJM, American Electric Power Service and Lawrenceburg Power seeking to void the power self-supply monthly netting provisions of the PJM's tariff (EL20-30). (See *Indiana City Wine Ruling on Station Power*.)

FERC said PJM's proposed revisions should clarify that the monthly netting provision

in section 1.7.10(d)(i) "does not determine whether a retail sale of station power has occurred in that month." It also said any tariff provisions should clarify that the RTO has no responsibility for the determination of any state-jurisdictional retail rates.

In November, PJM responded to the commission's September ruling by adding the new subsection to the tariff and its operating agreement.

The commission said the first clause of the new subsection, which says "the Office of the Interconnection is not responsible for determining relevant electric retail regulatory authority-jurisdictional retail rates, and the monthly netting provision in section 1.7.10(d)(i) above does not determine whether a retail sale of station power has occurred in a month," complies with its directives from the September order. It said PJM was directed to clarify that section 1.7.10(d) applies only to FERC-jurisdictional transmission charges.

"We find that this proposed revision unequivocally establishes that section 1.7.10(d) cannot be used to determine whether a retail sale of station power has occurred and thereby, removes any ambiguity that previously existed in PJM's tariff regarding the provision of station power consistent with the September 2020 order," the commission said.

FERC said PJM's "savings clause" in the new section is inconsistent with directives from the September order. That proviso states that "nothing in this section limits a market seller's

ability to simultaneously self-supply energy from one generation facility owned by such market seller to a different generation facility owned by the same market seller." The commission said the proviso "reinjects ambiguity regarding the provision of station power into PJM's tariff."

While FERC noted that PJM said that the proviso did not claim to "establish netting among a market seller's multiple generation facilities on a monthly basis at odds with retail service netting determinations," the commission determined that it "does just that by specifically excluding the applicability of remote self-supply from the previous clause."

FERC also said it was unclear what "simultaneous" remote self-supply means in the proviso and how that is different from the remote self-supply described in existing subsections of the PJM tariff.

"The September 2020 order made clear that the PJM tariff cannot be used to determine whether a retail sale of station power has occurred, as jurisdiction over that determination lies with the states," FERC said in the filing. "PJM's proposed language without the proviso accomplishes that directive."

FERC directed PJM to file an additional compliance filing within 30 days, removing the proviso from the proposed tariff language.

The commission found that the rest of the new subsection was consistent with the September order. ■



| Lawrenceburg Municipal Utilities

PJM News



PJM Stakeholders Elect New Board Members



Jeanine Johnson, PJM | PJM



Paula Conboy, PJM | PJM



Sarah Rogers, PJM | PJM

By Michael Yoder

PJM stakeholders elected two new members to the Board of Managers and re-elected a third to serve an additional term at the annual Meeting of Members on Monday.

Paula Conboy and Jeanine Johnson were elected to fill the vacancies left by retiring board Chair Ake Almgren and member John McNeely Foster, with Conboy serving a three-year term and Johnson serving a two-year term. Sarah Rogers, who was first elected to the board in 2012 and is the current chair of its Regulatory Committee, was re-elected.

PJM announced Conboy's and Johnson's nominations last month after a monthslong search. (See [PJM Nominates Replacements for Board of Managers.](#))

Conboy is an energy economist with more than 25 years of experience as an executive, consultant and regulator around the world. Conboy is currently on the board of directors at the Energy Market Authority of Singapore and recently served as chair of the Australian Energy Regulator and a board member of the Australian Energy Security Board.

Johnson has more than two decades of experience designing products and managing cybersecurity at several tech companies, including NETGEAR, Apple, Amazon and Microsoft, through McKinsey & Co., a management consulting firm. Johnson is the co-founder of SunToWater, a Silicon Valley company developing a device to create drinking water from outdoor air.

The PJM Nominating Committee is looking

to fill an additional board vacancy following the resignation last month of Neil Smith, who had been nominated for re-election. PJM said Smith announced his resignation after taking an executive position with a company that "would have presented a conflict of interest" if he continued to serve on the board. (See [Neil Smith Resigns from PJM Board.](#))

The Nominating Committee plans to have a nomination to fill Smith's seat in time for the Members Committee meeting June 23.

Retiring Board Members

PJM CEO Manu Asthana said the election of the new board members was "bittersweet" because of Almgren's and Foster's nearly two decades of service to the RTO.

"It's hard for me to comprehend all that they have seen and all that they have been through and all that they have given to the organization," Asthana said.

Foster was elected chair of the Risk Management Committee at his first committee meeting 17 years ago and remained the chair during his entire tenure, Asthana said. He has been a champion for "transparent" and "reliable" markets in PJM. "I want to thank him for his tremendous contributions to PJM over the years," Asthana said.

Asthana gave extra praise to Almgren, who has served on the PJM board since 2003 and as board chair since 2018. Almgren agreed to extend his term as board chair for one year as Asthana came into his role as CEO, ensuring a smooth leadership transition.

"PJM would not be who we are today without your support, without your wisdom, without your guidance," Asthana said. "You have poured time and energy and effort behind the scenes to help me."

Almgren said it was an "honor and a privilege" to serve PJM and its members. ■



PJM CEO Manu Asthana | PJM

SPP News

SPP RSC/Quarterly Stakeholder Briefings

Regulatory Staff Focusing on Resource Adequacy as 'Culprit' During Storm

State regulatory staff working on SPP's review of the RTO's performance during the February winter storm said last week they have narrowed the analysis focus to resource adequacy.

John Krajewski, chair of the *ad hoc* regulatory group helping with the review and a consultant to the Nebraska Power Review Board, told the Regional State Committee on April 26 that the group thinks "resource adequacy is the clear culprit on this."

"It's really clear [resource adequacy] is where we need to look at where things have failed, and where things can be improved going forward," Krajewski told state regulators.

He said the group has accelerated its schedule by meeting every other week. Some members are also attending Supply Adequacy Working Group meetings, Krarjewski said.

The group is drafting a report that will be rolled into the broader report SPP is preparing. Like other groups involved in the process, which involves five parallel workstreams, the *ad hoc* team has been holding closed-door meetings. (See "Winter Storm Review," *SPP MOPC Briefs: April 12-13, 2021*.)

"Having closed sessions with the [Market Monitoring Unit] and [SPP] staff has really helped us to have frank conversations about the issues without fear of publication or being used against specific public utilities," Krajewski said.

The group hopes to open its meetings this month.

Huser Joins Committee Leadership

The RSC approved its nominating committee's recommendation that Iowa Utilities Board Chair Geri Huser be named the group's secretary and treasurer. She replaces DeAnn Walker, who resigned from the Texas Public

Utility Commission in March.

Without Walker, Texas is the only one of SPP's 14 states not represented on the RSC. The commission's original three members have all resigned following the grid's near collapse during the February storm. Two new members were recently appointed to the bench, but their focus is squarely on overhauling ERCOT's governance.

RSC President Kristie Fiegen, vice chair of the South Dakota Public Utilities Commission, applauded the committee and its Cost Allocation Working Group for their continued involvement in a plethora of initiatives, despite working remotely.


"I've never seen the RSC and CAWG mem-




South Dakota PUC Commissioner Kristie Fiegen, the RSC's president, shows off her state pride. | SPP

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ANNUAL SAVINGS AND BENEFITS




BENEFIT
Transmission
\$768.4 M



BENEFIT
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\$744.3 M



BENEFIT
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BENEFIT
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Operations and Reliability: \$603.7 million
SPP operates the grid from a regional perspective. This reduces costs and required energy reserves and increases efficiency.

Markets: \$744.3 million
SPP's Integrated Marketplace combines efficient and economic day-ahead, real-time and transmission markets.

Transmission: \$768.4 million
SPP's collaborative, stakeholder-driven transmission planning processes result in robust infrastructure and have rapidly and reliably integrated renewables.

Tariff, Scheduling and Services: \$37.8 million
SPP's industry-leading services and training meet the compliance, settlements, engineering, tariff and scheduling needs of our customers on a regional scale.

SPP staff have calculated that their services have amounted to \$2.14 billion in savings and benefits to their members. | SPP

SPP News



bers so engaged," she said.

July RSC, Board Meetings in Person?

SPP CEO Barbara Sugg said that, barring a spike in Arkansas' COVID-19 case count, the July RSC and board meetings will be held on the RTO's Little Rock campus.

Seating will be limited to 60 or 70 attendees, who will be seated 5 feet apart. Invitations will be sent to the directors, RSC members, CAWG members and the Members Committee. The directors and stakeholders will be required to respond as to whether they intend to attend. The remaining seats will be allocated on a first-come, first-serve basis.

Sugg said SPP will not require or verify vaccinations. Attendees will be asked to wear masks whenever they are not seated, she said.

"Unprecedented" is the word of the year over the last 12 months," she said, referring to the pandemic, last year's widespread social unrest and February's extreme weather.

Staff: \$2.14B Savings for Members

Sugg's briefing was one of several staff updates during the quarterly stakeholder briefing. COO Lanny Nickell shared the results of the grid operator's recent yearlong effort to calculate the *benefits of SPP membership*, which found that its reliability coordination, transmission planning, wholesale markets and other services provided its members \$2.14 billion in total savings.

Nickell said that resulted in a benefit-to-cost ratio of 14-to-1 when taking out \$155.3 million in net revenue requirement costs. According to a *report*, members accrued \$768.4 million in benefits from SPP's transmission-planning processes, \$774.3 million from the Integrated Marketplace and another \$603.7 million from the grid's regional operation.

"We tried to derive the value associated with having a market that facilitates the delivery of all the resources we have available to us in a more economical way than individual members would have on their own, without the geographic diversity we have," Nickell said. "We'll continue to evolve this report and make it better."

A 2016 transmission-value study indicated that for every dollar of transmission investment made in 2012-2014, members could expect at least a \$3.50 benefit to ratepayers. (See *SPP Begins Promotional Campaign to Tout Transmission Value*.)

Nickell also reported on a series of indicators



Southwest Power Pool @SPPorg · Apr 26

SPP set new system records April 25, 2021, including #wind and #renewable penetration records. #energytwitter



SPP has upped its records for wind and renewable energy penetration. | SPP

that generally painted a favorable picture of SPP's overall performance. He said first-quarter key performance indicators — based on system and survey data, stakeholder feedback and internal metrics — show the organization meets or exceeds its customers' expectations in three of four broad categories:

- stakeholders' engagement and support of organizational initiatives;
- a balance of economics and reliability while responsibly providing valuable services at affordable costs; and
- staying ahead of industry trends while enacting a forward-looking strategy.

The report indicated that SPP needs to improve its operational performance, a result of the grid operator's first load shed in its 80 years during the February storm. "Whenever you shed load, I don't think you can say anything more than 'needs improvement,'" Nickell said.

In other reports:

- Senior Vice President of Operations Bruce Rew said SPP set new records for wind and renewable energy's amount of the fuel mix on April 25 at 3:58 a.m. Wind and renewables registered penetration marks of 82.7% and 85.3%, respectively. "I don't think we're going to hit 90% renewable penetration this year," Rew said, citing transmission limitations.

- Rew said SPP is continuing to integrate the six Western Energy Imbalance Services (WEIS) members who have indicated an interest in joining as RTO members. That process is expected to be completed by the July board meeting. He said several other entities have asked about participating in the WEIS in some form or fashion.
- Michael Desselle, SPP's chief compliance officer, said the FERC Order 2222 Task Force soon plans to begin outreach to the 531 distribution utilities and 14 state commissions within the RTO's footprint. FERC recently granted SPP an extension to April 2022 for its compliance filing in the order, which directs RTOs to open their capacity, energy and ancillary service markets to aggregated distribution energy resources.
- Director Graham Edwards said the Strategic Planning Committee has hired Nexant's consulting practice to add some "new blood and fresh ideas" to one of the Holistic Integrated Tariff Team's more complicated recommendations: improving SPP's congestion-hedging practices. "We asked them to think outside the box ... and consider every alternative," Edwards said of Nexant, which is developing models to analyze data on counterflows. A report is expected by July. The recommendation is one of only seven HITT recommendations still in progress; the other 19 having been deemed incomplete. ■

— Tom Kleckner

SPP News



SPP Board/Members Committee Briefs

Stakeholders Agree to Withdraw Competitive Upgrade in Evergy's Footprint

SPP stakeholders last week approved staff's recommendation to withdraw a competitive transmission project that was opposed by the incumbent transmission owner, ending three months of ambiguity.

Staff said during the Board of Directors/Members Committee meeting April 27 that after re-evaluating the Butler-Tioga project, intended to replace aging 138-kV facilities in eastern Kansas, it was not the most cost-effective project and would actually increase congestion in the same corridor that supports SPP bulk system transfers.

"That creates some uncertainty around the options available in the area to create more value in the benefit-to-cost ratios," Antoine Lucas, the grid operator's engineering vice president, told the board and members.

SPP said that Evergy, the incumbent TO, was already rebuilding part of the original line and that a second new line along the same path would be redundant and likely costly to the region. It suggested that less costly transmission upgrade options should be evaluated within the RTO's Integrated Transmission Planning (ITP) process.

The board approved the project in January as part of the 2020 ITP assessment over Evergy's protests. The Kansas City-based utility said the project would collide with its use of the existing right of way to replace a 35-mile section of the old line, which was built in 1922 and has no shield wire.

Initially put forward as an economic project that would have required "wrecking out" the 99-year-old Butler-Altoona line, the project was removed from the portfolio for "further refinement." When SPP determined it lacked regulatory authority to recommend the line's retirement, staff instead recommended the Butler-Tioga greenfield project that bypassed the original line. (See "Board Approves Tx Project Soon to be Re-evaluated," *SPP Board of Directors/MC Briefs: Jan. 27, 2021.*)

Evergy said it would immediately ask for a re-evaluation when the project went out for bids. That happened on Feb. 5. The board and members met again in early March and agreed to pause the selection process for the competitive update while staff restudied the proposal. (See "Butler-Tioga Order 1000 Project Paused," *SPP Launches Review of Storm Response.*)



SPP's new meeting software is designed to resemble an in-person experience. | SPP

The Members Committee unanimously approved withdrawing the project. They had opposed the recommendation in January with their advisory vote, but the board differed.

Members also lent their unanimous support to — and the board approved — staff's proposal to delay action on an ITP mitigation plan to relieve an engineering staff overloaded with three different transmission studies and several other high-priority initiatives.

Staff had originally proposed excluding public policy and economic assessments from the 2023 ITP's scope. Because transmission planners are working on three different ITP studies at the same time, SPP said, that would help complete the 2021 assessment in the same calendar year. That study is three months behind schedule and in red status.

The Markets and Operations Policy Committee narrowly rejected the proposal earlier in April over concerns that the process, designed to study potential synergies between reliability and economic solutions, might overlook an economic project that could defer or replace a reliability project. (See "Overburdened with Tx Planning Work, Staff Looks for Help," *SPP MOPC Briefs: April 12-13, 2021.*)

Joe Lang, with Omaha Public Power District, has since filed an appeal with the board, but it was not addressed during the meeting.

"This has not been something that's been uncontroversial throughout the process," Advanced Power Alliance's Steve Gaw said. "This is a strategic matter that needs to be looked at in the scope of everything that SPP will be dealing with in the next few years — and

is already dealing with."

"We're at a time in the industry where we don't want to be in a position of having less information than more in long-term transmission planning," ITC Great Plains' Brett Leopold said. "It seems an inopportune time to reduce the scope of the ITP and take out economic planning with everything that's happening in D.C. and the states."

Lucas said the pause will allow staff to continue working on a mitigation option "that will gain a higher degree of stakeholder support" when it's brought back to the MOPC and the board in July. The pause will require SPP to spend about \$80,000 on consulting expertise, an amount that would grow to \$425,000 if the delay extends to October.

"We're comfortable that, if given some additional time, we can go back and work towards developing a solution that may gain more support from the stakeholder body," Lucas said. "We're more comfortable with that if it only extends to the July time period."

Enel Green Power North America's Betsy Beck recognized the planning team as "one of the hardest-working business teams in SPP" and asked whether management had considered bringing in more full-time staff.

"We've hired a number of new staff with the long-term goal of developing that staff to offset the consulting support," Lucas said. "New employees might not have that same level of experience. When you're doing a lot of training and development, it puts a strain on senior-level folks and experts, because they're required to handle the work while also training

SPP News



the new hires. We believe we've hired the people we need to do the work; we just need to get them developed."

Lucas said the process has been slowed by the number of employees working from home during the COVID-19 pandemic.

Pool Set for Order 1000 Selection Panel

The board and members approved a pool of 19 industry experts that would make up the five-person panels evaluating competitive projects under FERC Order 1000. Eight of the potential independent expert pool (IEP) candidates are new, and 11 are holdovers.

The new members included Jay Caspary and John Olsen, who retired last year from SPP and Evergy, respectively, and recent American Electric Power retirees Mark Workman, Bill Eakin, Joseph Hassink and Paul Johnson. That raised concerns among members about potential conflicts of interest.

Golden Spread Electric Cooperative's Mike Wise opposed the motion, noting the presence of several IEP candidates that "happen to be from a competitor." Southwestern Public Service's David Hudson abstained.

The applicants are subject to the Oversight Committee's established policy regarding the selection of recent retirees and the appearance of a conflict within a two-year cooling-off period.

"As part of the application process, the candidates have to disclose relationships with previous entities," SPP's Ben Bright said. "We do our best to get varied backgrounds. We don't have any idea who will bid on a project when we seat the panels."

Staff assured members that IEP candidates go through a second vetting process when a panel is chosen. Still, Oversight Chair Joshua W. Martin III said the committee would take offline feedback and return to the July board meeting with suggestions for improvement.

"The integrity of this process is critical. We need to tighten this up to the satisfaction of everyone," Martin said.

SPP has completed two competitive project selections using its IEP process, most recently last year. The MOPC has charged a *task force* with reviewing and improving SPP's selection process, as stakeholders did following the first competitive project's award. (See [Transource Tapped for SPP's 2nd Competitive Tx Project](#).)

SPP to Issue Unsecured Notes

The Members Committee and board approved

several Finance Committee recommendations, including the issuance of \$28 million in senior unsecured term notes to fund capital expenditures in 2021 and extending the retirement date for a \$30 million revolving credit facility to 2023.

Finance Chair Susan Certoma said the \$28 million will help minimize an expected increase in administrative expenses. The fixed interest investment will require SPP to make regular interest payments and return the capital when the investment term ends.

Stakeholders also approved the committee's recommendation to accept BKD's 2020 financial audit, which found no material weaknesses, significant issues or audit adjustments, and to contribute \$5.1 million to the SPP pension plan.

Separately, the board and members signed off on SPP's new mission, vision and value-proposition statements, the first results from the Strategic Planning Committee's effort to develop a five-year strategic plan.

The RTO's mission is now "working together to responsibly and economically keep the lights on today and in the future," while the vision statement calls for SPP to lead the industry "to a brighter future while delivering the best energy value." (See [SPP Strategic Plan Begins to Take Form](#).)

Edwards, Certoma to Stand for Re-election

Certoma and fellow Director Graham Edwards praised SPP's new practice that has members of the board write letters of interest to serve another three-year term. The candidates then meet with the Corporate Governance Committee (CGC) in what amounts to an interview.

Edwards' and Certoma's terms expire this year, and they have both indicated a desire to stand for election.

"It really equipped us to be better able to re-elect them as board members," CEO Barbara Sugg said.

"It made me, as a candidate, decide whether I wanted to apply for another term. It gave me a sense of how much I learned and how much I still have to learn," Certoma said.

"I appreciate the confidence you have shown in me and Susan," Edwards said. "Hopefully, we can live up to your expectations."

Sugg said no decision has been reached on whether to conduct a search to replace Darcy

Ortiz, who was elected in 2018 and is not seeking re-election.

Annual Report Goes Digital

SPP has made its 2020 annual report, which recaps the organization's accomplishments, challenges and milestones over the last year, available in a *digital format* for the first time. The report highlights the RTO's response to the COVID-19 pandemic and the February winter storm and its support to neighboring regions as they battled wildfires and hurricanes.

"They say crises don't just build character ... they *reveal* it, and we are immeasurably proud of what the challenges of 2020 revealed about our organization," Sugg and Board Chair Larry Altenbaumer said in a letter to stakeholders.

"It's really slick," Sugg said of the report. "It's showing we are embracing the technology that's available to us today."

L&O Joins the RTO

The board and members passed a consent agenda that included a CGC recommendation that SPP amend its membership agreement to accommodate L&O Power Cooperative, a member of Basin Electric Power Cooperative. L&O said it would sign the agreement, which would be identical to that of other Basin members that have joined the RTO, as soon as it was approved.

Other items on the consent agenda included:

- Evergy's Jodi Hall to chair the Change User Forum for a two-year term;
- [TWG RR435](#), which modifies the generator interconnection study process for upgrades required to mitigate every outage-based constraint;
- sponsored upgrade studies for East River Electric Power Cooperative projects involving a 3.6-MVAR capacitor bank, a tap replacement with a 115-kV substation and moving two 69-kV lines;
- a 26.3% cost reduction for a 115-kV SPS project, resulting in a \$16.1 million baseline estimate;
- an 8.7% estimated cost increase, to \$132.4 million, for Oklahoma Gas & Electric's 345-kV Multi-Minco-Pleasant Valley-Draper economic project; and
- out-of-cycle re-evaluations of a 161-kV Evergy project for short-circuit breakers and Western Area Power Administration's 115-kV Device-Devil's Lake project. ■

— Tom Kleckner

SPP News

FERC Approves Wind Farm's 2nd Waiver Request

Chatterjee, Danly Dissent from Thunderhead Order for Alternative POI

By Tom Kleckner

FERC last week granted a wind farm developer's second request for a waiver from SPP's generator interconnection procedures that will allow the RTO to evaluate an alternative interconnection point in the generator interconnection agreement, drawing a dissent from two commissioners (ER21-1023).

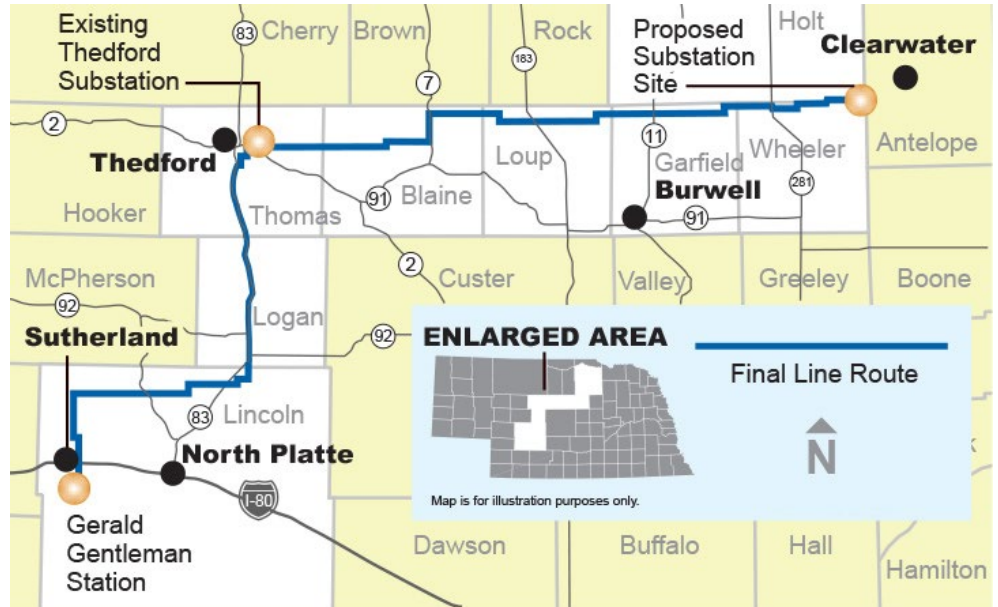
In its April 26 order, the commission said that while it's "hesitant" to grant waivers allowing transmission providers to study an interconnection customer's alternative point of interconnection (POI), it found that the developer, Thunderhead Wind Energy, had met the criteria.

Thunderhead said it had built a 300-MW wind facility in Nebraska to be interconnected to Nebraska Public Power District's system at the terminus of the utility's delayed *R-Project*, a new 222-mile, 345-kV line. SPP approved the project in 2012 with a 2019 in-service date, but it has yet to receive the needed regulatory approvals.

NPPD issued a *force majeure* notice for the original GIA in February 2019. SPP conducted a pair of studies that indicated Thunderhead could still interconnect to a substation at the terminus point but at a reduced output.



The Thunderhead Wind Energy Center | *Nebraskans for Solar*



NPPD's delayed *R-Project* transmission line, which would interconnect the Thunderhead Wind Energy Center. | NPPD

However, last June, the U.S. District Court for Colorado vacated the *R-Project*'s U.S. Fish and Wildlife Service permit, leading NPPD to suspend the substation's construction.

FERC denied Thunderhead's previous waiver request last year. It acknowledged that the delay was not the developer's fault and that it had incurred "large financial expenditures," but it said it was "unclear" as to whether granting the request would "resolve the problem ... or significantly reduce the financial harm."

This time, the commission found the developer had acted in good faith and that the waiver was limited in scope, addressed a concrete problem and did not harm third parties.

"Granting the requested waiver will allow SPP to study Thunderhead's request for an alternative POI and determine whether such a change would constitute a material modification," FERC said. "Should SPP find, after study, that Thunderhead's proposed change to its POI constitutes a material modification ... Thunderhead must submit a new interconnection request should it wish to pursue such a modification."

SPP did not oppose the order. NPPD, Basin Electric Power Cooperative and the Western Area Power Administration joined SPP as intervenors.

Commissioners Neil Chatterjee and James

Danly dissented from the order.

Chatterjee said FERC "got it right the first time" and that the "nearly identical record here does not support a completely different result."

"As a general matter, I favor a flexible, case-by-case approach to waivers to cure administrative or other similar, limited errors that arise under complex tariff processes," he wrote. "However, I disagree that the commission should use its waiver authority to relieve an interconnection customer of process uncertainties — especially here, where the timing uncertainties and potential for delays are specifically described in Thunderhead's executed [GIA]."

Danly said Thunderhead's request was not materially different from its initial request and should be rejected for "similar reasons."

"My concern ... is that it is usually a mistake to assess waivers concerning interconnection requests in isolation," he said. "Interconnection queues, especially in RTOs, are long. They have significant backlogs. The management of these queues requires hard and fast rules applied consistently, even when they cause hardship. This is the case with respect to the tariff provision at issue here, which provides that changes in a POI are definitionally material modifications, absent exceptions not applicable here." ■

Company Briefs

BP Seeks FERC Approval to Sell Power



BP last week applied to FERC to sell power in five states in the latest sign of the oil and gas giant's shift toward clean energy.

According to a filing with the commission, the company aims to sell electricity from wind, solar and natural gas sources to customers in Illinois, Ohio, Pennsylvania, Texas and California through a newly formed subsidiary, BP Energy Retail. In its application, BP said it "satisfies all of the commission's requirements to sell power at market-based rates" and intends to begin doing so by June 20. The company listed 13 generating units in its filing, 12 of which are wind and solar farms and one is a natural gas plant.

The company's foray into retail power could be part of a strategy to market lower-carbon energy as fossil fuel use declines, analysts said.

More: [E&E News](#)

Calpine CEO Named Chair of EPSA



Calpine President and CEO **Thad Hill** was voted chair of the Electric Power Supply Association Board of Directors at the board's annual spring meeting on April 27. He will hold the position for one year.

Hill has been a long-standing member of EPSA's board and a past chair. Prior to joining Calpine in 2008, Hill was with NRG Energy from 2006-2008.

Chris Moser, executive vice president of operations for NRG Energy, will assume the role of vice chair.

More: [EPSA](#)

Ellis Out as Entergy New Orleans CEO

Entergy New Orleans CEO David Ellis announced last week that he will step down from his position and take a new role as chief customer officer with Entergy's parent company as the local utility faces criticism over its handling of power outages during Mardi Gras.

Ellis, who served as CEO for fewer than three years, will be replaced by Entergy Texas official Deanna Rodriguez, effective May 9.

The change comes two months after Entergy cut power to nearly four times as many New Orleans customers as it needed to during rolling blackouts on Feb. 16. The error, which left around 20,000 more customers without power than necessary on a bitter-cold Mardi Gras night, was blamed on computer glitches.

More: [The New Orleans Advocate](#)

GE Renewable Energy Posts Q1 Loss

General Electric Renewable Energy last week posted a first-quarter loss of \$234 million.



The loss was considerably smaller than the \$327 million loss the company posted during last year's first quarter and was attributed to

improvement in onshore wind product cost, cost reduction measures and better project execution.

More: [Renewables Now](#)

Summit Utilities to Acquire CenterPoint's Arkansas, Oklahoma Assets

Summit Utilities, the parent company of Arkansas Oklahoma Gas, said last week it signed a definitive agreement to acquire the Arkansas and Oklahoma gas distribution assets of CenterPoint Energy for \$2.15 billion. The deal includes \$425 million in cash of

unrecovered storm-related costs incurred in February.

The sale, which must be approved by the Arkansas Public Service Commission and the Oklahoma Corporation Commission, is expected to close by the end of the year.

More: [Talk Business & Politics](#)

Tesla Storage, Solar Deployments Rise in Q1



TESLA

Tesla last week announced it increased its energy storage and solar deployments in the first quarter of 2021 by 71% and 163% year-over-year, respectively.

The company deployed 445 MW of storage in the quarter, up from 260 MW in the first quarter of 2020. Meanwhile, solar deployments grew to 92 MW in the first three months of 2021 from 35 MW a year ago.

More: [Renewables Now](#)

Tri-State OKs 2% Drop in Wholesale Electricity Rates



TRI-STATE

Tri-State Generation and Transmission Association's Board

of Directors last week approved a 2% rate reduction for the cost of its wholesale electricity. FERC must still approve the decision.

The settlement proposes another 2% reduction in Tri-State's wholesale electricity rates that would go into effect in March 2022 and establishes a moratorium rate increases until May 31, 2023.

The reduction, which would be retroactive to March 1, will be presented as a settlement to a rate and contract filing Tri-State initially proposed to FERC in March 2020.

More: [The Durango Herald](#)

Federal Briefs

Senate Confirms McCabe as Deputy EPA Chief

The Senate last week voted 52-42 to confirm Janet McCabe as the No. 2 official at the EPA.

McCabe served as acting assistant administrator of the EPA's Office of Air and Radiation during the Obama administration, where she worked on the Clean Power Plan.

More: [The Hill](#)

Senate Votes to Restore Obama-era Limits on Methane Emissions

The Senate last week voted 52-42 to restore an Obama-era regulation that imposed limits on methane leaks from oil and gas

operations. It is expected to pass the House and head to President Joe Biden's desk.

If enacted, the measure would restore requirements on companies to check for methane leaks from pipelines, storage tanks and other equipment installed after 2015. The checks must be done every six months, and any leak must be plugged within 30 days of detection.

It was the first time Democrats used the 1996 Congressional Review Act to reverse a federal regulation. The act gives lawmakers the power to nullify any regulation within 60 days of enactment and dictates that once a regulation has been revoked, no

new "substantially the same" regulation can be adopted.

More: [The Washington Post](#)

TVA Plans to Phase Out Coal by 2035



The Tennessee Valley Authority last week said it is planning to phase out the last of its coal plants within the next 15 years and turn more to natural gas, nuclear and renewable energy sources to generate electricity.

TVA President Jeff Lyash said that by 2035

he expects the company to cut its carbon emissions from fossil fuels by 80% below the peak levels reached in 2005. TVA has cut its carbon output by 63% in the last 15 years, nearly twice the industry average for all U.S. utilities. Lyash said the federal utility is looking for ways to cost-effectively make further reductions in its greenhouse emissions.

TVA has shut down 34 of its 59 coal-fired units and is preparing to shutter its Bull Run Fossil plant by 2023 and its Cumberland, Gallatin, Kingston and Shawnee plants by 2035.

More: [Chattanooga Times Free Press](#)

State Briefs

CALIFORNIA

Climate Policy Isn't Achieving Real Carbon Savings

Recent research from CarbonPlan, a San Francisco nonprofit that analyzes the scientific integrity of carbon removal efforts, claims the state's climate policy created up to 39 million carbon credits that aren't achieving real carbon savings, yet companies can buy these offsets to justify more polluting.

The offset program allows forest owners to earn credits for taking care of their land in ways that store or absorb more carbon. Landowners can sell the credits to major polluters that want to emit more carbon than otherwise allowed under state law. Each extra ton of carbon emitted by the industry is balanced out by an extra ton stored in the forest, allowing net emissions to stay within a cap set by the state.

CarbonPlan estimates the program has generated between 20 million and 39 million credits that don't achieve real climate benefits. They are, in effect, ghost credits that didn't preserve additional carbon in forests but did allow polluters to emit far more carbon dioxide. The ghost credits represent nearly one-third of the credits issued through the program.

More: [ProPublica](#)

COLORADO

AG Launches Probe of Whistleblowers' Air Pollution Control Complaints

Attorney General Phil Weiser and the

Department of Law last week said they will hire an independent investigator to probe whistleblower allegations that the state health department's Air Pollution Control Division failed to properly enforce EPA air quality standards.

A request for proposals was posted to investigate the detailed whistleblower complaint filed with the EPA's Office of Inspector General on March 30. The whistleblowers alleged dozens of air pollution permits were issued unlawfully to companies and that one of the whistleblowers was ordered to falsify data in order to get pollution estimates under permitted caps.

Proposals are due by May 10.

More: [The Colorado Sun](#)

KANSAS

Energy to Close Lawrence Coal-fired Plant



Evergy last week said it plans to close its coal-fired Lawrence Energy Center by 2023.

The company said it wants to close the facility, its oldest remaining coal-fired plant, as part of a "measured" plan to have less reliance on fossil fuel.

Evergy will lose about 487 MW of capacity. However, it expects to add 350 MW of solar energy in 2023 and another 350 MW in 2024.

More: [Lawrence Journal-World](#)

MAINE

Mills Pushes for 10-year Ban on OSW Development in State Waters



Gov. **Janet Mills** last week introduced legislation to create a 10-year ban on new offshore wind projects in state waters.

The proposed moratorium would set aside state waters, which extend

up to three miles from shore, for fishing and recreation. It would focus commercial-scale wind project development in federal waters of the Gulf of Maine, where the Mills administration has proposed a first-in-the-nation research array to study floating offshore wind technology. The ban wouldn't include the already permitted New England Aqua Ventus demonstration project.

Mills first proposed the ban in January to defuse mounting opposition to offshore wind power from commercial fishing interests. She announced the moratorium bill last week shortly before a protest rally organized by fishermen and their allies.

More: [Portland Press Herald](#)

MARYLAND

Anne Arundel County Sues Fossil Fuel Firms Over Climate Costs

Anne Arundel County last week filed a lawsuit against more than 24 fossil fuel companies over the costs of dealing with the

fallout of climate change.

The lawsuit, which looks for compensatory and punitive damages, cites the “devastating economic and public health impact” that the climate has had on the county, including its 530 miles of coastline.

“The damage inflicted by these companies damages our environment and creates massive costs that shouldn’t be borne on the backs of our residents,” County Executive Stuart Pittman said.

More: [WTOP](#)

MICHIGAN

ATC to Replace Electric Cables in Straits of Mackinac



American Transmission Co. will continue

removing six submarine electric transmission cables this week and begin installing new cables on the lakebed of the Straits of Mackinac. The company began removing the cables last August.

In April 2018, ATC’s two transmission circuits were damaged when a ship anchor severed two of the six cables and severely damaged a third. The three undamaged cables were reconfigured to form a single transmission circuit, allowing ATC to restore one electrical connection between the Upper Peninsula and lower Michigan. Two operating circuits are needed to effectively manage and reinforce reliability within the region.

More: [American Transmission Co.](#)

NEBRASKA

OPPD Names Only Finalist for Utility’s Top Post

The Omaha Public Power District nominated Javier Fernandez, the only candidate for CEO, for the post during its meeting last week. The current CEO, Tim Burke, will retire July 2.

Fernandez, who joined OPPD in June 2017, is the company’s vice president and CFO.

The OPPD board will vote on the new CEO selection during its meeting on May 20.

More: [KETV](#)

NEW YORK

Indian Point Nuclear Plant Shuts Down

The Indian Point Energy Center stopped

producing nuclear power last week and was shut down.

Friday marked the end for Unit 3; Unit 2 was shut down a year ago. Pending state regulatory approval, Entergy will transfer Indian Point to Holtec International for decommissioning. Spent fuel is being moved to onsite “dry casks” until it can go elsewhere.

Gov. Andrew Cuomo and Riverkeeper President Paul Gallay cited a possible nuclear accident in a densely populated area as the main reason for the shutdown.

More: [The Associated Press](#)

NORTH CAROLINA

DEQ Rejects Proposed Mountain Valley Extension Again

The Department of Environmental Quality last week again rejected a proposed extension of the Mountain Valley Pipeline, two months after a federal appeals court sent the case back to the department for additional review.

The DEQ initially turned down the request for a 75-mile extension mostly due to uncertainties that remain with the main project: a 303-mile natural gas pipeline under construction from northern West Virginia to Virginia. Should the main project fail, its extension “would be a pipeline from nowhere to nowhere,” said Daniel Smith, director of the department’s division of water resources.

More: [The Roanoke Times](#)

UC Approves Duke Energy Solar Project

The Utilities Commission last week approved a 5 MW Duke Energy solar farm on top of a 30-acre capped landfill outside of Asheville.

Despite approving the project, commissioners cautioned that similar projects would not necessarily receive the same outcome and that special circumstances related to a 2015 agreement outweighed its costs. Public Staff, the state’s ratepayer advocate, said the project was not in the public interest largely because it was “well above” the avoided cost rate — what Duke would spend to produce a kilowatt-hour of electricity from a gas plant. The commission shared the concerns but said a host of factors left it “persuaded that the Woodfin Facility presents benefits that help to balance the cost.”

More: [Energy News Network](#)

SOUTH CAROLINA

NextEra Withdraws Bid to Buy Santee Cooper



NextEra Energy last week terminated its transaction agreement with the

state and asked it to return the \$25 million deposit it made when offering to buy Santee Cooper. The deposit was required after the Department of Administration selected NextEra as the preferred buyer.

Now that the Senate has pushed forward a Santee Cooper reform plan that does not include an option to consider purchase offers, a sale of the utility seems unlikely.

Last year, lawmakers rejected offers from NextEra and Dominion Energy to manage Santee Cooper.

More: [The State](#)

TEXAS

Enterprise Products Sues CPS Energy Over Gas Bill



Oil and gas supplier Enterprise

Products Partners last week sued CPS Energy over a failure to pay nearly \$100 million for natural gas delivered during the February winter storm.

The suit claims CPS owes \$99.7 million for gas after paying \$36.5 million toward the month’s fuel bill. CPS CEO Paula Gold-Williams said Enterprise had engaged in “egregious price gouging” and the lawsuit came after it had tried to negotiate the dispute.

More: [Reuters](#)

WISCONSIN

PSC Approves Grant County Solar Farm

The Public Service Commission last week unanimously approved NextEra Energy’s plan to build a \$250 million, 200-MW solar farm on 1,400 acres in Grant County.

The plant is one of six solar farms that will be owned and operated by Alliant Energy as part of the utility’s plan to replace its coal-fired generators. The plants are the first phase in Alliant’s plans to add nearly 1,100 MW of solar capacity by 2024.

More: [Wisconsin State Journal](#)

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