ISSN 2377-8016 : Volume 2021/Issue 16

April 20, 2021

FERC Proposes to Narrow RTO Incentive

By Robert Mullin

In a move that rankled some power industry participants, FERC voted Thursday to approve a supplemental Notice of Proposed Rulemaking that would scale back a transmission rate adder designed to encourage utilities to join RTOs.

The vote represented a sharp turnabout from last March, when the commission advanced a proposal to double the RTO adder to 100 basis points. (See FERC Proposes Increased Transmission Incentives.)

The draft supplemental NOPR approved Thursday on a 3-2 vote would keep the adder at 50 basis points while also reducing utilities' eligibility period for collecting the incentive to three years (RM20-10).

The change would save ratepayers \$350 million a year, FERC staff said during a presentation at the commission's open meeting.

Staff also said the change was motivated by

stakeholder comments in response to the March 2020 NOPR, which addresses transmission incentives more broadly. The proposal to boost the adder had drawn strong criticism from many corners, including the Union of Concerned Scientists, the Maryland Public Service Commission and the National Association of State Utility Consumer Advocates. which questioned the benefit to ratepayers of maintaining a payment to utilities that are longstanding RTO members. (See Tx Incentive NOPR Leaves Many with Sticker Shock.) The California Public Utilities Commission — a longtime opponent of perpetuating the incentive for in-state utilities already required by law to participate in CAISO — called the plan "atrocious." (See CPUC Calls FERC Tx Incentive Plan 'Atrocious.)

Those sentiments were shared to some degree by FERC Chairman Richard Glick.

"An incentive must incentivize something. If it does not do that, then it is a handout, not an incentive. Providing what is essentially a per-

Continued on page 3

Panelists Urge Inclusive Approach to FERC's OPP

By Holden Mann, Michael Kuser, and Michael Yoder

FERC on Friday heard from affected communities, landowners, consumer advocates and others on how to set up its new Office of Public Participation (OPP) — including the group's structure, function and funding.

"There's a history of mistrust that exists, and if you don't understand where that mistrust lies [and] what you may have done to have perpetrated that, there's no way you can possibly thoroughly meet folks in terms of outreach and engagement," Olivia Nedd, director of access and equity at Vote Solar, said.

First step: move beyond the legal focus and jargon, said Marty Rozelle, president of the Rozelle Group and former president of the International Association of Public Participation.

"To whom will this office report? I recommend they not report to the general counsel's office; there is a place for the lawyers, but not at the beginning," Rozelle said. She also suggested when setting up a public meeting not to put chairs in a row before a podium, which is adversarial, but instead make a circle.



Susanne DesRoches, NYC | FERC

Susanne DesRoches, deputy director for infrastructure and energy at New York City's Office of Resiliency and Office of Sustainability, said New York is the only municipality that regularly participates in NYISO's stakeholder process. Consumer

representatives are mostly very large commercial, industrial and institutional customers — groups that can afford the resources necessary to participate, she said.

Continued on page 4

MISO Capacity Auction Values South Capacity at a Penny

By Amanda Durish Cook

Zone	Local Balancing Authorities	Price \$/MW-Day
1	DPC, GRE, MDU, MP, NSP, OTP, SMP	\$5.00
2	ALTE, MGE, UPPC, WEC, WPS, MIUP	\$5.00
3	ALTW, MEC, MPW	\$5.00
4	AMIL, CWLP, SIPC, GLH	\$5.00
5	AMMO, CWLD	\$5.00
6	BREC, CIN, HE, IPL, NIPS, SIGE	\$5.00
7	CONS, DECO	\$5.00
8	EAI	\$0.01
9	CLEC, EES, LAFA, LAGN, LEPA	\$0.01
10	EMBA, SME	\$0.01
ERZ	KCPL, OPPD, WAUE (SPP), PJM, OVEC, LGEE, AECI, SPA, TVA	\$2.78- 5.00

ERZ = External Resource Zones

2021/22 PRA clearing prices | MISO

MISO's ninth annual capacity auction cleared MISO South zones — two months removed from emergency load shed orders — at just a penny/MW-day Thursday.

Southern zones 8-10 — Arkansas, Louisiana, Mississippi and Texas — cleared at an all-time low of 1 cent/MW-day while Midwestern zones 1-7 — Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Montana and Wisconsin — cleared at \$5/MW-day.

Last year, Michigan's Zone 7 became MISO's first local resource zone to clear at the

Continued on page 25

Also in this issue:



FERC OKs Carbon Pricing Policy Statement



Report: US Should Target 100% EV Sales by 2030



DOE Offers \$100M for Electrification of Heavy Trucks

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

Editorial

Editor-in-Chief / Co-Publisher Rich Heidorn Jr. 202-577-9221

Deputy Editor / Daily

Deputy Editor / Enterprise

Michael Brooks 301-922-7687

Robert Mullin 503-715-6901

Art Director

Mitchell Parizer 718-613-9388

New York/New England Bureau Chief Jennifer Delony 603-320-7043

MidAtlantic Bureau Chief K Kaufmann 202-494-4386

Midwest Bureau Chief John Funk 216-316-5413

Associate Editor

Shawn McFarland 570-856-6738

Copy Editor/Production Editor Rebecca Santana 770-862-6004

CAISO/West Correspondent Hudson Sangree 916-747-3595

ISO-NE Correspondent Jason York 860-977-7830

MISO Correspondent

Amanda Durish Cook 810-288-1847

NYISO Correspondent Michael Kuser 802-681-5581

PJM Correspondent

Michael Yoder 717-344-4989

SPP/ERCOT Correspondent Tom Kleckner 501-590-4077

NERC/ERO Correspondent Holden Mann 205-370-7844

Subscriptions

Chief Operating Officer / Co-Publisher Merry Eisner 240-401-7399

Account Executive

Kathy Henderson 301-928-1639

Account Manager

Phaedra Welker 773-456-4353

Marketing Director

Margo Thomas 480-694-9341

RTO Insider LLC

10837 Deborah Drive Potomac, MD 20854 (301) 299-0375

2021 Annual Subscription Rates:

Plan Price \$1,520 Newsletter PDF Only Newsletter PDF Plus Web \$2,000

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

In this week's issue

FERC/Federal

FERC Proposes to Narrow RTO Incentive
CAISO/West CPUC Applies Stricter Oversight to PG&E
ERCOT
Lawmakers Wave Through Texas PUC Appointees16ERCOT Faces Tight Conditions — Again17ERCOT Board of Directors Briefs18
ISO-NE
ISO-NE, Stakeholders Continue to Pave 'Pathways to the Future Grid'
MISO
MISO Capacity Auction Values South Capacity at a Penny
MISO, SPP Ordered to Resolve Overlapping Charges
NYISOFERC Confirms NYTOs' Right of First Refusal34NYISO Monthly Energy Costs Up 98% Y-o-Y36NYPSC OKs \$800 Million Tx Cost Recovery for Con Ed37New York Moves to Centralize Energy Data38
РЈМ
Neil Smith Resigns from PJM Board.39NJ Rate Counsel Turns to State Supreme Court over Nuke Subsidies40FERC Rejects GreenHat Arguments in Shell Case.41PJM MRC/MC Preview.42New Jersey Seeks OSW Transmission Ideas43
SPP
SPP MOPC Briefs44SPP Strategic Plan Begins to Take Form47SPP Hires Human Capital VP47
Briefs
Company Briefs.48Federal Briefs.48State Briefs.49

NetZero Insider is now live!



FERC Proposes to Narrow RTO Incentive

Continued from page 1

manent payment for RTO membership is bad policy and inconsistent with the Federal Power Act." Glick said in a statement.

In its presentation, FERC staff said the supplemental NOPR seeks to tailor the adder to the specific language contained in the FPA, which "only directs an incentive for entities that 'join' a Transmission Organization" rather than staying in one "in perpetuity."

"Consistent with this approach, the draft supplemental NOPR also proposes to end all existing transmission organization incentives for transmitting utilities that have been members for three or more years," staff said.

For utilities that have joined an RTO within the previous three years, the supplemental proposes that the adder would terminate "three years from the date it turned over operational control of its transmission facilities" to an RTO.

"The success of RTOs largely speaks for itself," Glick said. "We should implement the specific directive Congress gave us: to reward the decision to join an RTO — instead of continuing to hand out money with no additional benefits."

Commissioners Allison Clements and Mark Christie joined Glick in voting in favor of the NOPR, with Neil Chatterjee and James Danly voting against.

Chatterjee said the supplemental NOPR is "clearly inconsistent with the plain language" of the FPA.

He also warned that it was "illogical to make it more difficult for transmission companies to attract capital."

"In a confounding yet predictable turn of events, when the entire industry and policymakers at the highest levels of government have repeatedly stressed the need to accelerate the build-out of the transmission system, this commission chooses to delay issuing a final rule and instead proposes to gut the RTO adder by only allowing prospective utility members to receive the incentive for three years," Chatterjee said.

In response to Chatterjee's criticism, Glick said "there's nothing in the record" to suggest utilities need continued incentives to remain in RTOs.

The FERC chair instead pointed to other needed policy changes to spur transmission investment.

"I believe that the commission must make

changes to our regulations and policies to improve the way electric transmission is planned, paid for and operated," Glick said. "We also need to improve the process of interconnecting new generation to the transmission grid. Current interconnection queues are logjammed."

Glick also pointed to the need to "break down the barriers" in state and regional interconnection processes. He stressed FERC's desire to work with states through the National Association of Regulatory Utility Commissioners in that area and said he hoped to make a further announcement about that effort in the near future.

Glick also announced that FERC will hold a workshop on a "shared savings approach" to transmission investments, saying current regulations encourage utilities to pick the most expensive solutions to add to their rate base.

Western Impact

In a press briefing after the meeting, Glick said the narrower incentive should have little impact on efforts to develop an RTO in the West because stakeholders there "have their own reasons for joining" one.

"We don't have authority to require utilities to join RTOs and so that's obviously not a mechanism for us. We are trying to encourage that," he said.

He pointed to ongoing discussions about resource adequacy in the West, which will be the topic of a June 23-24 FERC technical conference.

"I think the subject of RTO membership, and how that might help address some of the resource adequacy concerns in the region will certainly come up during the discussion," he said.

"I don't necessarily see how continuing to pay a utility in an RTO, is going to cause them to say I want to join an RTO. The concern in the West is not necessarily that utilities don't want to join RTOs. Essentially, the concern that regulators have is with issues of governance and some of the longstanding history between California and the other states in the region, and that can act somewhat as an impediment. But we'll do everything that we can do to encourage RTO participation."

Reaction

All of the RTOs and ISOs contacted by RTO Insider said their staff needed more time to review the supplemental NOPR before providing comments.

"The role of RTOs and the need for consistent, stable membership — to the benefit of the customers within their respective footprints - will only be heightened in the next phase of investments into the transmission system," said MISO spokesperson Brandon Morris.

"This proposal is significantly more negative than we expected," ClearView Energy Partners said in a note to clients. "While the RTO adder has been the subject of controversy (and judicial appeal in the case of California's publicly traded companies), we did not expect either immediate elimination or such a short period of eligibility."

Larry Gasteiger, executive director of WIRES, called the proposed change "a profoundly disappointing step in the wrong direction."

Gasteiger said he agreed with Glick's comment Thursday that transmission is "the key component" to President Biden's infrastructure plans but felt "FERC's proposed action sends the wrong signal at a time when encouraging transmission owners to pursue more inter- and intraregional transmission planning is critical to getting strategic infrastructure built if we are to meet the administration's clean energy goals."

Vijay Satyal, senior energy market policy analyst for Western Resource Advocates, an avid proponent of the environmental benefits of a Western RTO, agreed with the notion of putting a time restriction on the RTO adder.

"I think that's healthy because, otherwise, you have a perverse incentive. It's like a nice cushion — you are in and keep getting that incentive on top of the other benefits you already get in an RTO/ISO," Satyal told RTO Insider.

He thinks the "larger intent" of the NOPR and Glick's comments is to "put the incentive where it's supposed to be" — on drawing utilities into RTOs where they will realize those other benefits that keep them there.

Satyal declined to take a position on the appropriate size for the adder.

"I really would like to stay neutral on the issue of whether the adder should remain at 50 basis points or 100 because that really depends on a case-to-case basis of each transmission owner's financial situation and what kind of capital they can bring to the table," he said.

The CPUC did not respond to a request for comment in time for publication of this story.



Panelists Urge Inclusive Approach to FERC's OPP

Continued from page 1

For FERC proceedings, "I have to hire multiple consultants just to understand what's going on," DesRoches said.

"One issue I wanted to bring up is just the amount of time that participants have to respond [at FERC]," she added. "At the New York State PSC, when something is made public. when there's a proceeding that starts, we have 60 days to respond as a stakeholder compared to 21 days at [FERC], and that puts a real strain if we want to partner with other organizations or do outreach on the issue. We only have three weeks."

Steep Learning Curve

The hurdles faced by the public in most FERC proceedings are daunting and the learning curve is very steep, said Kin Gee, president of New Jersey grassroots group Consumers Helping Affect Regulation of Gas and Electric (CHARGE).

"The practice where the applicant or petitioner is responsible for the outreach and controls the timing and information made available to the public is fundamentally flawed [and] epitomizes letting a fox guard the henhouse," Gee said.



FERC Chairman Richard Glick | FERC

FERC Chairman Richard Glick agreed that commission proceedings can be difficult for members of the public to follow.

"I think we're going to need to focus on a couple areas, certainly communication, and

we'll need to improve on outreach to various affected communities that haven't necessarily had that outreach, and on simplifying processes," Glick said. "Sometimes I get confused, so [for] folks that don't spend every day working on these issues, [I] can't imagine what they

think ... and how we handle them."

David Springe, executive director of the National Association of State Utility Consumer Advocates (NASUCA). said that FERC needs to figure out how to fund greater participa-



David Springe. NASUCA | FERC

tion by consumer groups and advocates.

"Could the OPP help facilitate and improve participation at FERC in terms of our proceedings but also in terms of RTO processes and stakeholder meetings?" Glick asked.

"Rightly or wrongly FERC gives a level of deference to outcomes that come through the process, which means we need something more than just outreach," Springe said. "There needs to be actual legal representation, needs to be funding so people can participate meaningfully in those processes. So I think the [OPP] probably isn't the be-all, end-all of solving historically stated concerns with RTOs and governance, but I think it can play a role."

Commissioner Mark Christie asked whether NASUCA members need to look at resources at the federal level to really focus on FERC, but Springe said it is too small an organization for such an effort.

Commissioner Allison Clements, whom Glick named to head the OPP initiative, said the office would help in "making sure the decisions and actions of the commission are better informed, more efficient, more inclusive, which in turn will make the commission's work more credible and more durable."

Clements especially thanked Tyson Slocum, director of the energy and climate program at Public Citizen, for his work over many years in pushing Congress and the commission to create the OPP.

"The OPP could assign staff to each of the different RTOs/ISOs not just to disseminate information about important developments and proceedings going on at the RTOs, but also to recruit other public interest entities to participate and engage in stakeholder meetings," Slocum said in response to a question from Glick.

Slocum also advocated for up-front funding for those intervenors that simply don't have the structure or funds to ride out the intervenor compensation process, to enable them to participate through the end of a given proceeding.

Equity and Landowners

Among households in the Northeast with annual income at or below \$20,000, those headed by African Americans were more than twice as likely as their white counterparts to experience loss of heating service, John Howat of the National Consumer Law Center said.

"I would add that, looking at the data, indigenous communities experience energy inequity at higher rates than any other communities," Howat said.

Deb Evans and Ron Schaaf, Oregon landowners affected by the Pacific Connector Gas Pipeline project, said that landowners tend to trust neighbors, but not so much the government, and that the response they get from FERC, positive or negative, affects them tremendously.

"We found that out in reaching out to your staff at FERC that you got various different people, and it's a testament to the professionals at FERC that we were finally able to talk to [someone] that helped us understand which policies to look at, which ones to try to understand. [That] made a huge difference," Schaaf said.

Lois Sweet Dorman, Snoqualmie Tribal Elder in Washington state, said, "What we know as our sacred place of creation [Snoqualmie Falls] is known as FERC Relicensure Project 2493. We were lumped together with kayakers as simply stakeholders in the relicensing of a hydro project, but we've been here since time immemorial. ... I don't understand the inability of this process to ever integrate consideration of the sacred."

Michelle Martinez, the acting executive director of Michigan Environmental Justice Coalition, said that upper peninsula residents are paying upwards of \$1,200/month on energy, using dangerous alternative means to heat their homes, or sleeping with pets to stay warm.

"What is happening in the energy system is immoral at a Biblical scale, and we've waited 40 years for the [OPP], the simplest procedural piece. Now what is more complex is how to have meaningful public participation," Martinez said. "There is a difference between the ability to participate and the ability to influence."

Community Engagement Critical

The theme of meaningful participation continued in afternoon panels, as participants urged commissioners to ensure that the "public" in the new office's name is not just for show.

"First and foremost, the engagement of communities must have teeth," Jacqueline Patterson, director of the NAACP's Environmental and Climate Justice Program, said during the "Energy and Environmental Justice" panel.



"Our government must live up to the tenets of democracy: of the people, by the people, for the people. If input does not lead to decisionmaking, please do not waste the time of already-beleaguered communities in performative actions."

Part of the OPP's mission must be to reach out to "the communities that are the farthest off the map," Patterson continued. To illustrate how the office could do this, she told commissioners about a survey she conducted recently that offered participants multiple routes to communicate with researchers, including a Google form, email, voice mail and even oneon-one interviews.

The guiding principle for the survey, she explained, was to enable community members to reach out to the researchers on their own terms, using methods that worked for them. Opening up in this way meant more work for the survey team but allowed a considerably wider range of voices to be heard. Crucially, these voices included those who might not have internet access to fill out online forms. or who may not feel comfortable with written responses or with speaking to strangers.



Matthew Tejada, EPA FERC

Matthew Tejada, director of the office of environmental justice at the Environmental Protection Agency, agreed that public engagement requires "more investment [and] foresight" than agencies might previously have expected to

commit, but that officials have to realize that their needs are not the most important part of the process.

"We've come a long way from the days when we might hold a hearing, and that hearing would be at noon at some really nice hotel downtown on a Wednesday," Tejada said. "When we need to hear from the communities that are being impacted by our decisions ... we know we need to make those hearings available to communities in places and at times and in ways that work for them, not that work for us."

Glick admitted that he "hadn't really given a lot of thought to environmental justice" prior to joining FERC in 2017, but that his reading on the subject since then had driven home what an "illogical approach" the commission had taken to the subject. He asked participants for advice on embedding a focus on justice and equity not just into the OPP but into the

commission overall, noting that he planned to create a "senior staff position" for environmental justice at FERC soon.



Shalanda Baker, DOE I FERC

In response, Shalanda Baker, deputy director for energy justice and secretary's adviser on equity at the Department of Energy, said the appointment of a senior staff officer focused on environmental justice is "a great start," as long as that person has a

role in decision-making along with a title. FERC also needs to ensure that "everyone [has] ownership" of the concept of equity, rather than letting it all fall on the shoulders of one person who becomes a scapegoat when reality falls short of expectations.

Baker also emphasized that officials need to respect that community traditions and experiences constitute their own forms of expertise that deserve to be considered alongside the technical experts they may be more accustomed to encountering.

"I think in order to reach agreement on the complexities of the transition, we have to know and understand the communities and really treat them as true partners in the transition," Baker said. "So there's deep expertise, but it requires people to get to know who the community leaders are and who the members are. Sometimes [that means] going to places that we don't even think are ... where that expertise lives — the aunt, the uncle, the grandmother who's holding the community knowledge, but it really requires patience to get to know who those people are."

Coordinating Public Assistance

In another panel, the panelists focused on ways the OPP can offer a better understanding of the commission's processes through education and public engagement, while also seeking ways to better coordinate public requests of assistance for individuals looking to intervene or participate in FERC proceedings.



Susan Tierney, Analysis Group | FERC

Susan Tierney, senior adviser at the Analysis Group and former assistant secretary for policy at DOE, said beginning with a "well-designed and well-resourced" OPP will allow it to aid in the commission's ability to fulfill its mandates

for public interest. Tierney said having more voices in FERC proceedings from communities directly impacted by the commission's decisions and "[removing] barriers to public participation" will greatly improve the integrity of decisions being made.

"The Office of Public Participation should have the resources, staffing, expertise and scope of work to support meaningful participation," Tierney said.

Shelley Welton, associate professor at the University of South Carolina School of Law, focused on relating her research on public participation in federal agencies to challenges currently faced by FERC. Welton's research deals with several issues surrounding the ways climate change is transforming energy and environmental law and governance, including the integration of clean energy technology with privatized grid governance.

Welton said her research has shown that early public participation is important in proposed projects or rules formally being considered before the commission. She cited the complications of electric proceedings at FERC, saying "timing challenges equate to venue challenges," as Section 205 filings are formulated months in advance within the RTO/ISO stakeholder process, leaving the commission "limited by deferential review standards.

The OPP should focus on improving participation and transparency in "notoriously opaque RTO/ISO processes," Welton said, putting its field staff in different regions to help "translating out" and "translating in" the earlier stakeholder processes before an issue comes to FERC.

"At its best, I think this office could help FERC receive a wealth of new and valuable perspectives on how to interpret and apply the commission's broad and malleable charges of statutory authority," Welton said.





FERC OKs Carbon Pricing Policy Statement

No Proposals on the Horizon

By Rich Heidorn Jr.

FERC approved a policy statement Thursday on how it would review carbon pricing proposals in organized wholesale electricity markets, but there's no indication it will be put to the test anytime soon (AD20-14).

The commission proposed a policy in October for considering market rules suggested by RTOs/ISOs for incorporating state-determined carbon prices. (See FERC: Send Us Your Carbon Pricing Plans.)

Chairman Richard Glick and Commissioner Allison Clements, both Democrats, voted to approve the statement, along with Republican Neil Chatterjee. Republicans James Danly and Mark Christie each concurred in part and dissented in part.

Chatterjee was chairman when the commission proposed the policy in October, just two weeks after holding a technical conference on the issue. Most panelists at the conference urged the commission to support state and RTO efforts to introduce carbon pricing while saying a uniform national price regime authorized by Congress would be preferable. (See FERC Urged to Embrace Carbon Pricing.)

The commission said that 12 states currently use carbon pricing as a market-based tool to reduce greenhouse gas emissions.

The policy statement, which takes effect immediately, says that wholesale market rules incorporating a carbon price could be within the commission's jurisdiction under Section 205 of the Federal Power Act (FPA). While the policy statement provides guidance on how FERC would review future proposals, the commission said any rulings would depend on the "facts and circumstances" presented.

"The policy statement serves a useful purpose in discussing how the commission might accommodate a state-determined carbon pricing program [but] the devil is always in the details," Glick said at FERC's open meeting. "Until we get a specific request to act, I do not think there's much benefit to weighing in on further hypotheticals."

Chatterjee praised the bipartisan vote in support of the statement.

"Carbon pricing has emerged as an important market-based tool that can be deployed to reduce carbon emissions in an efficient and transparent manner — one of those rare policy tools that attracts support from across the political spectrum," Chatterjee said, noting endorsements of the concept by groups including the Union of Concerned Scientists, the Business Roundtable, the U.S. Chamber of Commerce and, most recently, the American Petroleum Institute.

But Glick acknowledged that New York and the states within ISO-NE and PJM have not taken any steps to implement such programs.

"It's not entirely clear to me that what we did today is going to have any bearing on the states' decisions on whether to pursue carbon pricing or not," he said in a press conference after the meeting.

Danly said although he concurred in the order, "there's little actual substance behind it. It's an aspirational goal to be sure. But it doesn't really amount to very much other than a repetition that people are able to enjoy their [Section] 205 filing rights."

For his part, Christie said the commission should refer to such proposals as a "carbon

"Let's get the labeling right so the public understands what's going on here. It isn't just semantics: It helps to clarify the legal and constitutional issues, particularly with regard to FERC's authority as we consider these proposals," he said. "Let's have truth in labeling and not use euphemisms."

Reaction

Clean energy groups welcomed FERC's action.

"Today's policy statement demonstrates an understanding by FERC leadership that the economic design of our nation's wholesale energy markets is inseparable from our climate reality," said Gregory Wetstone, CEO of the American Council on Renewable Energy. "Pricing carbon not only sends market signals to emitting resources that they should retire, but also drives investment in new, low-carbon resources by helping them compete. ... I encourage electricity market stakeholders to quickly begin assessing their options to develop carbon pricing proposals under this new framework."

Gene Grace, general counsel for the American Clean Power Association, cited the "overwhelming consensus ... that carbon pricing in markets is a powerful and cost-effective tool to drive down emissions and achieve state policy goals while preserving the benefits of competition."

But ClearView Energy Partners told its clients that the commission's action is unlikely to open a floodgate of proposals.

"Ahead of any such filing, stakeholders must develop and endorse them, and such debates have been contentious and slow-moving," ClearView said. "Outside of California, which has already implemented a carbon price into its wholesale market, New York — as a single-state market — appears to represent the next best opportunity to test 'integrating' state policies into a regional market via carbon pricing policies.

"We think it also illustrates the difficulty of finding consensus even among a state's own policymakers. It appears that Gov. Andrew Cuomo's (D-NY) unwillingness to endorse the proposal has caused it to stall." ■



The Ravenswood Generating Station now run by Rise Light & Power, as seen from a neighboring street in Roosevelt Island. | Rhododendrites, CC BY-SA 4.0, via Wikimedia



Report: US Should Target 100% EV Sales by 2030

UC Berkeley Calls for Massive Ramp-up of Solar and Chargers for Transition

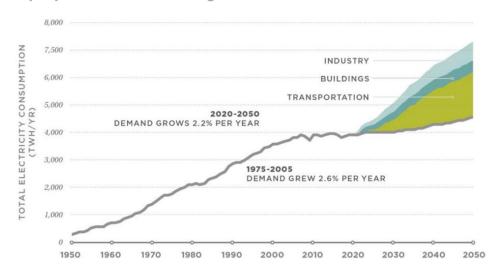
By K Kaufmann

The key question about the electrification of U.S. transportation is no longer if it is technically or economically feasible, but how fast it can be accomplished and what federal, state and local policies will be needed to drive rapid and widespread consumer adoption.

A new report from the University of California, Berkeley envisions a scenario in which 100% of new car and light-duty truck sales will be electric vehicles by 2030, with medium- and heavy-duty truck sales going all-electric in 2035. Meeting those aggressive targets, however, will require the installation of 120 GW of new solar, wind and storage each year through 2035 to decarbonize the grid, and the installation of 300,000 to 350,000 new EV chargers annually for the next 20 to 30 years.

Speaking at a media preview of the report on April 8, co-author Nikit Abhyankar, a senior scientist at UC Berkeley's Goldman School of Public Policy, admitted the numbers are high, but with the right policies, achievable. And, he argued, the benefits will outweigh the costs.

According to the report, because EVs cost less to operate and maintain, making all new cars electric will provide \$2.7 trillion in consumer savings over the next 30 years, which translates into average household savings



Adding 120 GW of new clean power to the grid each year for charging new EVs will only result in 2.2% annual load growth, according to the Bekeley report. | UC Berkeley

of \$1,000/year. Shifting the 100% target for new car sales even five years to 2035 would defer over \$400 billion in consumer savings, Abhyankar said.

Emissions reductions for the transportation sector - now the largest source of GHG emissions in the U.S. — would be similarly dramatic, 60% by 2035 and 93% by 2050. The reduction in air pollution alone would avoid 150,000 premature deaths by 2050, Abhyankar said.

"If you also add the avoided deaths due to [decarbonizing] the grid, that number increases by approximately 80,000 to 85,000," he said.

The onslaught of numbers is underpinned with some of the basic economics driving the growth of EV sales in the U.S. — battery price and performance, Abhyankar said.

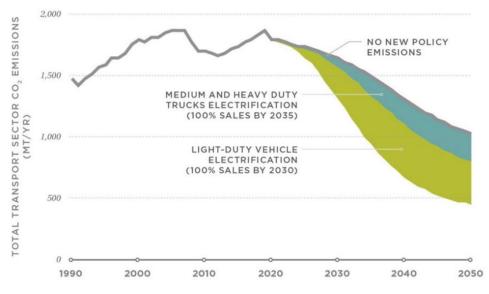
"All the experts have been wrong on how fast battery prices are going to [drop], and that includes us," he said. "The industry has always beaten all the battery price forecasts." EVs should reach price parity with internal combustion engine vehicles by the mid-to late 2020s, he said, buoyed by the growing commitments of automakers and corporate fleets to EVs.

So, with GM, Volkswagen and Ford all rolling out EVs, why not let the market take care of

growth in EVs will not be consistent with climate neutrality goals and also [limiting climate change to] the 1.5 degrees Celsius goal we really need to achieve," Abhyankar said.

the transition? "The quick answer to that is business-as-usual Targeted, Phased-down Incentives

At present, EVs account of about 2% of new car sales in the U.S. While arguing that technical and economic feasibility should be the central factors in growing the market, Abhyankar acknowledged that significant policy and regulatory support will be needed.



Aggressive adoption of EVs could cut transportation sector emissions in the U.S. 60% by 2035 and 93% by 2050, relative to 2020 levels. | UC Berkeley



More than 40 recommendations are laid out in a companion report to the UC Berkeley study, compiled by policy consultants Energy Innovation. Sara Baldwin, director of electrification policy at the firm, zeroed in first on federal and state standards and the role of the National Highway Traffic Safety Administration and the EPA in setting, respectively, fuel economy and emissions standards. Both should be made more rigorous over time "such that tailpipe emission standards reach zero grams per mile by 2035," she said.

These strong standards would, Baldwin said, "support investments in mass production of EVs across all brands and classes, and this, in turn, supports consumer preferences for more models and helps bring vehicle costs down more quickly. It really is the most cost-effective way of getting there," she said.

The prime example is California, where the state's Zero Emission Vehicle Program which sets 2035 as the target for all new car sales to be zero-emission vehicles — has helped create the largest EV market in the nation.

Expanded, but carefully targeted incentives are also needed to reach more people and market segments. Baldwin said, such as providing incentives for public and private fleet conversions. "We also recommend phasing down the incentives over time to help avoid gaming and ensure that the vehicles themselves are becoming more cost-effective," she said.

Making EVs the Default Choice

The impact of EVs on the grid is another core area of concern in both the UC Berkeley and Energy Innovation reports. Adding 300,000 new chargers to the electric system will increase electricity demand about 2.2% a



Shutterstock

year through 2050, Abhyankar said, which will in turn require about \$10 billion a year in investments for charging infrastructure and distribution system upgrades.

Energy Innovation's recommendations in this area are largely focused on utility best practices — analyzing and developing maps for hosting capacity for EV chargers (as some utilities already do for solar), streamlining permitting and interconnection processes, and integrating EV chargers into distribution planning.

Longer-term impacts of rising demand linked to EVs will need to be monitored, but Abhyankar believes they will be minimal. "Wholesale electricity costs and distribution costs on a per kilowatt-hour basis do not increase beyond 2020 levels, primarily because of the large reduction in solar, wind and battery prices," he said.

The transportation section of President Joe Biden's \$2 trillion infrastructure plan is well aligned with many of the Energy Innovation

recommendations, Baldwin said. Biden's \$174 billion to grow the U.S. EV market "sends a clear message that this area requires attention, focus and investment to compete globally," she said.

Other potential synergies include the plan's call for investment in domestic EV manufacturing, replacing diesel trucks and school buses and ensuring access and benefits for lowincome and disadvantaged communities. Biden, however, puts no timeframe on transportation electrification, a move that could be politically sensitive for his ties to working class voters and unions.

By its own admission, the UC Berkeley report is limited by its focus on technical and economic feasibility. But, as Biden prepares for his international Leaders Summit on Climate next week, the report's insistence on making EVs the default choice for new car buyers sooner rather than later could play a vital role in meeting his aggressive climate goals. ■









DOE Offers \$100M for Electrification of Heavy Trucks

Additional \$62M for EV Charging, Engine Efficiency

By John Funk

The U.S. Department of Energy Thursday unveiled a third funding cycle in its 12-year-old Super Truck initiative to spark innovation in the trucking industry.

In Super Truck 3, DOE is offering \$162 million in a competition to improve vehicular electric drive systems, develop better batteries and build charging stations. The agency also wants to fund research into technologies that can increase the efficiency of existing internal combustion engines.

But DOE's long-term goal is to help the trucking industry get fully electric 18-wheelers on the road.

"We want all kinds of trucks electrified. We want the garbage trucks in your cities. We want the delivery trucks that are being used to drop packages at your home," said Secretary of Energy Jennifer Granholm at the start of a 45-minute program unveiling the grants and highlighting what DOE's previous funding has produced. "We want tow trucks that you call in an emergency, really any medium- or heavy-duty truck on the road that runs, we want them to run on alternative or cleaner energy."

Granholm said getting trucks electrified will be an integral part of the Biden administration's campaign to reduce carbon emissions.

It will be an enormous undertaking, and Granholm made that clear with some statistics. "We move 73% of domestic freight, about \$10.8 trillion dollars of value in shipments, on these big rigs. All told, they support about three million jobs," she said.

Joel Morrow, a driver for Ploger Transportation, based in Norwalk, Ohio, joined the call, giving some examples of what earlier DOE funding has already produced.

"We have a solar battery [air conditioning] for the truck," he said from the cab of one of the company's 40 tractors. "You don't have to idle the truck [to power the air conditioner]. In the past, you idled [the engine] or had a ... diesel motor powered compressor.

"So, we're not burning diesel fuel while we're sitting there staying comfortable, and we're saving the environment by not having to dispose of as many batteries because they actually extend the battery life with the solar panels," Morrow said.



The North American Council for Freight Efficiency, the Rocky Mountain Institute and participating trucking fleets have been road testing technological tweaks to tractor-trailer trucks for more than a decade in a program funded in part by the Department of Energy. The technologies have included everything from engine and transmission redesigns to wind resistance improvements, both to the rigs and the trailers. Now the Run on Less initiative funded in part by the DOE is testing electric rigs. The DOE's goal is to electrify most trucks, from small delivery vehicles to the largest over-the-road rigs, by 2050. | NACFE

Another driver, Clark Reed, with Nussbaum Transportation based in Hudson, III., said the new truck he was driving Thursday had a newly engineered engine and transmission. He also mentioned solar panels, adding that the panels might be integrated into the all-electric drive trains of the future.

Speaking from his rig parked just off I-80 in Eastern Iowa, Reed said the new technologies that have been added to upgrade diesel rigs require that the drivers educate themselves. "All these technologies, like adaptive cruise and lane keep assistant, you can learn to use it ... to save fuel, keep yourself safer."

Both drivers said the new rigs get far better mileage than those they drove 10 years ago almost double in many cases.

A lot of the incremental technological improvements came about from an initiative. Run on Less, created by the North American Council for Freight Efficiency (NACFE) with the help of earlier DOE grants. Participating trucking companies tested many new technologies aimed at squeezing more miles out of gallon of

"When we first started testing [solar powered air conditioning], you didn't see as many solar panels out there, and now they're becoming accepted," Clark said. "So being able to test that and prove it. That is something we can

bring to market and it can actually improve the efficiency and quality of life."

Clark said some recent safety improvements, such as forward-facing radar, have also improved efficiency by helping drivers maintain distances from vehicles in front of them. "We're not braking [as much]. That consumes fuel when you have to re-accelerate," he said.

"The battery electric truck is the thing that that I'm looking forward to over the next few years, and it starts with smaller urban trucks and will find its way into the larger semis," said Mike Roeth, executive director of NACFE and a principal with Rocky Mountain Institute.

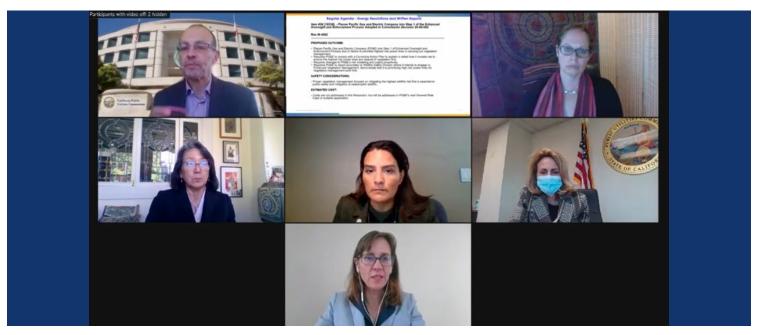
"We think battery electric and hydrogen fuel cells as they continue to be developed ... will be the predominant [technologies] as we enter into the 2040, 2050 carbon-free" era, he said.

NACFE's Run on Less series, created in 2016, is "a place for the best of the best to demonstrate what they are doing around high efficiency," Roeth said. By 2017, participating drivers had driven over 100,000 miles. NACFE and RMI used the resulting data to produce 75 videos, which so far have garnered over 70,000 on-line views.

Today, Run on Less is testing electric rigs with 13 fleets and truck builders deploying all-electric trucks across North America.

CPUC Applies Stricter Oversight to PG&E

New Process Could End with License Revocation



The CPUC's five commissioners heard from Executive Director Rachel Peterson (bottom center) on the proposed action against PG&E. | CPUC

By Hudson Sangree

The California Public Utilities Commission used its new enhanced oversight and enforcement powers for the first time Thursday against Pacific Gas and Electric, citing the utility's failure to adequately weigh wildfire risks in maintaining its power lines.

Commissioners voted to put PG&E into the first step of a six-step enforcement process that could lead to the utility being placed into receivership or, ultimately, to the revocation of its license to operate as the state's largest monopoly utility.

"We've never had a process like this for any other utility, and I don't know of any other PUC in the country that has a process like this," Commissioner Clifford Rechtschaffen said. "Now we shouldn't congratulate ourselves with that. It's a process that's warranted given PG&E's conduct."

The draft resolution, approved unanimously Thursday, says PG&E "is not sufficiently prioritizing its enhanced vegetation (EVM) management based on risk."

"PG&E ranks its power line circuits by wildfire risk, but the work performed in 2020 demonstrates that PG&E is not making risk-driven investments. PG&E is not doing the majority of EVM work — or even a significant portion of work — on the highest risk lines," it said. "PG&E conducted more work in 2020 on lower risk power lines than high risk lines if one examines the 161 power lines on which PG&E performed EVM. Less than 5% of the EVM work PG&E completed was on the 20 highest risk power lines according to PG&E's own risk rankings."

PG&E agreed to the CPUC's six-step process as part of its exit from bankruptcy in June 2020. The enhanced oversight and enforcement process was later enacted into law under a bill signed by Gov. Gavin Newsom in July. Senate Bill 350 also authorized the state to seize PG&E through eminent domain, if warranted, and transfer its operations and assets to a nonprofit public benefit corporation. (See Governor Signs PG&E 'Plan B' Takeover Bill.)

In November, CPUC President Marybel Batjer wrote to then-acting CEO William Smith saying the commission was considering putting PG&E into the stricter oversight regime because of the utility's vegetation and line maintenance. (See PG&E Faces 'Enhanced Oversight' by CPUC.)

The warning turned to action Thursday.

Step one of the process requires PG&E to submit a corrective plan to CPUC Executive Director Rachel Peterson within 20 days. The plan must describe how the company proposes to mitigate the safety risks that triggered the enhanced oversight process. If PG&E fails to adhere to the plan, the CPUC can move to the second step of its enforcement process, which may include activities such as increased inspections, quarterly reports and spot auditing of the utility's fire-prevention efforts.

Federal Judge William Alsup, who oversees PG&E's criminal probation stemming from the 2010 San Bruno gas explosion, has expressed similar concerns about vegetation management and is weighing new probation conditions that could require PG&E to de-energize lines during high-risk fire conditions that have not been cleared of overhanging trees. (See Conflict over Power Shutoffs Grows in California.)

In September, a leaning pine tree struck a PG&E transmission line in rural Shasta County and started the Zogg Fire, which killed four residents and burned 56,000 acres, the California Department of Forestry and Fire Protection determined.

The state's largest utility was also blamed for catastrophic wildfires from 2017 to 2019, caused by its equipment contacting vegetation. The blazes included the Camp Fire in November 2018, which killed 85 people and destroyed more than 14,000 homes in the town of Paradise. PG&E pleaded guilty to 84 counts of manslaughter and arson in that case.



CEC Funds Cutting Edge Load Flexibility Project

Goal Is to Integrate Homes, Smart Appliances into Grid for Demand Response

By Hudson Sangree

The California Energy Commission on Wednesday took a step toward making millions of households part of demand response efforts designed to avoid blackouts and bolster the state's clean-energy goals.

The CEC approved a \$16 million grant to the Lawrence Berkeley National Laboratory to establish the California Flexible Load Research and Deployment Hub, nicknamed CalFlexHub. Its four-year mission is to "develop, demonstrate and deploy multiple demand flexible technologies as electric grid resources," making the technology more user-friendly and available to average homeowners, the CEC said.

"I'm really pleased to support this," CEC Chair David Hochschild said. "I think that for a long time, electric load, with the exception of a few industrial demand response programs, was just seen as a fixed, rigid thing that we had to ramp up generation to support. I think a more involved understanding of the realities [shows that] there's a lot about electric load that can be manipulated in ways that support electric reliability and our climate goals, as well."

"We're just getting going on this," he said. "It's still really early days."

The CEC's plan involves making it easier for homeowners to connect smart appliances — thermostats, heat pumps and water heaters — to the grid to receive signals to curtail consumption in response to high demand, high prices and elevated greenhouse gas emissions. Electric vehicle charging is another target. (See CEC Explores Building Design Role in Decarbonization.)

Under the terms of Senate Bill 100, signed by Gov. Jerry Brown in 2018, the state must supply all retail customers with clean energy by 2045. The result is expected to be a huge increase in solar and wind generation and a decrease in natural gas-fired capacity. Demand response should also play a significant role, the CEC, CAISO and the California Public Utilities Commission have said.

In last summer's energy emergencies, CAISO and the office of Gov. Gavin Newsom called on industrial users and the U.S. Navy to limit usage during the evening net-peak hours, when solar ramped down but demand remained high because of severe Western heat waves. The efforts limited the blackouts of Aug. 14-15 and avoided additional outages over Labor Day weekend, CAISO said. (See CAISO Provides More Details on Blackouts.)

In recent years, researchers at Lawrence Berkeley National Laboratory have been studying the role that flexible load and demand response could play in ensuring grid stability as the nation transitions to renewable resources.

Mary Ann Piette, a senior scientist and director of the Building Technology and Urban Systems Division at Lawrence Berkeley, told the CEC commissioners that CalFlexHub "will help accelerate the development and deployment of technology ... to allow buildings to be better integrated with the electric system for ... demand management, dealing with renewable overgeneration, ramping and peak demand issues."

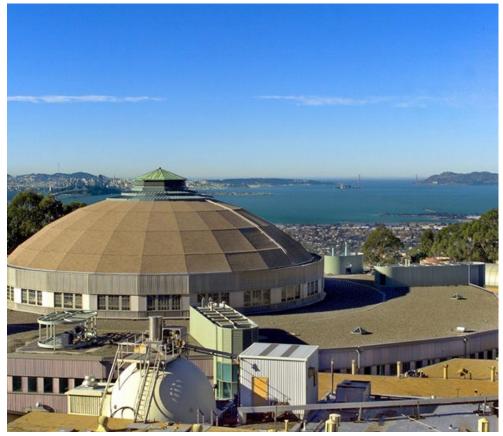
CEC Commissioner Andrew McAllister said Wednesday that California's efforts would help "create a new regime" nationally.

A 2019 *study* by the Brattle Group concluded that by 2030, the U.S. would have up to 200 GW of "cost-effective load flexibility potential."

"This load flexibility potential, which equates to 20% of estimated U.S. peak load in 2030, would more than triple the existing demand response capability and would be worth more than \$15 billion annually in avoided system costs," Brattle said.

McAllister agreed. "I think the rest of the country is waking up to this fact that grid-connected buildings" and load flexibility will help reduce costs, decarbonize and enhance reliability, he said. "That triumvirate of goals is something that is absolutely in line with load flexibility. We're going to create a significant body of work over the coming years on this and make it practically applicable in the real world, for real people, to benefit Californians."

"This is a part of our future," McAllister said. The electricity grid is "a network, not a one-direction system anymore. It's a web." ■



Lawrence Berkeley National Laboratory will develop the California Flexible Load Research and Deployment Hub. | Roy Kaltschmidt, Berkeley Lab Public Affairs



FERC OKs CAISO RMR Agreement for 27.5-MW Plant

Aging Natural Gas Plants Needed for Supply

By Hudson Sangree

FERC approved a settlement Thursday between CAISO and the operator of an aging 27.5 MW cogeneration facility over a reliability must-run agreement (RMR) — a continuation of the ISO's efforts to keep small, aging natural gas plants online to help ensure reliability this summer and beyond (ER20-1708).

The Channel Islands Power plant, owned and operated by the California State University-Channel Islands Site Authority, came online 33 years ago and was set to retire last year after its power-purchase agreement with Southern California Edison expired in March 2020.

CAISO, however, contended that the plant is needed to maintain reliability under ISO planning standards in a part of Central California the Santa Clara subarea of the Big Creek/ Ventura local area — where the local capacity requirement is 288 MW but total available resources, including the Channel Islands plant, total 250 MW.

FERC rejected the original agreement between CAISO and the Site Authority in June 2020 following protests from parties, including the California Public Utilities Commission, over the \$2.6 million revenue requirement from May to December 2020. FERC ordered an evidentiary hearing while encouraging the parties to settle.

CAISO and the authority came back to FERC in December with a lower cost of just over \$2 million for 2020, \$3.2 million for 2021 and \$3.2 million for 2022, if the plant is still needed for reliability. At the recommendation of trial staff, FERC found the new agreement was reasonable and in the public interest.

The new settlement agreement "substantially reduces the fixed revenue requirement for the initial eight months of the RMR agreement," trial staff said in comments. "Furthermore, it provides rate certainty because the settlement sets forth the fixed revenue requirement for 2021 and the contingent fixed revenue requirement for 2022, thereby eliminating the need for additional commission proceedings."

RMR Agreements

FERC's approval of the Channel Islands settlement is the latest development in a series of RMR agreements between CAISO and



CAISO argued the 27.5 MW cogeneartion plant at CSU Channel Islands is needed for reliability. | California State University

generators that started in 2019 after the ISO projected potential summer shortfalls from 2020 through at least 2024. (See CAISO, CPUC Warn of 'Reliability Emergency'.)

The state is transitioning from fossil-fuel generation to renewables and storage under the requirements of Senate Bill 100, which requires load-serving entities to provide 100% fossil-free electricity by 2045.

CAISO and other state agencies projected the transition could lead to capacity shortfalls during summer peak demand until new solar, wind and storage resources in the ISO's queue come online. But the energy emergencies of August and September, when demand exceeded or nearly exceeded supply during severe Western heat waves, caught the ISO and CPUC off guard.

CAISO had to order rolling blackouts affecting hundreds of thousands of customers Aug. 14-15 and would have done so again during Labor Day weekend if not for dramatic conservation efforts. (See CAISO Avoids Blackouts amid Brutal Heat, Fires.)

In response, the CAISO Board of Governors approved an RMR designation in December for two units at the Midway Sunset Cogeneration facility, a 250-MW natural gas plant built in the late 1980s in a Kern County oilfield. The units were scheduled to retire at the end of this year. (See CAISO Board Fields RA Measures, Big

and Small.)

FERC said on April 2 that it needed more information before it could rule on the CAISO-Midway RMR agreement and sent the matter to settlement proceedings. (See CAISO's 1st System RMR Agreement Set for Hearing.)

The CAISO governors approved an RMR designation in March for PurEnergy's 34.5-MW Kingsburg Cogeneration plant after ISO management said the 30-year-old gas plant was required for the reliable operation of the transmission system in 2021.

Four months before last summer's events. CAISO designated three Central California natural gas plants as RMR resources to meet summer demand — the Channel Islands plant, Starwood Energy Group's 49.5-MW Greenleaf II Cogen facility and Atlantic Power's 48.5-MW E.F. Oxnard plant. (See CAISO Board OKs \$141.7M Tx Plan. RMR Contracts.)

The Board of Governors' Severin Borenstein noted at the time that CAISO had sought only one RMR designation the year before. "Are we seeing an increase, or should I not think this is a trend?" Borenstein asked.

ISO management said the RMR designations were not a trend "yet" but could become one. "I think the operative word being used is 'yet' ... but we're going to continue to be vigilant about this issue." then-CEO Steve Berberich said.



FERC Aproves Incentives for CAISO Tx Upgrade

By Hudson Sangree

FERC on Thursday approved incentive rates for a project to upgrade an 18-mile woodenpole transmission line to steel towers (EL21-15).

The Citizens-S Line in far Southern California is owned by Citizens Energy, a nonprofit Massachusetts firm founded by former U.S. Rep. Joseph P. Kennedy II. It connects the Imperial Irrigation District's (IID) El Centro substation to the Imperial Valley substation, jointly owned by IID and San Diego Gas & Electric.

CAISO identified upgrades to the S-Line as an "economic-driven project" in its 2017-2018 transmission plan.

"The upgrades were recognized as providing economic benefits to the ISO by alleviating limitations on the use of the ISO system caused by parallel flows (loop flows) identified in previous planning study results, reducing local capacity needs materially in the combined San Diego-Imperial Valley areas as well as reducing market congestion on the ISO system — which totaled \$6 million in 2015 and 2016," CAISO said in the transmission plan.

CAISO estimated the upgrade would reduce local capacity needs in the San Diego-Imperial Valley areas by 213 MW, producing annual benefits of \$8 million to \$16 million, and reduce congestion, benefitting ratepayers by \$2.82 million per year.

Citizens Energy agreed to finance the capital costs of the project up to \$40 million through a combination of debt and equity. It did so in exchange for a 40-year lease on transfer capability and promised to turn over 50% of its after-tax profits to assist low-income ratepayers in the Imperial Valley, an agricultural area with thousands of farmworkers.

Citizens and CAISO agreed to a 50-basis-point adder for participation in the ISO, a 30-year levelized rate of recovery for capital requirements and a formula rate to recover its actual operating costs. Citizens also requested recovery of 100% of prudently incurred development and construction costs if the project was

abandoned for reasons outside the company's control.

"Citizens S-Line asserts that its proposed rate methodology will result in just and reasonable rates," that the plan is necessary to obtain financing, and that it will provide consumers with rate stability over time, FERC wrote.

Under Federal Power Act Section 219, an applicant for incentive rates must show the "facilities for which it seeks incentives either ensure reliability or reduce the cost of delivered power by reducing transmission congestion." FERC agreed with Citizens and CAISO that the project could meet both goals and approved the transmission owner's incentive rate request.

"We find that the Citizens-S Line is entitled to the rebuttable presumption that the project will either ensure reliability or reduce the cost of delivering power by reducing transmission congestion," the commission wrote. It said the risks Citizens was taking entitled it to the incentives it sought from CAISO, including the abandoned plant incentive.

ERO Insid



The latest stories on the Electric Reliability Organization



Texas RE Gives People 'What they Want'

Biden to Name Morgan Stanley's Easterly as CISA Head

NERC Provides Cold Weather, Cyber Updates

WECC Contingency Reserve Standard Ok'd

PacifiCorp Faces \$42 Million Penalty for Line Misratings

RTO Insider subscribers have access to two stories each month. Use your RTO Insider credentials to log in at rtoinsider.com/ero



Small Nukes Proposed for Wash. Hanford Site

By John Stang

Two new nuclear plants have been proposed as neighbors to the Pacific Northwest's only existing commercial reactor on the Hanford Nuclear Reservation in Washington.

If approved, they would be the state's first reactor projects since the Washington Public Power Supply System's (WPPSS) reactor No. 2 went online in 1984. Plans are to have both complexes up and running by 2027.

Both projects share links with Energy Northwest, called WPPSS until a 1998 name change, after residents disparagingly referred to it as "Whoops" in response to the financial debacle associated with the system. At the same time, the 1,150-MW Washington Nuclear Project No. 2 (WNP-2) was renamed Columbia Generating Station (CGS). Energy Northwest owns the lands earmarked for the two proposed projects and would operate the reactors.

"They're very different designs," Greg Cullen, Energy Northwest's vice president for energy services and development, told RTO Insider.

In one project, four 80-MW modular reactors would be clumped together as a 320-MW complex on the site of the partly built WNP-1. These high-temperature gas-cooled reactors would be a joint venture by Energy Northwest, X-energy of Greenbelt, Md., (which would supply its Xe-100 design), and the Grant County Public Utility District (a potential investor and power customer).

"We really like their technology and their people," Cullen said of X-energy.

The other project would be a 350-MW Natrium reactor, a sodium-cooled fast reactor potentially built on the site of the WNP-4. This would be a joint venture between Energy Northwest and TerraPower, a Bellevue, Wash., reactor design developer founded by Bill Gates. Energy Northwest said it is in talks with the company about the project, but TerraPower said it has not yet settled on a site and is considering several locations.

The WNP-1 and WNP-4 sites already have basic infrastructures to support the construction of nuclear reactors.

Both sites are within a short distance of CGS. WPPSS tried to build five reactors in the 1960s and 1970s – three at Hanford and two in Satsop, Wash., but only WNP-2 was finished. The others were never completed

because cost overruns and massive delays led to WPPSS in 1982 suffering the biggest bond default in Wall Street history up to that point. CGS went online in 1984 and is the only working commercial reactor in the Northwest.

Residential Divide

The genesis of the new projects goes back to last October when the U.S. Department of Energy awarded \$80 million each to Terra-Power and X-energy to design and build new advanced power reactors. DOE calculated that the two projects would together cost \$6.4 billion. Congress has agreed to fund half the price tag through 2027 with TerraPower and X-Energy having to raise the rest. An X-energy press release from March 1 puts its project's cost at \$2.5 billion.

One question mark will be how Washington residents and politicians will react to building two new reactors in the state.

Gov. Jay Inslee has picked combating global warming as his top issue, and nuclear power has been frequently cited as a carbon-free alternative to fossil-fuel power plants. Besides CGS, the bulk of Washington's power comes from a huge network of hydroelectric dams. The state will phase out its last coal-fired power plant by the middle of this decade.

Cullen said the two projects "meet the clean energy definition" of the CLEAN Future Act. introduced in the U.S. House in January to reduce U.S. carbon emissions to 50% from 2005 levels by 2030 and achieve net-zero emissions by 2050. The controversial bill is sponsored by House Energy and Commerce Committee Chairman Rep. Frank Pallone, Jr. (D-NJ), Environment and Climate Change Subcommittee Chairman Rep. Paul Tonko (D-NY) and Energy Subcommittee Chairman Rep. Bobby Rush (D-IL). (See Battle Lines Drawn over CLEAN Future Act.)

The state's residents have traditionally been split on nuclear reactors. Residents of the Puget Sound area traditionally oppose any type of nuclear power. However, the Tri-Cities, home to Hanford and developed during World War II and the Cold War to build and operate plutonium-producing reactors, has always been strongly pro-nuclear. Since Hanford's last plutonium reactor shut down in the late 1980s, Tri-Citians have unsuccessfully tried to revive a reactor-oriented industry for the past 30 years

In more recent years, Tri-Cities business interests have been pursuing setting up a modular



Washington's two proposed nuclear plants would be built in the shadow of the Pacific Northwest's only commercial reactor, Columbia Generating Station. Chris Uhlik, CC BY-SA 4.0. via Wikimedia Commons

reactor industry.

Small modular reactors are prefabricated facilities with parts manufactured in one location. then transported to the reactor site for final assembly. A modular segment would consist of a mini reactor of 50 to 300 MW. The design allows for extra modules to be added as needed.

Critics have cited the lack of any track record on cost or safety for small modular reactors. plus concerns over the nation's lack of a permanent storage location for spent nuclear fuel.

Reactors nationwide have had trouble competing financially with natural gas as a source of electricity, leading to several plants being closed.

X-energy did not respond to a request for comment and TerraPower declined to comment. In an email, Grant County PUD said it is currently analyzing X-energy's project and hopes to have a better grasp of its feasibility by the end of this year.

"We all like the small modular reactor concept, but would it be cost-effective? ... The real issue is what does it cost. The price of renewables has dropped dramatically," energy economist Robert McCullough said.

Nuclear power costs roughly \$60-\$80/MWh, compared with \$30/MWh for renewables such as wind and solar, he said.

On the other hand, reactors are usually online about 80% of the time, while weather-sensitive renewable sources perform only 30 to 40% of the time, he said. "The average nuclear plant is more reliable than the average windmill."

Because small reactors are less complicated than huge 1,000-MW reactors, they tend to be more reliable, McCullough said. "Big nukes are simply a bear to keep running."

Glick, Robb Call for Tx Build in West

Connecting Renewables to Load Key to Clean Energy Transition

By Hudson Sangree

The West needs to build transmission lines to connect renewable resources to load if it hopes to successfully make the switch from fossil fuels to wind and solar while maintaining resource adequacy and reliability, FERC Chairman Richard Glick and NERC CEO James Robb said Friday.

Glick and Robb addressed a one-hour session of the Committee on Regional Electric Power Cooperation (CREPC) and the Western Interconnection Regional Advisory Body (WIRAB), the first in this year's series of CREPC-WIRAB Spring webinars.

FERC commissioners spent significant time discussing transmission and renewable resources at Thursday's open meeting, Glick said.

"There's certainly a lot of focus on the issue, primarily as the demand for cleaner renewable resources grows," he said. "I think folks recognize that in many cases we need to build out the transmission grid to access what are often remotely located renewable resources. We have great resources in the West, both wind and solar, and sometimes those resources are located far from load, and so we certainly need to build out the grid."

"FERC has a significant role to play" in the process, including in interregional planning and allocating the costs of transmission upgrades, he said.

"I don't necessarily know whether our current approach to Order 1000 through the interregional planning processes and cost-allocation processes ... is sufficient," Glick said. "We're actually going to be taking a very hard look at that over the next several months to determine whether we need to move forward with some sort of either modification of Order 1000 or some sort of other approach that would improve planning."



FERC Chairman Richard Glick and NERC CEO James Robb addressed a CREPC-WIRAB webinar Friday. | CREPC-WIRAB

FERC Order 1000, issued in 2011, was meant to reform transmission planning and cost allocation and to promote competition, but it has disappointed many with its results. (See WIRES Conference Talks Order 1000, Tx Incentives.)

Another area that needs to be addressed is the interconnection process for generators, Glick

"Certainly, the queues are longer and longer by the day [and] there's growing frustration," he said. "There's an issue about allocating costs for network upgrades and whether the approach ... that's currently used [in many regions] is sufficient to encourage new devel-

"[We] also need to figure out a way to provide a more-fair element," he said. "For instance, if you are a generating facility and you end up having to pay for a network upgrade, and then three other generating facilities behind you don't have to pay for it ... it's not necessarily fair and not necessarily conducive to the first generating facility being willing to pay for that upgrade."

FERC also intends to examine grid efficiency, including line ratings, he said.

"That's something the commission's been taking a look at for a couple of years now, whether it be a dynamic line rating approach or an ambient adjusted approach," which FERC has proposed, Glick said. "I think that's something we need to take a more serious look at because we have a responsibility not only to build the grid out but also to make the existing grid more efficient."

In the question-and-answer period, Glick said it would be helpful for transmission planners to get ahead of anticipated generation development. It is clear, he said, that large wind farms will occupy areas such as Wyoming, so "to address what we know is going to happen ... why not build out the grid to that particular area now as opposed to waiting" and doing it piecemeal later?

Glick also recommended the West continue to pursue regionalization to promote resource sharing, including one or more RTOs or a "souped-up" version of CAISO's Western Energy Imbalance Market.

Advocates say greater regionalization will help funnel solar from the Southwest, hydropower from the Northwest and wind power from

Wyoming and New Mexico to areas where it is needed, including the densely urbanized areas of the West Coast. Transmission to move the resources is seen as key. (See West Needs to Add Transmission for Renewables, CEOs Say.)

FERC plans to hold a technical conference on resource adequacy in the Western Interconnection on June 23. Glick said.

NERC CEO's Remarks

In his comments, Robb, who served as CEO of the Western Electricity Coordinating Council before taking the reins at NERC, said that the transformation of the grid from fossil fuels to variable renewable resources is bringing "rapid changes to an industry that's not used to rapid changes."

The West is facing growing resource adequacy issues and needs to plan accordingly and build transmission, Robb said.

"I think this gets to the issue of resource adequacy in the West that I know you're all worried about, and [Glick] talked about," Robb said. "I would really encourage you all to pay really close attention to where your resource mix is going and the ability to serve load."

California, some Rocky Mountain states and parts of the Northwest Power Pool face potential capacity shortfalls going forward, according to recent assessments, he said. (See Southern Calif. Could Fail RA Test, WECC Says, SW Faces RA Shortfall in 2021 and Beyond, WECC Says and RA at Risk in NWPP-Central, WECC Finds.)

"It is absolutely clear that we need more transmission to be built. That's both for resilience purposes as well as to unlock the renewable potential that is so embedded in the thinking about where this industry needs to go," Robb said. "Geographic diversity around renewable resources has to be a top priority for us to unlock."

Robb also contended that natural gas remains a vital resource because it is dependable and dispatchable.

"We're going to need gas, and I really think that gas infrastructure is a very important part of this transition," to renewables, he said. "I know in many cases, and probably in many areas of the West, gas is a four-letter word. But it is now the critical fuel that keeps the lights on and balances all of these renewable resources." ■



Lawmakers Wave Through Texas PUC Appointees

By Tom Kleckner

Texas senators are wasting no time filling the Public Utility Commission's vacancies.

On April 13, the lawmakers unanimously confirmed Will McAdams by a 31-0 vote. McAdams, a Senate legislative aide for 10 years, was appointed by Gov. Greg Abbott April 1. (See Abbott Taps ABC Texas President McAdams for PUC Seat.)

Thursday morning, the Senate Committee on Nominations asked few questions of Peter Lake, chair of the Texas Water Development Board, who was appointed PUC chair on April 12. Nominations Chair Dawn Buckingham (R) said the panel plans to vote Lake out of the committee setting up a confirmation vote before the full Senate.

That would give the commission two members, with a third and final member yet to be named. All three previous regulators resigned in the aftermath of the February winter storms and ensuing long-term blackouts.

Arthur D'Andrea continues to hold the PUC's chairmanship, which he assumed after former Chair DeAnn Walker's resignation. D'Andrea resigned in March, shortly after the leak of a phone call in which he told Wall Street investors he was using "the weight of the commission" to avoid repricing \$16 billion in ERCOT market transactions. (See D'Andrea Resigns from Texas Commission.)

Lake told the nominations panel that February's events were "beyond unacceptable" and that there won't be "any easy answers or quick fixes."



PUC appointee Peter Lake answers questions before the Senate Nominations Committee. | Texas Senate

"This [position] will require very hard decisions to be made," he said. "If confirmed, I will find out what went wrong, why it went wrong, and how to fix it. We cannot be hampered by institutional inertia or antiquated mindsets. My focus will be to provide the information you all need to craft policy and will work to implement that policy efficiently and effectively."

McAdams and Lake must both undergo PUC

training before they can begin to serve, the commission said.

A meeting scheduled for April 22 was cancelled to allow new commissioners time to get up to speed. The PUC's next open meeting is scheduled for May 6.

McAdams' term expires Sept. 1, 2025 and Lake's on Sept. 1, 2023. ■









ERCOT Faces Tight Conditions — Again

Grid Operator Calls for Conservation, Avoids EEA

By Tom Kleckner

In an unwelcome reminder of February's winter disaster, ERCOT called for conservation measures April 13 as grid conditions approached the criteria for a first-level energy emergency alert.

CEO Bill Magness told the ISO's Board of Directors that the grid operator did not expect customer outages, saying an EEA 1 "allows us to access tools that will bring supply and demand back into line."

A combination of above-normal seasonal generation outages — much-needed after the winter storm — and unusually high demand led ERCOT to call for all available resources and issue an advisory for physical responsive capability ancillary services.

"We're watching this in the control room, obviously," Magness said.

ERCOT was quick to respond on Twitter, using the platform to issue a pair of warnings within five minutes of each other about possible emergency conditions. On Wednesday, it tweeted again to say the grid would again face tight conditions but that conservation was not needed.

The grid operator was criticized for poor communications leading up the February uncontrolled "controlled outages." Reaction to last week's proactive measures was mixed.

"I appreciate the increased effort toward transparency, but wow this is nerve wracking to see in April," state Rep. Erin Zwiener (D) tweeted

The ISO called off the conservation measures at 8:40 p.m. April 13.

A cold front that was expected to clear out overcast conditions stalled over the state. reducing wind and solar production. However, half of ERCOT's baseload operational capacity, about 32 of 64 GW, is offline.

"That's not an abnormal number for this time of the year," Woody Rickerson, ERCOT's vice president of grid planning and operations, said during a media call.

ERCOT had forecasted demand April 13 of 49.1 GW, but that leveled off after reaching 48 GW. Temperatures remained in the mid-80s in the afternoon, driving the increased demand.

"We've had to monitor this extremely closely, and it has been challenging," said Magness, who was fired last month but remains at the grid operator's helm during a 60-day transition period. (See ERCOT Board Cuts Ties with Magness.)

Wholesale prices climbed above \$1,000/MWh for the second time in three days, hitting the new \$2,000/MWh cap during the interval

ending at 5:30 p.m. (CDT).

ERCOT's scarcity pricing normally caps at \$9,000/MWh, but after an extended time at the high offer cap, the system automatically reverts to the low offer cap (the higher of \$2,000 or 50 times the fuel index price) and stays there for the rest of the year before resetting.

TODAY'S OUTLOOK



Current Demand: 48,802 MW

Last Updated: Apr 13, 2021 - 16:24

GRID CONDITIONS

Normal Conditions

Operating Reserves: 2,937 MW

Last Updated: Apr 13, 2021 - 16:24

Higher than expected demand led to tight conditions in ERCOT April 13. | ERCOT

ERCOT Board of Directors Briefs

Board OKs \$6.2M Price Correction, Postpones Discussion of February Repricing

ERCOT's Board of Directors last week approved market pricing corrections, but not the ones legislators, market participants and other stakeholders most want to see.

The board on April 13 unanimously approved staff recommendation to reprice some market transactions stemming from a software error on Feb. 15, shortly after several waves of extreme winter weather caused days-long customer outages. (See Software Error Could Mean **ERCOT Price Revisions.**)

But the board did not address ERCOT's decision not to exit energy emergency alert (EEA) conditions on Feb. 18-19, keeping wholesale prices at the \$9,000/MWh systemwide price cap for 33 hours during the cold snap, even after the ISO had stopped shedding firm load following widespread outages.

ERCOT's Independent Market Monitor said the action was a "billing error," resulting in \$5.1 billion in transactions and ancillary services' costs that should be repriced. The Texas Senate last month passed a bill that would require repricing \$4.2 billion in wholesale market transactions. (See Texas Senate Passes Bill to Reprice ERCOT Feb. Sales.)

Following an executive session that lasted more than five hours on April 13, board member Shannon McClendon, of Demand Control 2, withdrew her request to discuss ERCOT's decision not to exit the EEA.

McClendon, recently elected to the board by the retail electric provider segment, said she would not "be the one to cause a perfect storm" with the grid operator again facing emergency conditions last week. (See ERCOT Faces Tight Conditions — Again.)

McClendon said that during the day-long session she and ERCOT General Counsel Chad Seely agreed to work together to determine whether the directors have the authority to order a Feb. 18-19 price correction.

"That will allow me an opportunity to present the jurisdiction that I believe the board does have," McClendon said. "I'm not saying that he's agreeing with me, but he's willing to work through these items with me."

Legal staff filed a memo before the meeting in anticipation of the agenda item, reiterating their position that the board lacks authority to direct the price correction in question. According to the grid operator's protocols,



The ERCOT market is still recovering from the February winter weather. | Entergy

ERCOT must first notify market participants of "a need for any price correction within 30 days of these operating days."

Staff said examples of necessary real-time price corrections include any data input or output errors, hardware or software errors, or any "inconsistency" with the protocols or the Public Utility Commission's rules. They offered other alternatives to resolve the matter, such as disputing the prices through an ERCOT process that has already drawn "numerous" settlement and billing disputes.

The PUC could also take up the issue or the Texas legislature could pass the Senate bill, staff said in the memo.

The software error led to a price correction because ERCOT did file a market notice after staff discovered that market management system programming errors resulted in incorrect megawatt amounts being used for the estimated deployed emergency response service (ERS) component of the real-time price adders for certain dispatch intervals on Feb. 15. The grid operator had already entered its highest level of energy emergency alert at that time, requiring prices at the \$9,000/MWh cap.

The result was weather-sensitive (WS) ERS megawatts being included in the price-adder calculations for some SCED intervals when there was no WS ERS deployment obligations. Staff have since rerun the affected intervals to determine the correct prices.

The resettled prices amount to an additional \$6.2 million in invoices due to ERCOT. The largest change to any single counterparty is more than \$856,000 due to the ISO.

Short-pay Process in the Works

ERCOT Vice President of Commercial Op-

erations Kenan Ögelman told the board that within 90 days the ISO will create a mechanism to recover the market's short-pay amount and begin charging market participants. Allocations to market participants will be based on the month before their short pays occurred.

The ERCOT market was short \$2.95 billion as of April 16, with the total varying as some market participants pay down balances and others continue to not pay invoices. ERCOT has begun entering into payment plans with some participants, Ögelman said.

The ISO must now determine how to allocate the default uplift, Ögelman said. Without any further short pays, it would take 80 years for the grid operator to recover the \$2.95 billion total, given the ISO's monthly uplift limit of \$2.5 million, he said.

ERCOT outlined its proposal in a filing with the PUC. Market participants could always propose protocol revisions to change the cap or shorten the time between uplifts, Ögelman

The update was one of several by ERCOT executives.

Woody Rickerson, the ISO's vice president of grid planning and operations, said that transmission and generation outages have increased significantly because of the lack of maintenance during the February storms and growth of the transmission system. The outages were partly blamed for the grid's tight conditions last week.

ERCOT has responded to 31 questions as part of the FERC-NERC investigation of the February events in the Midwest, Chief Compliance Officer Betty Day said. Virtual site visits have been scheduled May 4 and May 7, giving staff an opportunity to present their perspective on



the event, she said.

Staff is also drafting new reporting requirements for the amount of load each transmission service provider can effectively include in their rotating outages, among several other rule changes. They include new telemetry requirements for settlement-only distribution generators, increasing ERCOT's transparency into the grid.

Board Delays Hiring Interim CEO

The board deferred an expected vote on an interim CEO following the executive session. saying it was still working on a solution to be released "relatively soon."

ERCOT has since scheduled another board meeting for April 27.

The board fired Bill Magness as CEO in early March, allowing a 60-day transition period that expires after May 3. It does not expect to complete its search for a new CEO before then. (See ERCOT Board Cuts Ties with Magness.)

The interim CEO would serve for up to a year or when a full-time successor is named. The interim CEO could be re-elected to a second one-year term if a permanent candidate is not selected.

ERCOT must have a CEO to perform its statutory and corporate functions.

HR, Finance Chairs Elected

Directors Mark Carpenter and Nick Fehrenbach were elected as chairs of the Human Resources/Governance and Finance/Audit committees, respectively.

Carpenter, Oncor senior vice president of transmission and distribution operations, represents the investor-owned utility segment. He said the committee spent much of its April 12 meeting discussing the "unjust criticism" of staff and their pressures, frustrations and workload, and acknowledged "the vital work this ERCOT team does for all Texans."

"This is a complex electric grid and a complex market," Carpenter said. "Just like every other day, we badly need you to keep moving forward. We sincerely thank you for all you do and continue to do."

Fehrenbach, the city of Dallas' manager of regulatory affairs and utility franchising and the commercial consumer segment representative, said ERCOT's annual financial audit is on hold in the aftermath of the February storms.

Members Pass 9 Change Measures

The board unanimously approved seven nodal

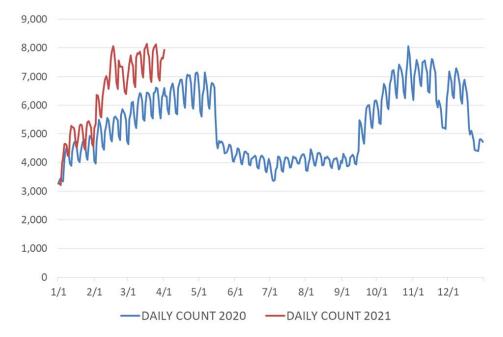
protocol revision requests (NPRRs), a change to the Nodal Operating Guide (NOGRR), and another binding document revision request (OBDRR):

- NPRR1023: Establishes a process for liquidating a repossessed congestion revenue rights (CRR) portfolio by using financial security held by ERCOT for the defaulting CRR account holder for settlement purposes. The NPRR also modifies the process for forfeiture of CRRs resulting from the account holder's non-payment or late payment of an invoice.
- NPRR1045: Moves and revises the definition of transmission operator from the Nodal Operating Guide to the Protocols and adds a new section that clarifies the designation process and basic qualifications for TOs.
- NPRR1057: Applies the hub LMP formulas to the Panhandle 345-kV hub and the Lower Rio Grande Valley 138/345-kV hub and eliminates portions of hub real-time settlement point prices formulas designed to address all buses within a hub being de-energized.
- NPRR1059: Sends interval readings for non-interval data recorder meters, such as residential accounts with consumption under 700 kW, to settle on actual usage/generation instead of the load profile.
- NPRR1065: Replaces a sentence describing a settlement-only generator's (SOG) energy volumes subject to nodal versus zonal pricing

with a formula; revises the name and definition of a related billing determinant to more accurately describe the data it represents; and adjusts the default uplift settlement to combine SOG generation with the counterparty's other generation.

- NPRR1066: Grants ERCOT the discretion to apply existing standards for grandfathered generation resources to an existing unit owned by a municipally owned utility or electric cooperative that is transferring load into ERCOT and seeks to interconnect the existing generation unit to the ISO's system.
- NPRR1069: Clarifies settlement billing determinants to ensure that an energy storage resource's (ESR) capacity is not counted in the off-line reserve imbalance of the real-time ancillary service imbalance payment or charge.
- NOGRR219: Removes the definition of transmission operator from the Nodal Operating Guide because it is being moved to the ERCOT Protocols by NPRR1045. This NOGRR also clarifies existing language relating to load shed obligations and removes the Load Shed Table from the Nodal Operating Guide. Instead, the Load Shed Table will be posted on the ERCOT website.
- OBDRR028: Clarifies that ESR capacity will not be accounted for in the off-line portion of operating reserves.

- Tom Kleckner



ERCOT generation and transmission outages are up this year because of a pause in maintenance during the February winter weather and system growth. | ERCOT



ISO-NE, Stakeholders Continue to Pave 'Pathways to the Future Grid'

By Jason York

The NEPOOL Participants Committee continued working group sessions on "Pathways to the Future Grid" Thursday as ISO-NE and stakeholders evaluated clean energy and carbon pricing frameworks as alternative market approaches to advance the region's decarbonization efforts.

The RTO detailed its thoughts in a presentation that summarized a pair of memos on integrating a Forward Clean Energy Market (FCEM) with existing state policies and treatment of storage resources.

Stakeholders and the RTO are considering three potential modeling approaches for how the FCEM would interact with existing state programs:

- Clean energy is a new environmental attribute, which can earn both clean energy certificates (CECs) and renewable energy certificates (RECs) with each MWh of energy production during the delivery period.
- CECs include all environmental attributes so that a clean resource that sells CECs in the FCEM cannot also sell RECs during the delivery period.
- Discontinue existing programs and the region uses CECs to meet its environmental objectives.

ISO-NE's Chris Geissler and Steven Otto said that the RTO proposes that stakeholders consider the first approach for modeling purposes as it avoids the "double payment" concern and allows for the continuation of existing state programs. The RTO added that none of its thinking on any of the three approaches is final.

Storage Treatment

Geissler and Otto said the "treatment of storage requires careful consideration" in either an FCEM or a net carbon pricing framework.

Storage can supply electricity during on-peak hours after charging during off-peak hours. Storage can also contribute to the region's decarbonization by transferring energy production from higher emitting resources during on-peak hours to lower- and non-emitting resources during off-peak hours.

Geissler and Otto's presentation also addressed comments from stakeholders from the March "Pathways" meeting about storage's role in the future grid, including whether it

is appropriate for storage to receive CECs for its energy supply under an FCEM. They said storage would be compensated under an FCEM framework even when it is not awarded CECs for its energy supply. Storage also will be compensated for its marginal contributions in reducing carbon emissions under a net carbon pricing scheme when as a supplier, it is not charged for carbon emissions. But the RTO says awarding CECs to storage would lead it to be compensated at a rate exceeding its contributions.

Clean resources are expected to reduce energy offer prices under an FCEM to reflect the value of receiving CECs, as renewable resources may do under current market rules because of the value of RECs.

An FCEM increases energy market revenues for storage resources that increase clean energy production. Energy prices are also expected to be reduced when the storage resource is charging but not discharging. That means increased energy market revenues for the storage resource because it will be charged a lower price to consume electricity than under current market rules, but it is paid the same price when supplying electricity.

ISO-NE said it would present stakeholders a final report on modeled market outcomes in the first quarter of 2022.

Memos from NRG Energy, Vistra

In a memo to the PC, Vistra said that as ISO-NE contemplates how it will model the potential market designs, there needs to be a clear

"product definition" for the FCEM. States and many stakeholders prefer the FCEM design as the path forward for incorporating decarbonization efforts into the wholesale markets. Vistra prefers carbon pricing, saying it can achieve decarbonization in a way "that preserves the many benefits of competitive markets."

The company said it is open to a well-designed FCEM and believes that the procurement of a single, resource-neutral, clean energy product "is the right design for maximizing the competitive benefits that must be achieved." Vistra said stakeholders anticipate an FCEM design that allows purchasers to buy multiple products, so ISO-NE's modeling must account for proposed market design details that most closely align with stakeholders' actual market design preferences.

In another memo on behalf of NRG Energy and other stakeholders, Pete Fuller and David O'Connor said that the RTO's three suggested FCEM approaches emphasize modeling existing REC programs, "which is likely to be complex and appears to be somewhat outside the scope of the Pathways modeling effort." They recommend a simpler approach that only assesses the impact of revenues from REC markets on Integrated Clean Capacity Market modeled results. One scenario assumes that resources producing FCEM/ICCM credits do not receive any revenues from REC trading. In the other scenario, the assumption of a market price like \$300/MWh for solar RECs would reduce the offered prices of eligible resources in FCEM/ICCM. ■



ISO-NE control room | ISO-NE



NESCOE Floats 'Overlay' Tx Planning Concept for Public Policy

By Jason York

The New England States Committee on Electricity (NESCOE) on Wednesday presented a concept that would integrate the RTO's only existing routine transmission planning process - system reliability planning - with the consideration of public policy-driven options.

NESCOE General Counsel Jason Marshall told the Planning Advisory Committee that the Overlay Network Expansion (ONE) Transmission is one potential approach to transmission planning, calling it "a concept for feedback, not a NESCOE proposal."

Under the concept, ISO-NE would extend the 10-year horizon of its reliability model to consider public-policy driven demand, infrastructure and resource mix changes up to 40 years into the future. The study would use resources in the interconnection queue or other assumed resources and identify potential delivery locations. Load growth and retirements also would be considered.

If the RTO identifies a public policy solution to be integrated with the preliminary reliability solution, it would be added to the Regional System Plan (RSP) as a ONE Transmission project. If ISO-NE does not identify a public policy solution to be integrated, it would confirm the preliminary reliability project as the preferred solution and put it in the RSP as a Reliability Transmission Upgrade.

"The idea here is really to leverage the regular planning that [ISO-NE] does for system reliability to get insight into potential public policy transmission options," Marshall said.

ONE Transmission does not incorporate all the changes NESCOE has identified as needed in its vision statement, which would require tariff changes and should proceed on its track, Marshall said. But ONE Transmission does align with the Vision's identification of the need for new planning mechanisms for integrating clean energy resources.

FERC Order 1000 required procedures to consider public policy-driven transmission needs. NESCOE's 2019 Annual Report listed as one priority an assessment of whether the public policy transmission planning process could benefit from adjustment.

According to Marshall, a transparent planning process provides greater visibility into potential cost-effective investments to integrate clean power in addition to an opportunity to

co-optimize infrastructure projects, promoting reliability and other public policy objectives. A multi-use transmission project could avoid separate siting proceedings, potentially only years removed, involving the same right-ofway or substation.

Consistent with the Vision Statement, any changes to cost allocation will be considered separately from planning concepts, Marshall

Since ONE Transmission is conceptual, Marshall asked that feedback be sent to ISO-NE for posting on the PAC website rather than to NESCOE.

Final Draft Energy, Seasonal Peaks Before 2021 CELT

ISO-NE's Jon Black and Victoria Rojo presented the PAC with the final draft energy and seasonal peak forecasts, a last step before releasing the 2021 capacity, energy, loads and transmission (CELT) report on May 1.

Other than implementing the new methodology for passive demand resources (PDRs), which Black and Rojo discussed at the March PAC meeting, the RTO made no changes to the energy and summer and winter demand forecast methodologies since CELT 2020:

- The final draft 2021 gross annual energy forecast for the region is lower than the CELT 2020 forecast by 4.5% in 2021 and 3.1% in 2029. The gross annual energy for the region is projected to increase at a compound annual growth rate (CAGR) of 1.6% from 2021 through 2030, up 1.4% from CELT 2020.
- The final draft 2021 gross 50/50 summer peak demand forecast for the region is lower than CELT 2020 by 3.9% in 2021 and 5.4% in 2029. Gross summer peak demand is expected to rise at a CAGR of 0.7% from 2021 through 2030, down from the 0.9% in CELT 2020.
- The final draft 2021 gross 50/50 winter peak demand forecast for the region is lower than CELT 2020 by 6.0% in 2021 and 4.5% in 2029. Gross winter peak demand for the region will be higher at a CAGR of 1.3% from 2021 through 2030, up 1.1% from CELT

Additionally, Black and Rojo said there was the consideration of the evolving impacts of the COVID-19 pandemic as reported in Moody's Analytics Economic Outlook. The RTO used



ISO-NE headquarters in Holyoke, Mass. | ISO-NE

multiple versions of the economic outlook (November 2020 and February 2021). February's economic forecast was the most optimistic. It stated that new COVID-19 infections peaked in January and herd immunity is expected to be achieved by September 2021, along with a relaxing of state and local government restrictions. It also incorporates the impacts of the recent pandemic relief package and an assumption that President Biden's "Build Back Better" agenda is enacted in the second half of this year at a total cost of less than \$1 trillion.

Environmental Update

Patricio Silva, lead analyst in system planning for ISO-NE, delivered an environmental update and said that in 2020, fossil, nuclear, renewable and other generating resources and transmission assets complied with federal and state environmental requirements. In 2021. however, state requirements are evolving, and there is a state of flux at the national level with the transition from the Trump Administration to the Biden Administration.

Siting energy infrastructure remains challenging across New England, affecting fossil. renewable and other generating resources and new or upgraded transmission resources, all needed to maintain reliability.

Estimated native power system carbon emissions of 21.4 million metric tons in 2020 increased 3% compared to 20.8 million in 2019. Shifts in energy consumption, most likely due to the COVID-19 pandemic, resulted in lower monthly net energy demand in 2020, but net system emissions increased compared to 2019.

The Energy Information Administration and other short-term projections suggest annual emissions will increase through 2022 in the region because of increased natural gas generation despite increased nuclear and renewable energy output. Carbon emissions are expected to range between 25-36 million metric tons through 2027. ■



FERC Dismisses Generators' Complaint Against Mystic

By Michael Kuser

FERC on Thursday dismissed a complaint by New England generators alleging that Exelon intended to game the ISO-NE market by returning Mystic Generating Station to service after its cost-of-service agreement (COS) expires in 2024 (EL20-67).

Exelon provoked anger among some stakeholders last year when it filed interconnection requests with ISO-NE to keep units 8 and 9 at the 2,001 MW Massachusetts plant running beyond the end of its \$400 million COS agreement. (See Exelon Bid to Keep Mystic Units Running Provokes Outrage.)

The commission's April 15 order dismissed two parts of the complaint as moot, noting that Exelon withdrew its interconnection queue position requests within days of the complaint and that FERC addressed disputed costrecovery language in rehearing orders in July and December 2020.

The generators had argued that Mystic's withdrawal from the queue positions reflected "Exelon's intent to continue to operate Mystic 8 and 9 in some form compensated by marketbased rates after the Mystic agreement has ended."

The commission in December clarified its various orders approving ISO-NE's cost-ofservice contract with Mystic after having ruled on rehearing requests from the RTO, power generators and Connecticut regulators. FERC said that while Exelon must demonstrate that Mystic recovers only costs attributable to serving the agreement, the company will not be required to file the COS charge methodology, although costs may be reviewed in the true-up process. (See FERC Further Alters Mystic Cost-of-service Agreement.)

The commission's July 2018 (ER18-1639-001) and December 2018 orders (ER18-1639-002) approved the RTO's agreement for Mystic 8 and 9, including payments to the company's economically co-dependent Everett LNG facility, the plant's sole source of natural gas.

After withdrawing its interconnection requests, Exelon said it had no intention of repowering the units but hoped to continue operating its neighboring LNG terminal after the retirement of the power plant.

Complainants included Vistra Energy, Dynegy, NextEra Energy, NRG Power Marketing, LS Power, FirstLight Power and Cogentrix Energy Power Management, and were supported by the New England States Committee on Elec-



Exelon's Everett LNG Terminal depends upon the Mystic power plant to be economically viable. | ENGIE

tricity (NESCOE), Connecticut regulators, and public systems.

They all urged the commission to extend the clawback provisions of the Mystic agreement to any iteration of units 8 and 9 that continue operating after the COS agreement and broaden them to include any amounts spent on the LNG terminal.

FERC declined that request, saying, "We already resolved this question in the July 2020 second rehearing order and complainants have failed to support a departure from our prior orders ... [wherein we] determined that the clawback provision should not include Everett-related capital expenses and repair costs."

The commission also disagreed with the complainants' assertion that, because FERC previously limited Mystic's fuel cost recovery of Everett fixed costs to 91% rather than the 100% that Mystic sought, it should apply the same formula to the fuel cost recovery of Everett's capital expenditures and repair costs.

"The two situations are not analogous," the commission said.

"But, as the commission made clear, it was reviewing the justness and reasonableness of the payments that Mystic would receive as they relate to the amount of Everett-related costs that Mystic could charge to customers. However, the clawback mechanism for Everett's capital costs that complainants ask the commission to impose would not apply," FERC said.





Small Solar in Maine Struggling, Industry Says

Bill Seeks 'Best Practices' on Interconnections

By Jennifer Delony

Representatives of Maine's solar industry say burdensome interconnection practices are threatening small-scale projects in the state.

Problems that large-scale solar developers are experiencing connecting projects to Maine's grid recently triggered an investigation by regulators into Central Maine Power's interconnection procedures. The same challenges, according to ReVision Energy co-founder Fortunat Mueller, are starting to affect smaller projects in Maine as well. (See Maine Regulators Probing CMP's Interconnection Practices.)

A bill before the Joint Committee on Energy, Utilities and Technology (EUT) addresses those challenges directly (LD 1100). It would require the Maine Public Utilities Commission to adopt rules for interconnection of renewables that are based on "nationally recognized best practices" and ensure timely complaint resolution options that are not burdensome to small project owners.

In addition, the commission would have to contract an expert to evaluate near-term reforms for renewable energy interconnection standards, practices and procedures.

"Utility processes and [commission] processes are not set up for laypeople, and customers find it difficult to navigate those processes," Mueller said at an EUT committee hearing on the bill April 13.

Cost allocation is the most significant challenge small project owners are facing, Mueller said.

Under current Maine rules, a project that requests interconnection to a circuit that is at capacity incurs the entire cost to upgrade the capacity. If the project that triggers the upgrade is a residential solar array, the interconnection cost will be disproportionate to the project size.

"We're increasingly seeing circuits or substations around Maine ... where the capacity is fully reserved by projects in the interconnection queue," Mueller said. "That means for whole towns and whole neighborhoods there is no longer an option for businesses or residential customers to go solar without being the triggering project."

The bill would push the PUC to establish rules that are consistent with the intent of laws passed in 2019 to foster solar expansion in the

"The PUC would have to learn about best interconnection practices, and require faster, smarter interconnection application reviews and decisions by [investor-owned utilities]," Steven Weems, executive director of the Solar Energy Association of Maine, said in his testimony. "The resulting rules would ensure small projects are not ground up unnecessarily in the melee pertaining to grid limitations, the processes for examining larger projects and, especially, the eventual costs of upgrading the

PUC Plans Rulemaking

Garrett Corbin, legislative liaison for the PUC, said the commission is already engaged in

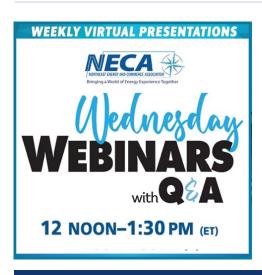


Small-scale solar projects, like residential roof-top solar systems, are experiencing difficulties with interconnection to Maine's grid, and industry members say the problems are discouraging development.| Shutterstock

work that aligns with the bill's requirements and "questions the necessity" of the legislation.

"We anticipate opening a rulemaking process regarding small generator interconnection procedures," Corbin said. "The rulemaking will consider cost-allocation requirements with respect to interconnecting customers."

In addition, the commission is contracting a consultant to support a review of the requirements for the grid to accommodate the future electric transition, Corbin said. The review will identify procedures that would allow transparency of interconnection screening and upgrades for small-scale generators.







ESA Virtual Seminar **Transforming the Grid:** Planning and Implementing **Energy Storage**

June 16-17, 2021



MISO Places 4-month Hold on Seasonal Auction, Stricter Accreditation

By Amanda Durish Cook

MISO said Wednesday that it will postpone filing tariff revisions to implement four seasonal capacity auctions and impose a more rigorous accreditation process on participating resources.

Those filings are now slated for September rather than June, the RTO said.

"We are working on modifications, revisions, refinements," MISO Director of Market Design Kevin Vannoy told stakeholders at a Resource Adequacy Subcommittee meeting April 14.



MISO's Kevin Vannoy | © RTO Insider LLC

Vannoy said MISO still

plans to hold four distinct seasonal auctions, but staff must refine the proposed resource accreditation. The RTO still expects the changes to be ready in time for the 2023/24 planning year.

Many MISO members still oppose the RTO's

proposal availability-based capacity accreditation, which measures a unit's recent performance against predetermined periods of high risk on the system. Stakeholders last month voted against the design and voiced concern to MISO's Board of Directors. (See MISO, Stakeholders Disagree on Post-storm Accreditation.)

Stakeholders have disparaged the availability-based accreditation for its reliance on a small set of hours throughout the year that contain historical reliability risks. They said the plan would introduce volatility and result in owners never confidently scheduling planned maintenance outages for their units.

"We understand we cannot introduce a proposal that introduces volatility," Vannoy said, though he added that MISO hasn't settled on a new accreditation design yet. He promised MISO would provide "substantial support" in the form of analysis for any new accreditation design it proposes.

Vannoy said the fact remains that MISO has resources that "chronically" underperform during times of need in both hot and cold weather.

RTO staff said they plan to return to the May RASC meeting with more proposal changes. The grid operator still plans to submit a single FERC filing reflecting a seasonal capacity auction proposal equipped with separate seasonal reserve requirement values and resource accreditation changes.

"We think the resource adequacy changes need to move forward as a package," Executive Director of Market Strategy and Design Scott Wright said.

MISO is also planning to perform regional resource adequacy assessments to identify which areas in its footprint are short on supply. The assessment will differ from the Organization of MISO States' and MISO's annual resource adequacy survey that relies on responses from load-serving entities.

Wright said where the current capacity auction only looks out a year, the RA assessments will examine resource retirements and additions five to 10 years out. He said MISO has been discussing the concept internally for some time.



MISO Capacity Auction Values South Capacity at a Penny

Continued from page 1

\$257.53/MW-day cost of new entry, signaling a need to build new generation. Most other zones cleared around \$5/MW-day. (See Michigan Prices Soar in 8th MISO Capacity Auction.)

MISO said the low clearing prices in the 2021/22 Planning Resource Auction, especially in MISO South, are because of increased supply and lower peak demand forecasts. MISO's South-to-Midwest capacity transfer limit bound during the auction, causing the \$4.99 price separation.

Speaking at a conference call to discuss results Thursday, MISO Manager of Capacity Market Administration Eric Thoms said zones 8-10 experienced an average 2.5% decrease in demand forecasts.

MISO's Independent Market Monitor has reviewed and certified the auction results.

The grid operator said all zones' capacity volumes exceeded their respective local clearing requirements. MISO prepped for the auction with a 120-GW systemwide coincident peak and a 134-GW planning reserve margin requirement. (See MISO Preps for Capacity Auction, Spring Peak.)

MISO cleared a total 133.9 GW of capacity. Natural gas generation provided most of the capacity at 40%, while coal generation followed at 34%. Nuclear generation held steady at about 9%. Wind and solar furnished 3% and 1%, respectively. While still a small share of total capacity, MISO said the 3,590 MW of wind cleared was a 10% increase compared to last year, and the 1,426 MW of solar represented a 68% rise.

Thoms said this year, no energy efficiency resource registrations qualified for auction participation.

MISO leadership acknowledged the incongruity of the South's low clearing prices and recent maximum generation events that required load shedding after both the February freeze and 2020's Hurricane Laura.

"The continued frequency of emergency events, including what MISO experienced in February, reinforce that the summer-focused resource adequacy construct will need to be modified to ensure resource availability. particularly with the continued evolution of the resource portfolio," Executive Director of Market Operations and Resource Adequacy Shawn McFarlane said in a press release.

Most MISO emergencies occur outside of summertime, Thoms said, providing more confirmation that MISO should rethink its summer peak reliability emphasis.

"That will be more support for these ongoing reforms," he told stakeholders.

MISO said it wants to transition away from summer peak planning and hold four independent seasonal auctions by the 2023/24 planning year. It also wants to impose a tougher capacity accreditation on planning resources, though that proposal is being redeveloped after criticism from stakeholders. (See MISO. Stakeholders Disagree on Post-storm Accreditation.)

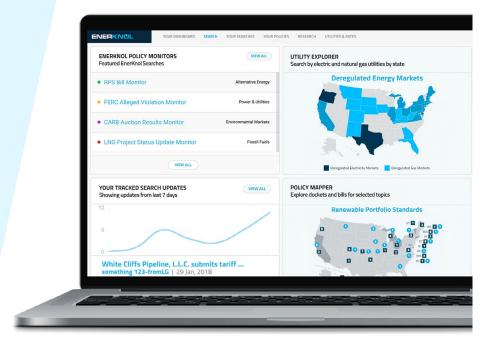
MISO plans to go into greater detail on the auction results at its Resource Adequacy Subcommittee teleconference May 12. ■

ENERKNOL

Our users don't have FOMO.

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

BEGIN YOUR FREE 7-DAY TRIAL AT ENERKNOL.COM



20+ Million Filings at Your Fingertips • One-Click Tracking Automated Real-time Updates • Proprietary Research

ENERKNOL.COM



MISO Installs First Diversity Officer

By Amanda Durish Cook

MISO has appointed its first chief diversity officer, the RTO said.

The grid operator selected insurance and banking executive Allegra Nottage after a nationwide search. She will be responsible for advancing diversity and inclusion efforts and will be based at MISO's Carmel, Ind., headquarters.

Nottage most recently directed the human resource department at Indianapolis-based insurance firm Syndicate Claim Services and has led human resource programs at Cigna Insurance. She also led diversity and inclusion programs at Bank of America's global diversity and inclusion team.

MISO said Nottage's experience "covers a wide range from standard areas such as recruiting to more advanced areas of inclusion and equity such as management accountability." While at Syndicate, Nottage implemented an inclusion index to gauge the company's progress in diversity and inclusion.

"I am excited to be selected to lead the D&I effort at MISO. I commend the leadership team for their passion and longstanding commitment to this important work and look forward to learning more about the organization," Nottage said in a press release. "From my very first discussion with the leadership team during the recruiting process, I knew that MISO was a special company, and I feel honored to be here."

Nottage spent her childhood in Charlottesville, Va., and lived in U.S. military bases across the country during her teenage years. She holds a bachelor's degree in organizational management from Wilmington University.

"Allegra has vast experience and expertise to help us advance our diversity and inclusion journey," MISO CEO John Bear said. "I am confident that she possesses the right skills to take us to the next level. She has a very important job and has my full support to help us get better together."

In an unusual move following last summer's nationwide civil unrest, MISO's executives and board members condemned systemic racism



Allegra Nottage | MISO

and vowed to listen to its minority employees in affecting organizational change. (See MISO Board Addresses Racism, Social Unrest.)

Bear at the time promised that addressing inequality wouldn't be a flicker, but a long-term, serious pursuit.

NetZero Inside

Your Eyes and Ears on Climate Policy and Adaptation Building & Transportation Electrification Federal & State Policy



NetZero Insider is live!

The only publication covering climate policy from inside the room in D.C. and the state capitals.

U.S./NATIONAL

Solar Decathlon Trains Next Generation of Green **Architects**

Democratic Bills Put Environmental Justice Front and

Co-ops Want Level Playing Field for Clean Energy *Incentives*

MIDATLANTIC

Study Says NC Needs Clean Energy Standard to Meet Climate Goals

Deep Divide Over Climate Legislation in North Carolina NJ Looks to Boost Heavy-duty Charge Points NJ Outlines Plan to Boost EV Truck Sales Md. Climate Bill Dies in House-Senate Standoff

MIDWEST

IURC Slashes Vectren Net Metering Rate

NORTHEAST

Massachusetts Fishermen Brace for Offshore Wind Eversource, Solar Developer Settle Stormwater Runoff

Mass. DEP, Biomass Developer Tussle over Permit NY Carbon Tax Bill is 'Premature,' Opponents Say NY Explores Ways to Decarbonize Heavy Industry

WEST

Hawaii Study Examines Carbon Tax Impact NREL Apps Accelerate Rooftop Approvals Bill to Cut Refrigerant GHGs Goes to Inslee

FERC Rejects Mich. Transco's EV Charging Bid

More Information Needed to Determine Jurisdiction

By Rich Heidorn Jr.

FERC on Thursday rejected Michigan Electric Transmission Co.'s (METC) request to spend \$15 million on a pilot project to build charging facilities for long-haul trucks, saying the company had not provided sufficient detail for the commission to evaluate the proposal (ER21-424).

In November, METC filed a request with FERC to recover its costs to build three charging stations for medium- and heavy-duty commercial vehicles along the state's interstate highways. The company said interconnecting DC fast charging (DCFC) stations directly to the

transmission system would be cost effective because the charging demands of commercial trucks can be as high as 3 MWh. It also sought assurance that FERC would grant it 100% of its costs if the project is abandoned for reasons beyond METC's control, in accordance with the commission's 2009 Smart Grid Policy Statement.

But the commission sided with local distribution companies Consumers Energy and DTE Energy, which said METC's petition should be rejected without more details. (See Mich. LDCs in Turf War with Transco over EV Charging.)

"METC has not provided sufficient information

about the pilot project — including the configuration and voltage level of the proposed assets, specified locations for the DCFC stations and whether the AC-to-DC converter will be included in the pilot project — for us to determine whether some or all components are, in fact, transmission assets and therefore eligible for cost recovery in commission-jurisdictional transmission rates," FERC said in a 5-0 ruling.

The commission rejected METC's petition without prejudice, saying a new filing should identify the location of the DCFC stations and provide enough information on the proposed assets, including configurations and voltage levels, to apply Order 888's "Seven Factor



This map overlays electric transmission with average annual daily traffic (AADT) and locations of truck stops and existing DC fast charging spots in Michigan. | HDR Inc.



Test" for distinguishing between transmission and distribution assets.

Michigan PSC Weighs In

FERC acknowledged that the Michigan Public Service Commission had expressed support for METC's pilot project but said "it is important that states and stakeholders have adequate opportunities for input" through the MISO Transmission Expansion Plan process.

It noted the Michigan commission had cited barriers to considering transmission alternatives in MTEP, including "timing, MISO's standards of review under the transmission owners agreement and tariffs (essentially, 'do no harm' to the reliability of the system for local projects), asymmetries in information access between the transmission owner and other stakeholders, and other factors."

"The Michigan commission stresses that special consideration of stakeholder input through the MISO MTEP process would be important for these projects to ensure any EV-related investments recovered through transmission rates provide the best value to ratepayers and not merely show no harm to the reliability of the bulk-power system," FERC added.

It said although the Michigan commission supports allowing METC's proposed assets to be recovered through transmission rates, the PSC had not evaluated the pilot project under the Seven Factor Test. "Therefore, [FERC] cannot give deference to the Michigan commission's recommendation in this instance," it said.

"We will work to provide the commission with the requested information, as we continue to advocate for infrastructure to support the large-scale adoption of electric vehicles in the coming years," Simon Whitelocke, president of ITC Michigan, METC's parent company, told RTO Insider.

METC wanted to begin the pilot project next year.

Siting Criteria

Corey Proctor, manager of transmission design at ITC Holdings, told FERC in testimony that the DCFC charging stations will be sited based on criteria including proximity to interstate highways and existing transmission, available properties with willing partners, and location of ancillary services such as convenience stores, restrooms and existing petroleum fueling locations.

METC said it is only requesting cost-recovery of transmission-related infrastructure such as transmission lines of 138-kV and above

and associated substations and technology to convert AC power into DC power.

"Power will be supplied by local distribution companies, and the charging stations will be owned and operated by third parties," Proctor said. "Consequently, the pilot project will depend on the applicant's successful collaboration with its customers and unaffiliated vendors that provide DCFC services."

Proctor said although the pilot locations could recharge light-duty EVs, they will be designed to serve medium- and heavy-duty long-haul trucks with charging ports that can charge batteries with that have a demand of 1-3 MWh. Each charging station will have six charging ports.

Policy Statement

FERC's 2009 policy statement, issued in response to the Energy Independence and Security Act (EISA), provides "guidance regarding the development of a smart grid for the nation's electric transmission system, focusing on the development of key standards to achieve interoperability and functionality of smart grid systems and devices." It set an interim rate policy to apply until the commission adopts interoperability standards.

METC said its proposal meets the policy statement's requirements for rate recovery: it will advance the policy and goals of Section 1301 of EISA; will not adversely affect the reliability and cybersecurity of the bulk electric system; minimizes the possibility of stranded investment; and will include information-sharing with the Department of Energy's Smart Grid Clearinghouse.

"Additionally, the pilot project will provide information to METC and the commission regarding the important role that transmission can play in facilitating the deployment of medium- and heavy-duty commercial EVs," Proctor said.

Consumers Energy, DTE Oppose

METC's 5,600-circuit mile transmission system (120 kV to 345 kV) is spread over two-thirds of Michigan's Lower Peninsula. Consumers Energy is a transmission customer of METC whose 67.000 miles of electric distribution largely overlap METC's service territory.

Both Consumers and DTE, which owns 40,000 miles of distribution in southeastern Michigan, say they have been heavily involved in Michigan's efforts to encourage EV use.

Consumers' "limited" protest said FERC should be careful to "preserve the well-established

demarcation between transmission and local distribution facilities, both under the Federal Power Act and under a longstanding contractual arrangement between Consumers Energy and METC."

Consumers also said the proposal shouldn't circumvent existing regional transmission planning processes and that METC should be required to partner with Consumers and other affected distribution companies.

Consumers and DTE also insisted most distribution facilities can handle truck charging loads.

"METC's witnesses contemplate charging stations that could individually serve 2.5 MW of load with all chargers in operation — an amount that is normally (and easily) served by local distribution facilities and local distribution companies," Consumers said. "Even loads ten times larger could readily be served by Consumers Energy's high-voltage distribution system."

DTE said that METC's application falls short of the requirements in FERC's Smart Grid Policy and "also sows confusion and potential conflict with the distribution planning process and infrastructure development already well underway in Michigan."

"Moreover, based on the description of the pilot project provided so far, METC appears to be seeking rate incentives for facilities that may well be local distribution facilities and thus outside FERC's jurisdiction."

"It is important to highlight that METC is a transmission owner, only," DTE said. "It does not own any distribution facilities, and therefore METC lacks the requisite insight into the distribution system which is needed in order to be able to ascertain the most appropriate and cost-effective method of service for a new, end-use customer."



-

MISO: Market System Replacement or 841 Compliance

By Amanda Durish Cook

MISO's leadership has offered additional justification on its request to delay until 2025 incorporating energy storage resources into its markets.

Jeff Bladen, the RTO's executive director of digital strategy, said the focus on replacing its market systems rather than promptly complying with FERC Order 841 will allow MISO to "get on with the work of enhancing the markets instead of enhancing the technology that enables the markets."

"The work could have been better coordinated and presented to stakeholders in advance of the filing," he told stakeholders during an April 15 Market Subcommittee (MSC) meeting.

In a March 4 filing with FERC, the grid operator asked for a March 2025 compliance deadline, a three-year delay (*ER19-465*). The stakeholder community had little notice of the move and was taken aback by the announcement during a March MSC teleconference. (See *MISO Stuns Stakeholders with 2nd Order 841 Delay.*)

Bladen acknowledged that industry experts on Twitter are questioning why the market platform replacement is taking so long. He said the platform being constructed will employ "some of the most powerful cloud technology in the world."

"For better or for worse, the systems that MISO runs ... are some of the most complex optimization systems in the world," he said, adding that the systems are more intricate than those used in the airline industry.

"Not only is it more complex, it's done every day," Bladen said.

Adding ESR registrations on the legacy platform would "imperil" MISO's ability to deliver the platform on-time, stretching out the go-live date by two or three years, he said.

Environmental Law and Policy Center's Justin Vickers asked how internal benefit-to-cost analysis affected the decision. He said the delay threatens generation projects in the RTO's interconnection queue.

"The trade-offs in costs and benefits are not simply dollars," Bladen said.

Bladen said the "specialized expertise" required to both install a new platform and open MISO's current markets to ESRs is so narrow that there simply aren't two different groups of personnel available.

"One has to give," he said. "One has to go later."

Stakeholders asked whether the Order 841 delay portends a separate delay for Order 2222 compliance. The directive requires RTOs to establish rules allowing distributed energy resources to participate in organized wholesale markets on an aggregated basis.

During MISO's March Board Week, Vice President of Market System Enhancements Todd Ramey said both Order 841 and Order 2222 implementation threaten to pull resources from the platform-replacement project.

"MISO has not been clear at all about the impacts on Order 2222," Vickers said.

Bladen acknowledged that the "age and brittleness" of MISO's current platform would make it very difficult to extend market participation to aggregated DERs in the near-term. ■



MISO Executive Director of Digital Strategy Jeff Bladen | © RTO Insider LLC

FERC OKs MISO Agreements Following TO Funding Ruling

Glick Fears Abuse by TOs

By Rich Heidorn Jr.

FERC on Thursday approved several interconnection and facilities service agreements submitted by MISO to comply with the commission's 2019 ruling reinstating the right of transmission owners to provide initial funding for transmission upgrades for generation projects.

FERC had directed MISO to remove the unilateral option for a TO to elect to fund the interconnection upgrades in an order effective June 24, 2015.

But the D.C. Circuit Court of Appeals vacated FERC's decision effective Aug. 31, 2018, saying the commission hadn't considered complaints from Ameren and five other TOs that claimed the policy forced them to accept "risk-bearing additions to their network with zero return" and essentially act as "nonprofit managers" of network "appendages." The TOs had argued the Federal Power Act and Constitution prohibits FERC from forcing them to construct and operate generator-funded network upgrades.

The case was remanded to FERC, which reinstated the TOs' funding rights in a December 2019 order. (See *Ruling Reinstates MISO TO Funding of Upgrades.*)

The commission's decision required MISO to revise contracts signed between June 24, 2015, and Aug. 31, 2018, what the commission called the "interim period."

In Thursday's rulings, the commission approved generator interconnection agreements (GIA), facilities construction agreements (FCA) and facilities service agreements (FSA) agreements among MISO and three interconnection customers of Northern States Power: North Star Solar PV (*ER20-2436*), Stoneray Power Partners (*ER20-2411*) and Marshall Solar (*ER20-2438*).

The commission also approved an amended FCA between Red Pine Wind Project and transmission owners Northern States Power, Great River Energy, Western Minnesota Municipal Power Agency, Otter Tail Power Co., and Central Minnesota Municipal Power Agency (ER20-2423).

But it rejected an unexecuted FSA involving Red Pine and Northern States specifying the terms of repayment of money owed to the transmission owners for initially funding the network upgrades needed to connect Red Pine's generating facility.

The commission said that because the network upgrade in the FSA was first identified in Red Pine's GIA, which was executed prior to the interim period, Northern States could not elect the TO initial funding option. It ordered MISO to file a revised FCA that removes all references to NSP's unilateral election of the TO funding option.

Chairman Richard Glick, who had dissented in the 2019 order, issued a *statement* concurring with Thursday's rulings.

Although Glick said the GIAs, FCAs and FSAs were consistent with MISO's pro forma agreements and "reflect the state of the law today," he reiterated his concern that giving transmission owners the unilateral right to choose whether to fund network upgrades may not be just and reasonable.

"The commission failed to meaningfully wrestle with these concerns in its orders allowing transmission owners the unilateral right to choose up-front funding," he wrote. "I also continue to believe that the commission was unwise to permit the reopening of numerous previously-negotiated interconnection agreements without engaging in meaningful balancing of the specific facts and equities presented and in the face of considerable evidence that allowing transmission owners and affected system operators to retroactively elect to selffund the network upgrades associated with those agreements will result in substantial harm to interconnection customers."

MISO generation developers said the new policy could result in discrimination by TOs against some interconnection customers and increase the cost of new generation. But TOs' ability to self-fund network upgrades survived a challenge last year from the American Wind Energy Association. (See FERC Upholds MISO Self-fund Order. Glick Dissents.)

Commissioner Allison Clements, who joined FERC in January, also has expressed concern with the self-funding rules, saying they "may well merit additional scrutiny in the near future." (See MISO TOs' Self-funding Option Tested Again.)



MISO

MISO, SPP Ordered to Resolve Overlapping Charges

By Tom Kleckner

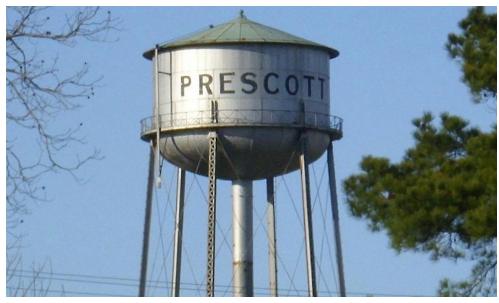
FERC last week found that pseudo-tied loads and resources between MISO and SPP are subject to overlapping congestion charges and directed each RTO to submit a compliance filing to eliminate or offset the charges through a rebate mechanism (EL17-89, EL19-60).

The commission said the compliance filings must propose a "single, unified solution upon which the RTOs mutually agree" and include any necessary revisions to the grid operators' jurisdictional rates, charges, classifications, tariffs, contracts, and/or practices. It provided guidance to help the RTOs.

FERC said it would address refunds and whether they should be required upon acceptance of the changes, saying it could not adequately determine their amounts "in the absence of a prospective just and reasonable replacement rate as a reference point."

The overlapping congestion charges originate when a reciprocal coordinated flowgate binds simultaneously in both RTOs and MISO and SPP each react to relieve the constraint. That can result, in aggregate, of more relief than necessary to relieve the constraint, the commission said.

The order follows a technical conference last November investigating the overlapping



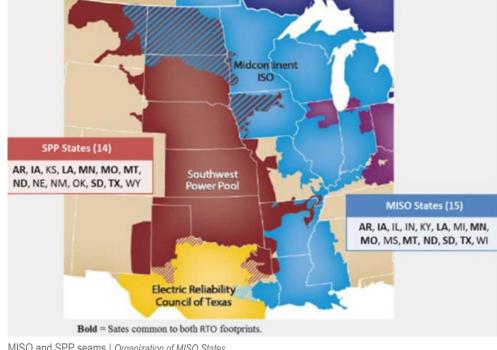
Complaints by SWEPCO and Prescott, Ark., led FERC to order MISO and SPP to eliminate or offset overlapping congestion charges. | Waymarking

congestion charges imposed on pseudo-tie transactions between the two RTOs. (See FERC Orders Tech Conference on MISO-SPP Congestion.) During the conference, the parties discussed the nature and extent of the overlapping congestion charges at the MISO-SPP interface; existing mechanisms to address the overlap; and other potential mechanisms to address the FERC set the investigation in motion in 2019 after American Electric Power (AEP) subsidiary Southwestern Electric Power Co. (SWEPCO) and the city of Prescott, Ark., complained to the commission. AEP alleged that MISO violated the joint operating agreement with SPP over certain congestion charges associated with SWEPCO loads that are pseudo-tied out of MISO and into SPP. (See FERC Sets Briefings on MISO, SPP Congestion Fees.)

The commission found the RTOs' hedging mechanisms and those employed by SWEPCO and Prescott to mitigate their exposure to congestion charges do not adequately address the overlapping congestion charges faced by the pseudo-tied entities at the MISO-SPP interface.

"Even if pseudo-tied entities were able to use existing mechanisms to perfectly hedge against unjust and unreasonable overlapping congestion charges ... these hedging mechanisms require pseudo-tied entities to incur cost and risk related to charges that are not just and reasonable," FERC said in the order.

The commissioners noted AEP's contention that costs that should not be assigned to market participants that cannot be hedged. As the existing mechanisms "do not adequately offset these overlapping congestion charges," FERC said, "we cannot conclude that these mechanisms serve to remedy the unjust, unreasonable, unduly discriminatory or preferential overlapping congestion charges."



MISO and SPP seams | Organization of MISO States

Overheard at GCPA's MISO-SPP Forum

GI Queues, Transmission Needs Face Neighboring Grid Operators

By Amanda Durish Cook and Tom Kleckner

The Gulf Coast Power Association's annual MISO-SPP Forum gathered the RTOs' leadership and stakeholders virtually last week to discuss transmission planning, markets and the grid operators' new-found cooperation across their seam.



SPP CEO Barbara Sugg | GCPA

SPP CEO Barbara Sugg said the grid operators began repairing and building up their relationship last year. She said both RTOs have "tremendous backlogs" of interconnection requests and concerns with affected system studies.

"The lack of transmission at requested interconnection points ... stands in the way of progress," Sugg said during the second day of the April 15-16 forum.

Sugg said the RTOs' joint interconnection planning study and SPP's Strategic and Creative Re-Engineering of Integrated Planning Team (SCRIPT) should both produce positive results for the interconnection queue.

"Until that backlog is cleared, this remains a top priority for SPP," she said.



MISO CEO John Bear | GCPA

MISO CEO John Bear agreed that the queues are a problem and called for more transmission investment.

"We've got a lot of renewable resources in our interconnection queue and a lot of renewable resources on

our system today," he said. "We need transmission investment to move [that energy] around."

Moderating Bear's discussion, MISO Chief Customer Officer Todd Hillman asked why the problems facing the two RTOs and the industry are so hard to fix.

"It seems like it's a cultural problem," Bear said. "Our industry had a lot of time to solve problems, but we've done it incrementally. We're very precise and very accurate because there is a lot of investment behind our solutions. We can't think incrementally anymore, because the



Indiana Commissioner Sarah Freeman (lower left) moderates a panel with (clockwise) Entergy's Dan Kline, CLECO's Terry Whitmore and MISO's Jennifer Curran. | GCPA

problems are already upon us. We're trying to use old tools and metrics to solve new problems. We've got to move past that."

SCRIPT Recommendations

SPP COO Lanny Nickell said that in addition to the unprecedented size of the interconnection queue, SPP suffers from uncertainty and a lack of consensus on planned projects, concerns about equitable cost allocation and a dearth of export capability.

He said SCRIPT members will concentrate on consolidating current planning processes and improving confidence behind planning decisions.

Joe Lang, director of energy regulatory affairs for Omaha Public Power District, said the group is eyeing a single annual study to identify upgrades that meet all customer needs, combining SPP's integrated transmission planning process, interconnection and transmission service studies.

Lang said it remains to be seen whether SPP can develop that "north star" one-stop study, given the four-year backlog in SPP's interconnection queue.

"The question is: 'Can we pull that off?'" Nickell

EDP Renewables' David Mindham said the SPP queue is plagued by interconnection studies that can't begin until a previous one has finished and restudies from dropouts.

"I think there's more generation in the SPP queue than there is peak demand load right now, which is just crazy," he said. He added that it's difficult to study amounts of generation that would more than double up SPP's current supply.

The guestion remains: How will SPP allocate project costs from a more unified planning process?

"As everybody knows cost allocation is easy and there's never any controversy with it." joked Kansas Corporation Commission Chairman Andrew French. He said SCRIPT is considering using prior year annual energy usage to determine a load ratio share for network service charges.

Gramlich: 'Proactive' Transmission Needed



Rob Gramlich, Grid Strategies | GCPA

Grid Strategies President Rob Gramlich delivered the forum's keynote address and discussed the need to unlock additional renewable resources.

"FERC and the RTOs should think what the

grid will look like in five to 10 years," he said. "We can't ignore the contributions that wind, solar, storage and transmission are providing in meeting load most of those hours. We shouldn't be having every utility in every capacity market across the country building new gas plants when we're trying to decarbonize."

"Proactive" transmission planning would also resolve the "pileups" in the interconnection queues, Gramlich said.

"We really just need to plan the transition out to the right areas," he said. "You just reach a saturation point on the grid."

MISO, SPP Contemplating TMEPs

David Kellev. SPP director of seams and tariff services, said MISO and SPP could also benefit from smaller, congestion-relieving transmission projects, such as the targeted market efficiency projects (TMEPs) used by MISO and PJM.

"We have some real value in trying to close that gap that might identify smaller costs and shorter-term solutions that just may not be able to be resolved through the longer-term planning process," Kelley said. There are "real-time, realized issues that the longer-term planning process just may not be able to identify."

MISO Executive Director of System Planning Aubrey Johnson said the RTO envisions projects that could be built in two to three years and cost less than \$20 million. He views TMEPs as a "yes, and ..." concept that works in concert with longer-term interregional planning.

The TMEPs could focus on known problem areas, such as the Nebraska-Iowa and Kansas-Missouri seams, Johnson said.

"I really believe it's going to be a success story at the end of the day because of the fact that the staff and the CEOs, and even the board members and the regulators, [are] behind these efforts to address a known problem," Kelley said of the RTOs' joint interconnection planning study and possible TMEP process.

Johnson is "absolutely confident" that the grid operators' planning teams will identify solutions, though he predicted that a costallocation approach would be challenging.

MISO Independent Market Monitor David Patton said he's called out a lot of seams issues over the years but has seen little progress in fixing them, "particularly between MISO and SPP."

He said the RTOs should better coordinate their market-to-market (M2M) interface before proposing their first interregional project. Patton prefers to see the grid operators implement coordinated transaction scheduling, with MISO asking SPP to test more interregional constraints that could be categorized as M2M.

"It's always been my view that you can make the best decision on transmission investment and planning if you first operate the system as efficiently as possible and then see what congestion is left that can be addressed by investment," Patton said.

SPP Vice President of Engineering Antoine Lucas said he's optimistic that MISO and SPP can solve their seams issues.

"Up to this point, we've heard ... the viewpoint is that the seams are a barrier, or an inhibitor to success and value between the regions," he said. "What I would really like to see is for us to be able to turn the seams into an enabler to provide benefits and value to the customers of the RTOs. I think with the focus we have on it today ... the seams can be a tremendous asset for each of our organizations."

Kudos to RTOs for Integrated Wind

Renewable energy advocates credited the RTOs and their transmission systems for integrating approximately 50 GW of wind resources, along with some solar resources.



Steve Gaw, Advanced Power Alliance | GCPA

Advanced Power Alliance's Steve Gaw recalled that when he began working in "SPPland," there were only 2 GW of wind turbines on the ground. The grid operator now has 53 GW of wind resources, which has supplied 81.9% of the fuel mix

at a time. (See Blowin' in the Wind: SPP Sets New Renewable Marks.)

"Those kinds of changes are part of the evolution that is at the forefront of both MISO and SPP," Gaw said. "Where we are today is just the middle of the process, and we'll see whole lot more transformation take place. Obviously, to me, the RTOs have been instrumental in making that happen. They will be incredibly important as we move into the next phase of what I think will be the transformation of American energy."

"People thought we were crazy that that much



Natalie McIntire. Clean Grid Alliance | GCPA

wind would ever be online in MISO," said Clean Grid Alliance's Natalie McIntire, referring to her previous organization's 2003 effort to get 10 GW of wind capacity into the RTO's transmission expansion planning.

"We've met and exceeded that. They consistently underestimated what has materialized," she said. "We are thrilled and very supportive of the most recent futures MISO is working with. They do a good job of realistically estimating what is likely to come."

Jim Jacoby, American Electric Power's manager of RTO policy, said grid operators will have to help manage utilities' transition to renewable resources, saying the impacts could be "significant." He said AEP is engaged in SPP's capacity planning and other stakeholder groups.

"We've got a vested interest in making sure all those moving pieces come together," Jacoby said. "The RTOs will be vital in allowing AEP to meet [our renewable] goals."

Panel Pans Infrastructure Bill

Moderating a panel on long-term planning issues, Indiana Utility Regulatory Commissioner Sarah Freeman asked members about their reaction to President Biden's American Jobs Plan infrastructure package. The \$2 trillion plan includes \$100 billion to build a more resilient electric grid and would connect renewable resources to urban load centers, with a goal of producing carbon-free electricity by 2035.

"In transmission terms, 2035 is like tomorrow." said MISO's Jennifer Curran, vice president of system planning. "I'm not sure how you get there without some technology that might not exist at commercial scale. It feels challenging, to me.

"The issue here is I don't see [the plan] as about who invests. I see it as about who pays. I don't see a lot in the bill that helps us with that aspect."

"One hundred billion sounds like a lot of money, but it's really, really not," Terry Whitmore, Cleco's vice president of transmission planning said. "That will be a challenge, along with how funds are allocated and to what standards they're built to. Will [funds] be allocated to individual RTOs or the states?" ■

FERC Confirms NYTOs' Right of First Refusal

Clements Cites Competitive Concerns

By Michael Kuser

FERC on Thursday confirmed that New York Transmission Owners (NYTOs) have a federal right of first refusal (ROFR) under the ISO's tariff and Order 1000 to build and recover the costs of upgrades to their transmission facilities, even if the upgrades are part of another developer's project selected by the ISO for cost allocation (EL20-65).

NYISO requested the declaratory order last August, saying the issue of NYTOs' upgrade rights required clarification because thirdparty developers' Order 1000 transmission projects are likely to modify the TOs' existing transmission facilities because such projects are likely to be located within existing rightsof-way. The state noted that its power needs are largely in New York City and Long Island, while generation resources serving demand are spread across the state. It also noted the state has limited rights-of-way to develop new transmission facilities because of environmental and agricultural impact concerns.

NYISO said it sought commission guidance because there was no realistic chance that it would be able to obtain the super-majority

stakeholder support necessary to make a Federal Power Act Section 205 filing to revise its tariff to address the issues.

The commission said it exercised its discretion to issue the declaratory order because "NYISO has already expended considerable time and resources pursuing a stakeholder process to resolve these issues."

The commission rejected protestors' arguments that the TOs lacked a federal ROFR for upgrades or that their rights were limited to those needed to meet local transmission needs. Order 1000 required the elimination of federal ROFRs in commission-jurisdictional tariffs for transmission facilities selected in a regional transmission plan for purposes of cost allocation. But the order did not affect the right of an incumbent transmission provider to build upgrades to its own transmission facilities.

No on 'Developer' Definition

While the commission confirmed the TOs' ROFR, it denied NYISO's request for confirmation that, if a NYTO exercises its federal ROFR for upgrades to its existing transmission facilities, it should be treated as the developer.

The ISO said that because of ambiguity in the tariff, the NYTO should be treated as the developer of the upgrade portion of any such transmission project.

The New York Public Service Commission opposed the ISO's request, saying it would undermine the ISO's competitive transmission process by allowing a NYTO to step into the shoes of the developer after the ISO has already selected a transmission project. The commission said that would discourage proposed projects from non-incumbent developers.

FERC said NYISO's open access transmission tariff (OATT) defines a developer as "[a] person or entity, including a transmission owner, sponsoring or proposing a project" under the rules defining how the ISO solicits and selects solutions to address reliability, economic and public policy driven transmission needs.

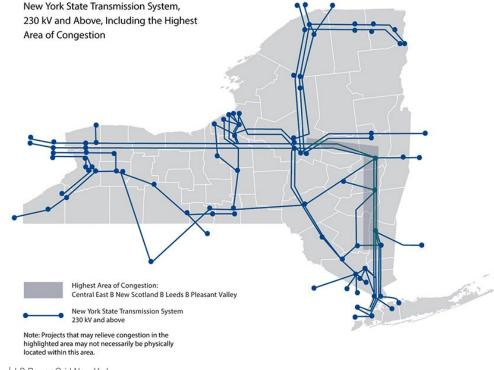
"Based on our determination on this issue. we find that there is no need to address the arguments on various aspects of the implementation of the federal ROFR for upgrades, such as cost containment and the timing of when the federal ROFR for upgrades should be exercised in NYISO's transmission planning process," FERC said. "We will evaluate tariff revisions to effectuate implementation details when they are presented to the commission."

'Upgrade' Definition

FERC granted, in part, and denied, in part, NYISO's two-part request for clarification on the scope of the definition of "upgrade" under its tariff, agreeing on what constitutes a "new" transmission line but refusing to clarify definitions regarding another developer's Order No. 1000 transmission solution. It said the ISO failed to provide enough information.

FERC agreed that a scenario in which a solution required the retirement or decommissioning of a NYTO's existing transmission facility - and would connect to the grid in a configuration different from the original facility — would constitute a new transmission facility, rather than an upgrade.

But the commission denied NYISO's requested clarification on whether such a new transmission facility proposal in another developer's Order 1000 transmission solution requires either the agreement of the NYTO that owns the existing transmission facility, a state regulatory proceeding or court order authorizing the decommissioning.



NYISO News





NYISO in 2019 selected LS Power Grid New York's Marcy to New Scotland transmission upgrade project to help relieve transmission congestion. | LS Power Grid New York

FERC said the ISO had not submitted sufficient information on relevant law, tariffs and facts for it to provide a clarification.

Clement: FERC Will Monitor Implementation

Commissioner Allison Clements concurred in a separate statement, saying the commission's order raised questions about how the ISO will implement the ROFR.

"While this has not been the case in all regions,

the success of NYISO's competitive solicitations for public policy projects has been a bright spot in the Order No. 1000 landscape.

Whether that success continues depends on how NYISO implements the tariff interpretation we provide today, a concern voiced by numerous protestors in this proceeding, including the [PSC]," Clements said. "It is hard to imagine how NYISO can continue to leverage competitive forces in the planning process for consumers' benefit if NYTOs are permitted

to stifle competition through their exercise of rights of first refusal over upgrades within a new transmission facility project."

NYISO's tariff lacks clarity on any of these crucial implementation details, she said.

"Several parties, including the New York commission, ask that we provide time for them to be worked out in the NYISO stakeholder process," Clements said. "Today's order provides that time, and I will be eager to review the resulting tariff revisions." ■









NYISO Monthly Energy Costs Up 98% Y-o-Y

NYISO locational-based marginal prices averaged \$28.59/MWh in March, down sharply from February's average of \$63.70/MWh but well above the \$17.11/MWh average in March 2020, the Business Issues Committee heard Wednesday.

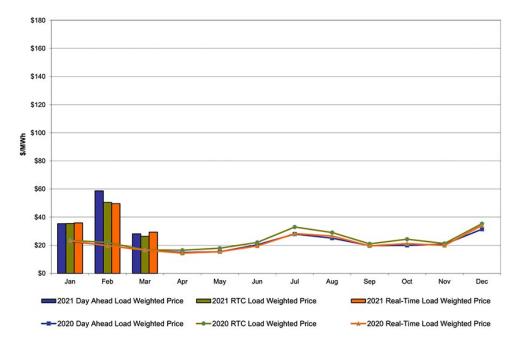
Day-ahead and real-time load-weighted LB-MPs came in lower compared with February, Rana Mukerji, the ISO's senior vice president for market structures, said in delivering the monthly operations report.

Year-to-date monthly energy costs averaged \$46.47/MWh, up 98% from a year ago. March's average sendout was 381 GWh/day, down from 434 GWh/day in February and higher than 375 GWh/day a year earlier.

Transco Z6 hub natural gas prices averaged \$2.24/MMBtu for the month, down from \$5.22/MMBtu in February but up 50% yearover-year.

Distillate prices rose compared to the previous month and were up 65% year-over-year. Jet Kerosene Gulf Coast averaged \$12.38/MMBtu, up from \$11.79/MMBtu in February. Ultra Low Sulfur No. 2 Diesel NY Harbor averaged \$13.31/MMBtu, up from \$12.71/MMBtu in February.

Uplift increased to 11 cents/MWh from -15 cents/MWh in February, while total uplift



NYISO Monthly Average Internal LBMPs (2020-2021) | NYISO

costs, excluding the ISO's cost of operations, came in higher than February.

The ISO's local reliability share dropped to 11 cents/MWh in March from 15 cents/MWh the previous month, while the statewide share climbed to 0 cents/MWh from -30 cents/MWh.

The Thunderstorm Alert cost in New York City remained unchanged at \$0/MWh. ■

– Michael Kuser



NYISO News



NYPSC OKs \$800 Million Tx Cost Recovery for Con Ed

Accommodates Nearly 400 MW of NYC Peaker Retirements

By Michael Kuser

The New York Public Service Commission on Thursday approved \$800 million in cost recovery by Consolidated Edison for three transmission projects known collectively as the Transmission Reliability and Clean Energy (TRACE) projects.

The projects are needed for reliability in 2023 and 2025 because of the retirement or unavailability of 399 MW of peaking generation located in four out of five New York City boroughs (19-E-0065). In 2019, the state's Department of Environmental Conservation (DEC) adopted regulations requiring peakers to limit nitrogen oxide emissions during the ozone season or be retired if they can't comply.

The new projects include the 138-kV Raineyto-Corona, Gowanus-to-Greenwood and Goethals-to-Greenwood lines.

"It's likely we will see many more of these projects as we transform our electric system," PSC Interim Chair John B. Howard said. "The primary reason for the construction of this project is to maintain reliability, but it also builds in safeguards for if and when certain generation assets are curtailed or shut for environmental reasons."

For the Astoria East/Corona transmission

load area (TLA), Con Edison will develop Rainey-to-Corona, a 6-mile, 345/138-kV PAR controlled underground feeder. In the Greenwood/Fox Hills 138-kV TLA, the utility will install two new feeders, including a 1-mile, 345/138-kV PAR controlled line that will connect the 345-kV Gowanus substation with the Greenwood 138-kV substation, increasing transfer capability by about 300 MW.

Con Edison expects to start work immediately. Rainey should be operational by the start of summer 2023, and the Gowanus and Goethals projects are expected to enter service by summer 2025. Because the projects will have climate benefits statewide, cost allocation will be evaluated and considered in future commission orders.

Commissioner Diane Burman voted in favor of the projects but expressed "serious concerns" as the state moves ahead with big changes to the power grid.

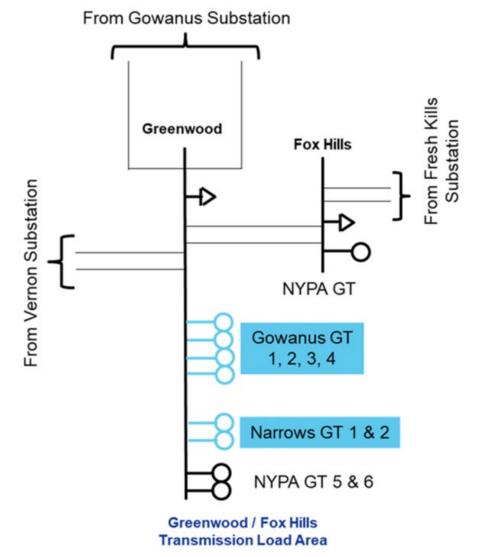
She said her top concern in decarbonizing the grid is the reliability of the power supply, ensuring that firm and reliable resources balance the high penetration expected from intermittent resources like wind and solar.

Second is the need for investment in transmission and distribution infrastructure, and recognizing that "the whole nature of the electric power system, and frankly of electric service itself at the local distribution and bulk transmission levels" is rapidly changing, Burman said.

The commission's third priority is to understand consumer behavior and work with people to achieve the desired outcome at the lowest cost, she said.

Commissioner James Alesi said he believed the approach would help Con Edison meet the goals of the CLCPA as well as comply with the DEC regulations, and hoped that the measure would reduce "pollutants in environmental justice communities and make it easier to transition to a cleaner, low-carbon grid."

The retiring peaker plants include Con Edison's 59th Street GT1 (17.1 MW) and 74th Street GT units 1 and 2 (37 MW) in Manhattan; Con Edison's Hudson Ave unit 5 (16.3 MW) in Vinegar Hill, Brooklyn; the Helix Ravenswood units 1, 10 and 11 (68.6 MW) in Long Island City. Queens: the NRG Astoria GTs (240 MW) in Astoria, Queens; and the NRG Arthur Kill GT1 unit (20 MW) in Staten Island.



Graph shows the high-level topology of the Astoria East / Corona 138-kV, standalone TLA | Con Edison

NYISO News



New York Moves to Centralize Energy Data

By Jennifer Delony

New York regulators last week approved rules for centralizing energy data to encourage new market solutions in support of the state's climate policies.

The Public Service Commission on Thursday unanimously approved a framework for collecting, integrating, analyzing and managing energyrelated information from the state's electric and gas utilities (Case No. 20-M-0082).

"This process is vital for moving forward to a new and far more complex energy system," Interim Chair John B. Howard said during the commission's regular monthly meeting. "It will allow new innovation in product design and add a whole variety of levels for customers."

Last year, the commission opened a proceeding to improve how power sector stakeholders access and handle energy-related data. In February, it adopted an "integrated energy data resource," in which the data will be housed (See NYPSC OKs Clean Energy Programs, Local Tx Planning.)

The data access framework adopted in the latest order "provides certainty to customers, utilities and energy-service entities," Marco Padula, director of markets and innovation at the Department of Public Service, said during the meeting.

He said the framework identifies the "rules, roles and responsibilities for parties seeking access to energy-related data and ensures uniform treatment of data access requests regardless of where the data are being housed," Padula said.

The framework includes data responsibilities and relationships.

"The order gives meaning to customer control of energy-related data and recognizes that customers need simple, practical yet still protective approaches to granting informed consent," Padula said.

The framework is intended to encourage energy end users to share their data and ensure they have an easy process for doing so.

"The utilities, with their ability for ongoing direct communication opportunities with their customers, must play a role in increasing customers' familiarity with data sharing op-

tions," the order said. It also directs utilities to prepare a customer consent engagement plan to show how they will inform customers of the options and benefits of data sharing.

Systems that guarantee "the highest cybersecurity protocols are maintained now and in the future" are central to the framework, according to Howard.

A third-party provider will oversee creation of a certification process to meet cybersecurity protocols. The certification "will be used to confirm that an energy service entity has implemented the appropriate cyber and privacy requirements based on request for access to energy data that includes the purpose, the access mechanism and the data type," Padula said.

While Commissioner Diane Burman supported the order, she said some parts of it give her "serious pause."

She did not outline her concerns, but she said it is important that the commission listen to stakeholders and remain open to alternative mechanisms during the framework implementation process.



New York regulators approved an order that adopts a framework for handling energy-related information from utilities while ensuring the highest cybersecurity protocols.



Neil Smith Resigns from PJM Board

Neil Smith, former CEO of generation developer InterGen, has resigned from the PJM Board of Managers.

PJM CEO Manu Asthana announced Smith's resignation in a letter to stakeholders April 12. Asthana said Smith vacated his board seat effective April 8 to take an executive position with a company that "would have presented a conflict of interest" if he continued to serve on the board.

Smith's new position was not identified.

"I want to thank Neil for his valuable service to the PJM Board." Asthana said.

Smith retired as InterGen's CEO in 2016 after 25 years with the company. He also previously served on the board for The Wood Group, a U.K.-based company providing project, engineering and technical services to energy and industrial clients.

Smith joined the PJM board in 2018, filling a position held by Howard Schneider for 21 years. (See PJM Board Elects New Chair, Welcomes New Member.)

Asthana said the RTO's Nominating Committee, which has been working to replace other



Former PJM Board Member Neil Smith | PJM

board members, will meet soon to discuss the next steps for Smith's vacancy.

The committee recently announced it selected Paula Conboy, former chair of the Australian Energy Regulator, and Jeanine Johnson, vice president of product security at Netgear, to replace board Chair Ake Almgren and board member John Foster. The committee had also renominated Smith for his position. (See PJM



PJM CEO Manu Asthana I © RTO Insider LLC

Nominates Replacements for Board of Managers.)

Asthana said it is unlikely PJM will nominate Smith's replacement in time for the RTO's Annual Meeting in May but will attempt to have a nomination in place for the Members Committee meeting on June 23. ■

-Michael Yoder



© RTO Insider LLC



NJ Rate Counsel Turns to State Supreme Court over Nuke Subsidies

Agency Seeks to Head Off \$300 Million in Power Plant Support

By Hugh Morley

New Jersey's Division of Rate Counsel on April 12 appealed to the state Supreme Court the dismissal of its suit seeking to block \$300 million in subsidies for three South Jersey nuclear units as it continues to oppose a renewal of the subsidies by the Board of Public Utilities.

The Rate Counsel filed a notice of petition for certification with the court last week, saying the Appellate Division "erred" in a March 9 ruling that upheld the BPU's award of the \$300 million in zero-emissions credits (ZECs). (See Appeals Court Backs NJ Nuclear Subsidies.)

The ZEC program provides subsidies to nuclear power plants at risk of closure so that they can remain open to generate carbon-free power and help the state meet its goal of reducing greenhouse gas emissions by 80% by 2050. The BPU awarded the \$300 million in ZECs to Hope Creek, which is owned and operated by PSEG, and Salem Units 1 and 2, which PSEG operates and co-owns with Exelon. (See NJ Approves \$300M ZECs for Salem, Hope Creek Nukes.)

In a separate action on April 9, the Rate



Hope Creek Nuclear Generating Station in New Jersey | Peretzp, CC BY-SA 3.0, via Wikimedia

Counsel urged the BPU not to renew the ZECs. It argued that the two companies had failed to show that without the subsidies, the nuclear plants would lose money, or that the level of subsidies they are seeking is "affordable to New Jersey retail distribution customers."

The BPU is expected to vote in the coming weeks on whether to extend the ZECs for another three-year period.

PSEG declined to comment on the Supreme Court petition. Instead, the company referred to its filing with the BPU that argues that even with the \$300 million in ZECs, the companies would not generate enough revenue to cover the "risks inherent in the plants' operation." Without a subsidy of the proposed amount, PSEG would "take steps to close the plants," the company said.

Asked for a comment on the Rate Counsel's two actions, Exelon referred to PSEG's response.

Staff Decision Rejected

The three-judge appellate panel made its ruling in response to a suit filed by the Rate Counsel after the BPU first awarded ZECs to PSEG and Exelon in March 2019. The agency, which is charged with protecting ratepayers' interests, argued that the ZECs were arbitrary and capricious and that none of the plants need them to remain financially viable.

In preparation for the BPU's 2019 decision on whether to award the ZECs or not, staff found that all three units would operate profitably through May 2022. As a result, staff concluded that they were not eligible for the subsidies.

But the BPU rejected that conclusion. It said the evaluation team had improperly excluded from its calculations consideration of PSEG's operational and market risks. In dismissing the Rate Counsel's suit, the appellate court agreed, saying that the legislature clearly intended the BPU to consider the "costs and risks" in considering the eligibility of applicants seeking a ZEC award.

The Rate Counsel told the Supreme Court that it will argue that the BPU made the award based on factors "other than the eligibility criteria" set out in state law. Among the arguments cited by the division were that the appellate court adopted BPU quantification of operational and market risks and costs, rather doing the analysis itself.

It also argued that the appeals court ignored the transcript of the BPU meeting in which commissioners explained the bases of their decisions and "effectively" overruled a past legal decision that required that rates be just and reasonable.

BPU Submissions

The Rate Counsel's brief to the BPU argues that PSEG's arguments "fall short" of proving that it needs the subsidy and that it needs to be at the proposed level.

"When the board takes a close look at the evidence in this matter, it is clear that PSEG overstates its projected costs, including the costs of operational and market risks, and understates its projected earnings," the Rate Counsel said. "PSEG continues to rely on phantom costs that either do not exist or are not paid out as part of its operating expenses.

"Likewise, PSEG understates its revenues, understating both its energy and capacity revenues, while overstating the risk to earning capacity revenues."

It also argued that PSEG's calculations of the "emissions avoidance benefits" of keeping the plants open are also flawed because they are based on data for the Eastern U.S. and Canada. rather than areas that directly impact New Jersey's air quality.

In its own filing, PSEG said that the counsel's arguments are a simply a "rehash" of those made to, and rejected by, the legislature, BPU and Appellate Court.

PSEG said that the award of \$300 million, the "maximum that the current law allows, is justifiable as a bridge to a longer-term solution for these plants that will place them on a firmer financial footing for the duration of their licenses."

"The continued operation of these plants will significantly reduce carbon emissions and increase the resilience of the state's energy system, and will do so at a cost per megawatt-hour that is vastly more cost-effective to electric customers than wind or solar." PSEG said.

"Keeping these plants in operation," it added, "in fact will keep electricity costs to customers lower than they otherwise would be by hundreds of millions of dollars over the three-year ZEC period." ■



FERC Rejects GreenHat Arguments in Shell Case

By Michael Yoder

FERC on Thursday rejected GreenHat Energy's contention that the commission erred in its November ruling in a dispute between the company and Shell Energy North America following GreenHat's 2018 default (EL20-49).

The November order partially granted Shell's petition for declaratory order, finding that, under the PJM tariff, entry of data into the Financial Transmission Rights (FTR) Center for bilateral trades "does not automatically establish standalone bilateral contracts at the stated price, absent a separate agreement by the parties." The FTR Center is PJM's tool that market participants use for submitting bids into the auctions prior to it going live.

Shell petitioned FERC in May to intercede in a Texas state court case in which GreenHat filed a breach-of-contract claim against the energy company regarding bilateral contracts to transfer FTRs, saying Shell owed \$68 million based on entries in the price field of the FTR Center for trades of around 3,870 FTRs. (See Shell Energy Seeks to Avoid Liability in GreenHat Trades.)

The commission in November declined Shell's request to assert "primary jurisdiction" to resolve the dispute under Texas law as to whether the two companies entered into contracts that Shell would make payments based on entries in the FTR Center, allowing the case to proceed.

In its rehearing request to the November order, GreenHat asked that the commission "clarify that it is not prejudging the merits of either the Texas state litigation or any subsequent commission enforcement proceeding" in its order, including the question whether "parties can bilaterally contract on FTR Center without any other express contractual agreement beyond what occurred on FTR Center."

GreenHat stated that the commission's description of the FTR Center as "merely a reporting mechanism that would require a separate agreement to establish payment obligations" could be interpreted as prohibiting the FTR Center from "serving as anything beyond a reporting mechanism." The company requested that FERC clarify that it had "neither opined on state contract law nor restricted parties who enter prices into the FTR Center from being bound contractually pursuant to state contract law."

The rehearing request was automatically denied when FERC did not act on it within 30 days. In Thursday's ruling, the commission said it disagreed with GreenHat's arguments that it "prejudged or interfered with the Texas state litigation," and that it "appropriately interpreted the PJM tariff, a matter squarely within the commission's jurisdiction."

"The commission has long recognized that state

courts have concurrent jurisdiction to consider contract interpretation issues," FERC said.

The commission also reiterated its defense of FERC's Office of Enforcement, which is investigating whether GreenHat violated the commission's Anti-Manipulation Rule.

GreenHat alleged that one or more members of the office's investigative team had met with Robert Anderson, an independent third-party expert retained by PJM's board to prepare the Report of the Independent Consultants on the GreenHat Default. The company said that FERC officials had a draft copy of the report and asked Anderson to "alter or remove language in the draft favorable to GreenHat." (See GreenHat Maneuvers to Remove FERC from Shell Case.)

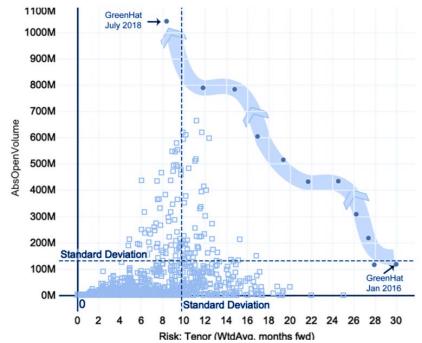
In the November order, FERC said the Department of Energy's Inspector General investigated the allegations and concluded there was "no

In its rehearing request, GreenHat argued that the commission denied the company due process in rejecting "without explanation," its June motion to bar FERC enforcement staff from participating in Shell's request for a declaratory order. GreenHat also petitioned the commission to disclose the findings in the Inspector General's investigation, saying that the "fairness of this proceeding and the reasonableness of the commission's denial of GreenHat's motion to bar are in doubt as long as the commission has failed to disclose the scope of the Inspector General's investigation."

FERC said it "has long held that a declaratory order proceeding is not an adjudication subject to separation of functions. ... The commission did not need to impose such protocols in this case because the instant proceeding concerns a dispute among the parties to this proceeding rather than between Enforcement Staff and any of the parties to this proceeding."

The commission said the Inspector General labeled its report "Official Use Only" and did not authorize the commission to disclose its findings other than to say there was no merit to the allegations.

"It is consistent with the Administrative Procedure Act (APA) and the commission's separation of functions regulations and policy for commission staff across offices to advise the commission," the order said. "In any event, regardless of GreenHat's allegations with respect to the Inspector General's investigation and report, enforcement staff's participation in this proceeding is proper under the commission's regulations and the APA."



Size and tenor of GreenHat's portfolio (quarterly 2016-2018) | PJM



PJM MRC/MC Preview

Below is a summary of the issues scheduled to be brought to a vote at the PJM Markets and Reliability and Members committees on Wednesday. Each item is listed by agenda number, description and projected time of discussion, followed by a summary of the issue and links to prior coverage in RTO Insider.

RTO Insider will be covering the discussions and votes. See next Tuesday's newsletter for a full report.

Markets and Reliability Committee

Consent Agenda (9:10-9:15)

B. The MRC will be asked to endorse proposed revisions to Manual 14D: Generator Operational Requirements regarding the Resource Tracker ownership confirmation requirement. At the Operating Committee meeting in March, stakeholders unanimously endorsed a "quick fix" to address information entered into the Resource Tracker application. (See "Resource Tracker Ownership Endorsed," PJM Operating Committee Briefs: March 11, 2021.)

Endorsements/Approvals (9:15-10:15)

1. Long-term Five-minute Dispatch and Pricing (9:15-9:30)

Members will be asked to endorse the proposed solution and associated tariff and Operating

Agreement revisions addressing the long-term five-minute dispatch and pricing changes. MC endorsement will also be sought. Stakeholders at the March Market Implementation Committee meeting unanimously endorsed a proposal by PJM and the Independent Market Monitor on the long-term five-minute dispatch evaluation that was under consideration for several months. (See "5-Minute Dispatch Plan Endorsed," PJM MIC Briefs: March 10, 2021.)

2. Capital Recovery Factor for Avoidable Project Investment Cost Determinations (9:30-9:45)

Stakeholders will be asked to endorse the proposed solution and associated tariff revisions addressing the capital recovery factor (CRF) for avoidable project investment cost determinations. The MC will also vote on the proposed solution. PJM said the CRF values on a table of section 6.8 of Attachment DD of PJM tariff needs updating to reflect current federal tax laws. (See "Capital Recovery Factor Endorsed," PJM MIC Briefs: March 10, 2021.)

3. Critical Infrastructure Stakeholder Oversight (CISO) (9:45-10:15)

The MRC will be asked to endorse the proposed solutions and changes to Manual 14B, Manual 14F and the Operating Agreement to address the mitigation and avoidance of future CIP-014 (critical infrastructure protection) facilities. The committee will be asked to separately endorse the proposed mitigation and avoidance solutions. (See "CISO First Read," PJM MRC/MC Briefs: March 29, 2021.)

Members Committee

Consent Agenda (1:10-1:15)

B. Stakeholders will be asked to endorse proposed revisions to Manual 34: PJM Stakeholder Process addressing motions and amendments. The revisions, which were under review for more than a year at the Stakeholder Process Forum, modify three sections in Manual 34. including a clarification on when members can bring an issue directly to the MC for a vote. (See "Manual 34 Revisions," PJM MRC/MC Briefs: March 29,2021.)

C. Members will be asked to approve proposed revisions to remove the transmission loading relief (TLR) buy-through congestion process from the Operating Agreement. TLR buythrough is a tool PJM uses to curtail interchange transactions that cause loop flow to the RTO around the time emergency procedures are being conducted to reduce the impact on a flowgate or a transmission facility. The process was created when PJM was fully within the Mid-Atlantic region and was issued more frequently than it is today, according to the RTO. (See "TLR Buy-through Quick Fix," PJM Operating Committee Briefs: March 11, 2021.) ■

— Michael Yoder



New Jersey Seeks OSW Transmission Ideas

Partnership with PJM Invites Developer Proposals

By Hugh Morley

New Jersey's Board of Public Utilities is looking for potential transmission solutions to deliver offshore wind energy to the power grid as the state rolls out its plan to deploy 7,500 MW of OSW by 2035.

The BPU on April 15 opened a 120-day window for developers to submit suggestions for improving or adding to four stages of the energy transmission process, in what the state sees as an unusual approach that taps into the expertise of PJM. The regional transmission organization will manage the solicitation process.

The four parts are:

- upgrades to the existing grid to allow for integration of wind energy,
- extension of the onshore grid to bring it closer to offshore wind generators,
- ways to reduce environmental impacts at the intersection of the offshore lines and land, and
- interconnections between offshore substations to create an offshore grid or "backbone."

The competitive solicitation strategy is the result of New Jersey's use of the "state agreement approach," under which the BPU requested that PJM integrate the state's OSW goals into the RTO's Regional Transmission Expansion Plan process. New Jersey was the first state do so since the approach was approved by FERC under Order 1000. (See NJ Asks PJM to Seek Bids for OSW Tx).

"New Jersey is the first and only state to utilize this approach with PJM, and we are pleased to see it moving forward smoothly," BPU President Joseph Fiordaliso said. "Through this process, we are leveraging PJM's transmission planning expertise to ensure we achieve our offshore wind goals in an economically efficient, environmentally sensitive and timely manner."

Array of Options

The solicitation process will enable BPU Staff to "evaluate a wide array of ready-to-build transmission options that otherwise may not have been available at this stage of offshore wind development," according to the BPU's release.

All solicitations must be received by Aug. 13, at

which point the BPU will determine whether any of the proposals, or a combination of them, meet the state's policy goals for OSW development. If the agency concludes that none do, it can terminate the process at any time without picking any of the bidders.

The opening of the solicitation comes as New Jersey moves forward with the first two of several expected OSW projects. The first project, awarded by the BPU in June 2019, will be Ørsted's 1,100-MW Ocean Wind project, which is the focus of public hearings the Bureau of Ocean Energy Management is holding this month. The BPU opened a second project solicitation, for projects between 1,200 and 2,400 MW, in September and expects to announce the winning bids in June.

For these initial two projects, the BPU required developers to include plans for transmission and connection to PJM in their proposals and to include the cost of the state's Offshore Wind Renewable Energy Certificate (OREC) funding mechanism. Under the mechanism, New Jersey power suppliers agree in advance to buy ORECs, tradeable certificates linked to the amount of wind power the developer expects the project to generate.



Shutterstock



SPP MOPC Briefs

Overburdened with Tx Planning Work, Staff Looks for Help

SPP stakeholders last week narrowly rejected a proposal that would have waived producing an economic study in 2023, a move that would help relieve staff burdened by conducting three transmission studies at the same time.

Markets and Operations Policy Committee members voted down a motion to skip the economic and policy requirements in the 2023 Integrated Transmission Plan 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.

The measure gained 65% approval, two percentage points short of passage. Transmission owners approved staff's recommendation by a 14-3 margin, but transmission users rejected it 22-20, with five abstentions.

Staff said the waiver is necessary to help take the 2021 ITP plan out of red status. SPP planning personnel are stretched thin by the number of studies and initiatives they are involved in and by the "waterfall" approach to the ITP process. Staff are currently involved in the joint transmission interconnection queue study with MISO, FERC Order 2222 and initiatives in energy storage resources and transmission's value.

"We've never been at a more important phase

in our evolution as an industry today," ITC Holdings' Alan Myers said. "[The economic] analysis is very important for staying up with that. We look at planning as a core function of SPP. It's a food-and-shelter type of item. We think the economic and policy portion of that fits right down the fairway."

SPP transitioned the 2021 ITP to yellow in July 2020 as it consistently took a back seat to completing the 2020 ITP. Staffing has been an issue as well, with 35% turnover in the planning team during the last few years and the unplanned work-from-home schedule as a result of the COVID-19 pandemic. The 2021 plan, the first of three other overlapping studies in the same cycle, is currently 77 business days behind schedule.



Casey Cathey, SPP I SPP

"We really have to think through the unintended consequences of these robust studies," Casey Cathey, director of system planning, said. "I'm a fan, but it impacts things downstream. With several plans under our belt, we have a lot more experience in

what works and what doesn't."

COO Lanny Nickell said staff will take the same proposal to the Board of Directors when it meets on July 27. That will allow time to consider another option to keep the 2023 economic study intact, he said.

"We may need to commit to spend some consultant money to prevent us from compromising or risking the 2021 ITP this year," Nickell said. "We want to ensure the board understands there could be some costs" associated with delaying the decision until the next MOPC meeting in July.

Asked whether that would solve the problem later or just require SPP to spend more money up front, Nickell said the 2021 ITP cannot be placed at risk.

"There's no guarantee [that] whatever we come up with in fact meets our needs," he said. "This is challenging, because you have to pick from a portfolio of activities, some of which have already occurred. It's a matter of putting together what we think is the right package of priorities that we can accomplish."

Cathey said the Strategic and Creative Re-engineering of Integrated Planning Team's (SCRIPT) work on long-term planning issues and developing a comprehensive initiative roadmap, which includes planning, will help reduce risk in the future.

For the time being, staff is also developing a three-year resource stack to view and address future constraints, building backup support, and prioritizing high-value, effective and efficient improvements to the ITP process.

"Based on the 2021 ITP, we're moving forward with 2022 activities," Cathey said. "Given everything else we have committed to in the next 24 months ... something will have to slide."

SPP did get a boost when the MOPC unanimously approved two other motions related to the ITP process: waiving requirements to build and assess a market economic model developed during the 2021 reliability needs assessment, and sliding the 2021 ITP's end date from October to December.

Winter Storm Review

SPP's comprehensive review of the February winter storm's aftermath continues, with a final report due in July.

"We do think we did a lot of things well," Nickell said, acknowledging the RTO's first-ever load sheds. "It's important to recognize the things that did not work out well. We have to ensure that gets documented as well."

Nickell, who chairs the steering committee















Tribute to a valued SPP member: During the MOPC meeting, SPP staff and stakeholders shared memories of Ron Thompson of the Nebraska Public Power District, a devout Packers fan and a key member of several working groups, who died March 4 at age 62. | SPP



managing five parallel paths — operational, financial, communications, regulatory and the Market Monitoring Unit — said the team has two goals: ensure an understanding of what happened during the event and assess SPP's performance in a transparent process.

"We want to make sure the recommendations improve future performance," he said.

Several stakeholder groups have been meeting weekly, often in executive session. Some stakeholders pushed back, noting the work behind closed doors does not meet the transparency goal.

Evergy's Denise Buffington, who is leading the operational review along with Omaha Public Power District's Joe Lang, said the team is operating on a tight timeframe but plans to open the door to others soon.

"I ask for a little bit of patience as we work through the process," Buffington said, suggesting stakeholders reach out to her, Lang or Nickell with any topics they want addressed.

CFO Tom Dunn said SPP settled \$2 billion worth of market transactions during the first few days of the sub-freezing weather, which enveloped much of the Midwest. That is a hundred times the RTO's normal weekly settlements.

"We're looking at the efficiency of our process ... and the effectiveness of our controls," Dunn said. "The exposure to the market participants was quite substantial."

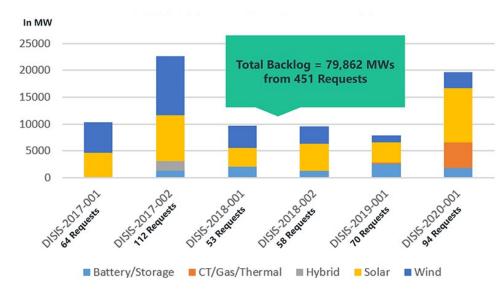
"There was definitely some interesting pricing during the event, both with levels we've never seen before and the volatility around that," MMU Executive Director Keith Collins said.

The market costs were driven by "astronomical" natural gas prices that shot up over \$1,000/MMBtu towards the end of the week," Collins said. The Monitor has been working to verify energy offers above SPP's \$1,000/MWh safety-net offer cap, which could result in as much as \$1 billion in make-whole payments. (See SPP MMU Quarterly Report Focuses on Winter

SPP staff is also responding to informational requests by FERC, NERC and the Midwest Reliability Organization.

GI Backlog a Pressing Issue

SCRIPT members and the sub-teams working to re-engineer SPP's transmission planning processes shared their progress thus far on two of the more vexing issues: reducing the generator interconnection queue's backlog and consolidating planning assessments.



SPP's current GI interconnection queue | SPP



David Kelly, SPP | © RTO Insider LLC

David Kellev. SPP's director of seams and tariff services, said staff is developing an interim solution for the GI backlog while the SCRIPT works on longterm planning recommendations.

SPP's current backlog includes 451 interconnection requests totaling 79.9 GW. As an example of the backlog's age, staff is about to begin the first phase for the 2017-001 definitive interconnection system impact study (DISIS) cluster. The largest study cluster - 2017-002, at 112 requests for nearly 23 GW of capacity — is next, with four additional clusters lined up to follow.

"We're pretty anxious to get that one started," Kelley said of the 2017-002 cluster.

One of the keys to the mitigation plan is eliminating restudies following a project's withdrawal from the cluster.

"We can't continue to have [restudies] and eliminate the backlog," Kelley said. "Late-stage withdrawals always lead to a restudy. We have to incentivize the decision-making earlier in the study process."

Staff and stakeholders have already collaborated on a three-stage study process for *generator* interconnections. (See FERC OKs New SPP Interconnection Process.) However, as Kelley pointed out, that wasn't designed "to get us out of the multiyear backlog we're in."

The mitigation plan adds new readiness requirements and measures, firmer financial

commitments, streamlined studies and a "backstop" process that would "clear a path" for future improvements. Backstop interconnection studies would address "very limited circumstances" should DISIS efficiencies and improvements be insufficient to mitigate expected resource adequacy deficiencies, Kelley said.

The three-stage study timeline takes about 485 days; one DISIS' completion leads into the beginning of the next study cluster.

Kelley said he is proposing something "a little novel, at least for us:" after completing the first study phase of one cluster, staff would begin the second phase while also starting the first phase of the next study cluster. Stakeholder feedback to that proposal has been positive, but they have pushed back against combining the clusters.

Staff has also reduced the number of models required for a cluster study, from more than 400 to about 80. Kelly said staff believes the changes will help complete each study in one year or less.

"We believe we can eliminate the backlog by 2024," he said.

Separately, the SCRIPT consolidation subteam, charged with melding together the ITP, generator interconnection, and transmission service planning and study processes, is proposing to remove or modify outdated or unneeded processes, reduce the number of model sets and develop a consolidated planning assessment.

Kelsey Allen, lead engineer in transmission planning, called the latter proposal "the big one."



"We need to develop a transmission plan that suits the needs of all in the most cost-effective way and preserves reliability," he said. "Ultimately, In the long term, we can gain efficiency from a staffing perspective just by combining these assessments with the staff we have. We're really going to have to look at where our process efficiencies are, and what we can automate."

The 20-year assessment and proposed interregional projects' evaluation will not be touched.

Allen said the sub-team will work with SCRIPT over the next few months to develop a timeline and better understand the costs. He suggested that the consolidated planning assessment might not start until the GI backlog has been addressed.

The SCRIPT plans to present a final report to the board in October.

Panels Highlight Diversity, Equity Goals

Stakeholders participated in two staffmoderated panel discussions focused on differing perspectives, given MOPC's 105 members representing about a dozen different sectors. The panels were part of the committee's diversity, equity and inclusion goals.

"We're trying to learn more about each other," Buffington said.

SPP Board Chair Larry Altenbaumer complimented members on the panel discussion.

"We have new types of members and new types of interest," he said. "There are some huge win-win opportunities out there for us."

Unanimous OK for Consent Agenda

MOPC's consent agenda passed with 97% approval after members pulled a revision

request based on NextEra Energy Resources' concern that the measure (RTWG RR430) makes it difficult to gather required information from turbine manufacturers.

"Our goal is to ensure [that] what is ultimately installed is accurate and SPP knows what is on the system," said NextEra's Jack Clark, who offered language to allay his company's concern.

The Regional Tariff Working Group will consider NextEra's suggested language and bring the measure back to the July MOPC meeting.

MOPC endorsed nine revision requests on the consent agenda:

- ESWG RR448: removes the renewable portfolio standards table from the ITP Manual. eliminating the need for future waivers over the table's mismatches between the ITP Manual and ITP scope study.
- MWG RR441: performs minor clean-up of items discovered during the development of RR361 (Ramp Capability Products) and deletes language specific to deselect flags for ramp products, as they will not exist for ramp products.
- MWG RR442: aligns updated language with the intent approved in RR288 (DVER Dispatch Instruction Rules Clean-up), which modified the definition of "desired energy" and updates settlements definitions for three determinants.
- MWG RR444: adds variable definitions inadvertently missed in RR323 (Order 841 Compliance ESR) and RR425 (Order 841 ESR Settlements Correction) and moves some variable calculations to sections where the variable was first introduced.
- MWG RR445: adds Martin Luther King Jr. Day

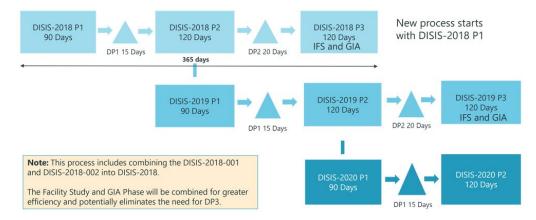
as an official SPP holiday, replacing Presidents' Day.

- ORWG RR443: recommends approval of Business Practice 7800 (Resource Retirement Study) and addresses language requiring additional analysis for retiring resources that provided energy for more than four months over the previous 24-month period.
- RTWG RR437: clarifies the start date as the receipt of a customer's executed study agreement, deposit and technical information when SPP conducts impact studies for new surplus interconnection service requests.
- RTWG RR447: modifies the megawatt-mile process to reduce the number of needed or requested model reruns.
- TWG RR435: modifies the generator interconnection study process for upgrades required to mitigate every outage-based constraint.

The consent agenda also included:

- the Economic Studies Working Group's recommendation to modify the 2022 ITP's scope giving staff flexibility to choose between MTEP model series for external load forecasts and to use a 50/50 solar-to-wind mix for policy additions;
- a 26.3% cost reduction for a 115-kV Southwestern Public Service project, resulting in a \$16.1 million baseline estimate; and
- recommended endorsements of sponsored upgrade studies for East River Electric Power Cooperative projects involving a 3.6-MVAR capacitor bank and a tap replacement with a 115-kV substation and moving two 69-kV lines. ■

Tom Kleckner



Each DISIS Cluster Processed in 365 days (or less) contingent on efficiencies from model and group reductions.

SPP is proposing to accelerate the process of completing cluster studies by starting the next study before the previous one is complete. | SPP



SPP Strategic Plan Begins to Take Form

SPP's Strategic Planning Committee last week approved draft mission, vision and valueproposition statements, a step in the development of a new strategic plan that has been a year in the making.

The new mission statement adds "responsibly" and "economically" to the one it has had for 35 years. It reads, "Working together to responsibly and economically keep the lights on today and in the future."

SPP Chairman Larry Altenbaumer said the previous mission statement had "stood the test of time," but time continues to move on.

The vision statement calls for the RTO to lead the industry "to a brighter future while delivering the best energy value."

SPP's value proposition has also been updated. It calls for the grid operator to:

- deliver superior services,
- drive value beyond reliability,
- build and maintain trusted relationships,
- achieve collaboratively and engage passionately, and
- embrace and promote diversity.

Pending the board of directors' approval next week, the value proposition would replace the more familiar "relationship-based, member-driven" organization that was "evolutionary, not revolutionary," considered "reliability



SPP Chairman Larry Altenbaumer has been spearheading the RTO's new strategic plan. | © RTO Insider LLC

and economics [to be] inseparable" and valued diverse perspectives.

The SPC last year engaged Strategic Offsites, a management consulting firm, to help the committee draft a new strategic plan. The strategy will be refined in the coming months before being shared publicly before the October governance meetings.

Return to Office

SPP CEO Barbara Sugg told the committee

that staff will be returning to the office on a limited and voluntary basis, beginning May 10 if local COVID-19 infection rates don't worsen. The grid operator's leadership will determine whether to allow more volunteers to return to the office following the first phase.

Sugg said she hoped that SPP could have a limited number of in-person attendees for its July governance meetings, but she advised members not to make travel plans yet.

- Tom Kleckner

SPP Hires Human Capital VP

SPP has hired human resources veteran Kelly Carney to serve as its vice president of human capital and chief people officer, the RTO said last week.

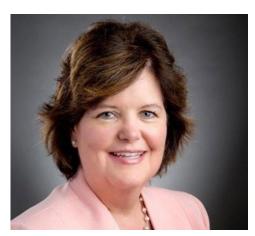
Carney will partner with the executive team and board of directors on HR planning, allocation and organizational goal setting. She will lead the human resources department, staff performance development and SPP's diversity, equity and inclusion program.

"Our most important asset is our people, and her broad experience across the human capital spectrum will help us attract, develop and retain top-tier employees," CEO Barbara Sugg said in a press release. "Kelly's contributions will undoubtedly help keep SPP a premier employer in central Arkansas."

Carney has more than 20 years of HR experience. She most recently served as vice president and chief administrative officer at Delta Dental of Arkansas. She's a past president of the Central Arkansas Human Resources Association and member of the Arkansas Compensation Association.

"The strong culture and relationship-based approach to doing business at SPP is very impressive," Carney said. "Everyone I talk to expresses their pride in the organization and the work they do. I am looking forward to being a part of the mission."

Tom Kleckner



Kelly Carney | SPP

Company Briefs

Eversource Joins Utilities Planning National EV Charger Network

EVERSURCE

Eversource last week

announced it is joining the Electric Highway Coalition, a group of utilities aiming to build a national network of high-speed electric vehicle chargers. The company is the first from the Northeast to join the group.

Eversource Clean Energy Strategy Manager Kevin Boughan said the utilities' priority is the kind of charger that can deliver a fill-up in about 20 minutes. Eversource's territory has only a handful of those chargers. However Boughan said the company has funding and state approval to add more in Massachusetts and expects to launch similar initiatives in New Hampshire and Connecticut this year.

More: NHPR

NextEra Energy Partners to Acquire Wind Portfolio

NextEra Energy Partners last week an-

nounced it has entered into an agreement with Brookfield Renewable to acquire a 391-MW portfolio of four operating wind assets in California and New Hampshire for \$733 million.

The assets include the 150-MW Alta Wind VIII. the 120-MW Windstar and the 22-MW Coram facilities in California, and the 99-MW Granite facility in New Hampshire.

The deal is subject to approvals from FERC and the New Hampshire Site Evaluation Committee, as well as expiration or termination of the waiting period under the Hart-Scott-Rodino Act.

More: NextEra

Southwire Secures Vineyard Onshore Wire Job



Vineyard Wind last week announced it has contracted Southwire to design, manufacture and install

roughly 31 miles of onshore cables for the 800-MW Vineyard 1 offshore wind farm off the Massachusetts coast.

The cable will be part of the grid system that will provide power from 62 GE turbines. Completion of the contract is projected for the first quarter of 2023; the start of turbine installation is planned for summer 2023.

More: Renews

Tesla Supplier Pegatron Building Parts **Plant in Texas**



Taiwanese electronics manufacturing company Pegatron has selected El Paso, Texas, as the site for a production facility that will provide parts to Tesla, according to reports in the Taiwanese

Newspaper the Commercial Times.

Pegatron said the details of its U.S. plant, including its exact location and cost, are still in the planning stages. But the company did say back in November that it intends to set up a production facility in the U.S. to be closer to its clients.

More: TeslaRati

Federal Briefs

California, NASA to Launch Methane-tracking Satellite



California and NASA last week unveiled a \$100 million effort to pinpoint large emissions of greenhouse gases from individual sources using

two satellites in space.

The partnership between the state, U.S. space agency, satellite company Planet and four other institutions will launch its first satellites in 2023 and is part of the growing use of space-age technology to locate big sources of methane. The Carbon Mapper satellites will use technology developed by NASA's Jet Propulsion Laboratory to see and measure individual facility emissions. The data will be shared publicly, but companies can subscribe to get access to the data sooner.

The project will use \$100 million in funding from philanthropic groups.

More: Reuters, Los Angeles Times

EPA says US Emissions Dropped 1.7% in 2019



U.S. greenhouse gas emissions dropped by 1.7% in 2019 compared with 2018, according to a report released by the EPA last week.

The report attributed the drop to a decrease in carbon dioxide emissions from fossil fuel combustion: It was the result of both a 1% drop in total energy use and a shift away from coal.

The 1.7% decrease also represented a 13% decrease compared with 2005 levels.

More: The Hill

Executives Call for Deep Emission Cuts to Combat Climate Change

More than 300 businesses are pushing the Biden administration to nearly double the United States' target for cuts to greenhouse gas emissions ahead of an April 22 global summit on climate change.

In a letter to the president, CEOs from some of the nation's largest companies called on the administration to set a new Paris Agreement goal of slashing the nation's greenhouse emissions at least 50% below 2005 levels by 2030. According to two administration officials, the target is expected to be a range that will include a 50% reduction.

Under the Paris Agreement, nearly 200 nations set their own voluntary targets for cutting emissions by 2025. The rules of the accord do not punish countries for failing to meet the goals but do require countries to set them. The U.S. is less than halfway to its original goal.

More: The New York Times

Report says US Halfway to Green Grid by 2035

A recent report from the Lawrence Berkeley National Laboratory said that U.S. greenhouse gas emissions were 52% lower in 2020 than the EIA predicted 15 years ago.

While power-sector emissions fell 40% from 2005 to 2020, much of that was driven by

cheap natural gas dethroning coal as the dominant fuel for power plants. However, gas is not carbon free, and further cuts will require greater adoption of clean technologies such as energy storage.

The analysis comes as world leaders prepare for President Biden's climate summit, where the White House is expected to unveil a climate pledge that's double the target set by President Barack Obama. Biden has said

he wants to rid the grid of emissions within 15 years and achieve a fully carbon-zero economy by 2050.

More: Bloomberg Green

State Briefs

ARKANSAS

Central Arkansas Water Breaks Ground on Solar Array

Central Arkansas Water, the state's largest water utility, broke ground last week on a planned 4.8-MW, 30-acre solar array. It is the first project approved by the Public Service Commission to exceed 1 MW.

Scenic Hill Solar will construct and operate the plant under a 20-year agreement with the utility.

The project is expected to be operational before the end of the year.

More: Arkansas Democrat Gazette

INDIANA

Renewable Energy Standards Bill Dies After Pushback



A bill that would have established statewide standards for wind and solar projects — but was amended to grandfather counties' more restrictive ordinances — died on the Senate floor last week.

The Association of Indiana Counties said the amended bill addressed "most if not all" concerns about local control. The changes included grandfathering in ordinances passed before July 1 of this year, even if they restricted or banned renewable projects. The appeals process for project decisions was also moved into local courts and established a one-time installation fee to be paid by the company to the local government. But upon further review, the association said while it acknowledged the amendments, it was not enough as there are 34 counties with ordinances that restrict wind and solar projects

or prohibit construction altogether.

"County officials feel strongly that local planning and zoning authority should remain in the hands of local officials," said Ryan Hoff, director of government relations with the group. "The loss of local control after July 1 would have prevented counties from being able to respond to changing circumstances in the future."

More: Indianapolis Star

IOWA

Worth County Passes Commercial Wind Moratorium

The Worth County Board of Supervisors last week passed a temporary moratorium on commercial wind projects.

The board had tabled the proposed moratorium earlier this month after a discussion turned to a broader topic: whether countywide zoning is needed. Board members AJ Stone and Enos Loberg said they wanted time to study implementing county-wide zoning, which would protect residents who don't want turbines near their property.

It is unclear what effect the moratorium will have on an ongoing project by Invenergy, which is in the midst of obtaining easements in Worth and Winnebago counties for a 30,000-acre wind farm.

The resolution has a sunset date of July 1, 2022.

More: Globe Gazette

KANSAS

Prohibition on Natural Gas Bans Becomes Law

Gov. Laura Kelly last week did not sign or veto the Energy Choice Act, which says no municipality can ban the use of natural gas. and let it become law.

Supporters of the bill framed it as giving customers a choice and said banning natural gas could lead to less energy competition, meaning higher utility rates.

More: The Topeka Capital-Journal

MINNESOTA

RNG Plant Planned for Landfill

Inver Grove Heights City Council last week approved a \$40 million plant that will covert landfill biogas into renewable natural gas.

Republic Services, which owns the Pine Bend Sanitary Landfill, will lease the land to Fortistar for the 12.000-square-foot facility. which is expected to be operational by March 2022.

Fortistar has built five RNG facilities and has three more in the works in Ohio, Florida and Inver Grove Heights.

More: Star Tribune

Xcel Hopes to Build Solar Plant in Becker



Xcel Energy last week filed plans with the

Public Utilities Commission to build the largest solar plant in the state: a \$575 million project adjacent to the company's Sherco coal-power complex in Becker.

The 460-MW plant would help replace generation that will be lost through the early retirement of Xcel's three Sherco coal generators.

If approved by the PUC, the plant would be built between 2022 and 2024.

More: Star Tribune

MISSOURI

PSC Approves Pact to Help Lowincome Utility Customers

The Public Service Commission last week approved a modified agreement between Ameren Missouri and the Office of the Public Counsel, which authorizes the utility to re-direct approximately \$3.5 million to help low-income customers needing assistance due to the COVID-19 pandemic.

Under the agreement, the \$3.5 million, which was originally scheduled to be used for a low-income weatherization program, will be re-directed: \$1.3 million to fund a low-income energy efficiency program; \$1.2 million to fund additional low-income energy assistance this year; and \$1 million to fund administrative costs for the agencies charged with administering the distribution of energy assistance funding to low-income customers.

The order is to begin in May.

More: News Tribune

NEW MEXICO

Retired Coal Plant to Host Hydrogenbased Project



Newpoint Gas and **Brooks Energy** Company last week announced plans to repurpose the

retired Escalante Generating Station into a zero-emission, hydrogen-fired power facility.

The partnership, known as Escalante H2 Power, recently signed a letter of intent with Tri-State Generation and Transmission Association to buy the retired 253-MW coal plant.

Newpoint has agreed to license its zeroemission modular design technology to Escalante H2 Power. The process incorporates a steam methane reformer with hydrogen purification to separate the hydrogen and carbon dioxide pre-combustion. Carbon sequestration takes place underground, and the pure hydrogen is used as fuel to produce steam and generate electricity.

More: Renewables Now

Santa Fe to Convert PNM Streetlights to LEDs

The Santa Fe City Council last week unanimously approved a plan to convert 2,060 streetlights owned by the Public Service Company of New Mexico to energy-efficient

The \$421,185 contract will allow the city to convert the streetlights to LED bulbs. The city had agreed to move forward on similar plans to convert about 3,500 streetlights in February.

According to a memo, the nine-month conversion project will save the city \$550,000 in electricity bills per year and reduce energy use by 50 to 60%.

More: Santa Fe New Mexican

NORTH CAROLINA

UC Signs Off on Duke Energy Orders on Rates, Coal Ash



The Utilities Commission last week signed off on

orders involving Duke Energy's two electric subsidiaries over their 2019 rate increase requests and a plan for how the company will pay to get rid of coal ash stored in the state.

The two orders approved "partial rate increases" for Duke Energy Progress and Duke Energy Carolinas. Progress wanted a 12.3% rate increase, while Carolinas sought a 9.2% increase. The final rates haven't yet been set, but the commission said they will be "somewhat higher" than last year's temporary rates.

The orders also approved a settlement on how coal ash clean-up costs would be divvied up. Duke Energy is working on closing all 31 of its coal ash pits or ponds in the state. The settlement would shift an estimated \$1.1 billion in expenses away from customers over the next decade and to the company and its shareholders.

More: News & Record

OHIO

Siting Board Approves Fulton County Solar Array

The Power Siting Board last week approved the 600-acre Arche Solar Project proposed for a site in Fulton County.

The project will comprise large arrays ground-mounted on a tracking rack system. The 107-MW array will be within a larger 1.000-acre site that will also contain access roads, an operations and maintenance building, overhead and underground electric collection lines and a 138-kW transmission line.

More: The Blade

OKLAHOMA

Senate Passes Tax on Energy Used to Charge EVs

The Senate last week passed a bill that would levy a 3-cent tax per kWh tax on the energy used to charge electric vehicles in public facilities. There would be no tax on EVs charging at home.

The bill also seeks to: charge registration fees for EVs based on weight and type; pro-



vide an income tax credit for charging taxes paid, not to exceed the EV's registration fee; exempts charging stations operational by Nov. 1 from charging the tax until 2041; and direct 85% of the revenue to a fund for road and bridge infrastructure and 15% to counties for their highway fund.

The bill heads to the governor.

More: KFOR

TENNESSEE

GM, LG to Build Battery Plant in Spring Hill



General Motors and LG Energy Solutions last week announced a joint venture to build a \$2.3 billion battery production facility next to GM's auto plant in

Spring Hill.

The 2.8-million-square-foot plant is scheduled to begin production by 2023. GM previously announced the Cadillac Lyriq electric SUV will be built at the complex. It is expected in showrooms in the first half of 2022.

More: Chattanooga Time Free Press

VIRGINIA

Birchwood Coal Plant to be Converted to Solar, Storage Facility

J-POWER USA last week announced it plans to repurpose the former Birchwood Coal Plant in King George County into a solar and energy storage facility. CEO and President Mark Condon said the move goes along with the company's plan to increase its renewable portfolio and continue efforts to build a cleaner sustainable energy future.

Birchwood closed on March 1, roughly a year after then-joint owners J-POWER and GE Power announced its retirement due to "market trends and facility economics."

Plans for the site call for a 50 MW solar plant combined with a 190 MW storage facility.

More: Virginia Mercury

WISCONSIN

PUC to Review Koshkonong Solar Farm

Koshkonong Solar last week filed for a certificate of public convenience and necessity with the Public Service Commission for a utility-scale 300-MW solar farm.

The review process is expected to take 6 to 12 months. The company hopes to begin construction in 2022 and have the farm operational by mid-2024.

More: HNG News

WYOMING

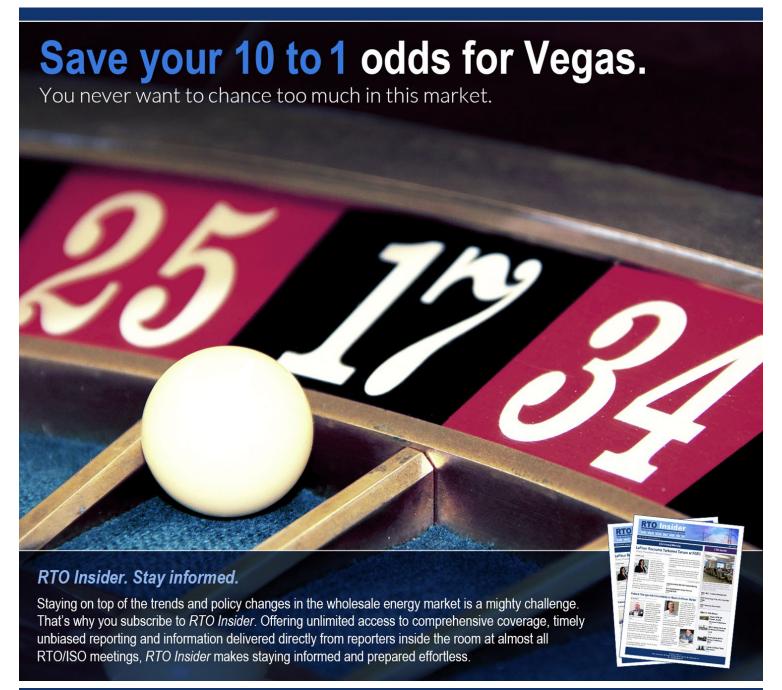
Gov. Gordon Signs Bills that Support **Energy Sector**

Gov. Mark Gordon last week signed three bills that reflect his support for the state's energy sector.

House Bill 166 will require public utilities to take additional steps before retiring coal or natural gas plants and would be required to demonstrate to the Public Service Commission that the retirements would not lead to added costs to ratepayers or less reliable service.

The governor also signed a bill that prohibits cities, towns and counties from implementing ordinances or policies that prohibit "the connection or reconnection of an electric. natural gas, propane or other energy utility service provided by a public utility." The bill protects customers from having to pay higher rates because of ordinances that might prohibit the use of a specific energy source. A third bill will provide an opportunity for oil producers to use natural gas that would normally be flared into the atmosphere for other productive purposes.

More: Wyoming Tribune Eagle





Getting the information you need shouldn't wear you out.



RTO Insider. Stay informed.

Staying on top of the trends and policy changes in the wholesale energy market is a mighty challenge. That's why you subscribe to RTO Insider. Offering unlimited access to comprehensive coverage, timely unbiased reporting and information delivered directly from reporters inside the room at almost all RTO/ISO meetings, RTO Insider makes staying informed and prepared effortless.