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International Partnering Forum 2022

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International Partnering Forum 2022

OSW Investments Bearing Fruit, but Industry Faces Growing Pains 'Becoming a National Industry'

By Rich Heidorn Jr.

ATLANTIC CITY, N.J. — The U.S. offshore wind industry is beginning to deliver on port improvements and other infrastructure, but it's also experiencing some growing pains, attendees at the Business Network for Offshore Wind's (BNOW) 2022 International Partnering Forum said last week.

The event drew about 2,700 people and 300 exhibitors from 25 countries.



Liz Burdock, CEO of the Business Network for Offshore Wind | © RTO Insider LLC

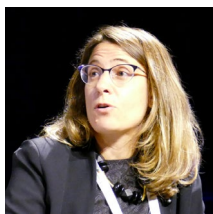
BNOW CEO Liz Burdock noted the progress the industry has made since last year's IPF: the \$4.37 billion New York Bight auction; the entry of six new offshore wind developers into the U.S. market; and the Biden administration's plans to lease seven new wind energy areas by

2025, including the West Coast and the Gulf of Mexico. With the latest procurements from Maryland and Massachusetts, the U.S. now has 19,580 MW in offshore wind under development.

"We've had nine primary component manufacturers start to establish operations and manufacturing on the East Coast. We've had more than 1,000 sub-supplier contracts given to businesses across 33 states," Burdock said. "Offshore wind is becoming a national industry."

Jane Cohen, executive director for New Jersey Gov. Phil Murphy's Office on Climate Action, expressed pride in the state's \$500 million investment in the *New Jersey Wind Port* in Salem County. "There are people there right now working to prepare that for the marshalling, the manufacturing. Five

years ago, we didn't have that; three years ago, we didn't have that. And today we have a real infrastructure asset for offshore wind in southern New Jersey. Same with our ... new monopile facility in Paulsboro. The first mono-



Jane Cohen, New Jersey Governor's Office on Climate Action | © RTO Insider LLC

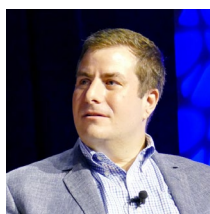


The Business Network for Offshore Wind's 2022 International Partnering Forum drew about 2,700 people to Atlantic City last week. | © RTO Insider LLC

pile is arriving on Friday."

More ports will be needed, industry officials say, to reach the Biden administration's goal of 30 GW of OSW by 2030.

"It's no surprise to anyone that ports are a significant limitation. They represent some of the longest lead ... infrastructure improvement items required," Joshua Weinstein, vice president and head of offshore development for Invenergy, said during a panel discussion Wednesday. "The ports are the places where manufacturing is completed. The ports are the places where staging is completed. They are the key enablement to not only delivery of components, but also installation of components. And that is, by and large, the scarcity that we have here in the U.S."



Joshua Weinstein, Invenergy | © RTO Insider LLC

Cost Pressures

There was much optimism at the conference. Clint Plummer, CEO of Rise Light & Power, a subsidiary of LS Power, said offshore wind is becoming more competitive with other sources of generation.

"I've been in this industry for 15 years, and when we started this back in 2007, offshore wind was seen as this wildly expensive science project. Cape Wind was way too expensive,

right? The Delaware project was way too expensive," he said, referring to two canceled projects. "But now, projects like South Fork [off Long Island] are showing that it's actually cheaper to use offshore wind to supply renewables to densely populated coastal areas."

Others, however, said they are concerned by thin margins, rising lease prices and supply chain problems.



Stephen Bull, Aker Solutions | © RTO Insider LLC

Stephen Bull, executive vice president for renewables for Aker Solutions, an Oslo-based engineering company, cited research that every offshore wind turbine in Europe generates 10 million euros in economic activity annually. Europe has about 5,500 offshore wind turbines producing 25 GW.

"There are about 250 factories in Europe producing turbines and their parts. And the wind sector employs about 300,000 people in offshore wind alone," he said.

But he said many in the industry are struggling with thin profit margins, in part because of supply chain problems resulting from the COVID-19 pandemic and Russia's invasion of Ukraine.

"Pushing all this risk back onto the supply chain is not the answer," he said. "A new deal between developers and the supply chain is

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required. The traditional procurement model of playing supply chain companies against each other, overloading them with risk, obsessively pushing down towards lump sum contracts — that really cannot continue.”

Instead, Bull called for a “collaborative approach.”

“Some examples could be setting leveled cost of energy targets together; incentivizing around value improvements; ensuring a new level of transparency or ‘open book’ approach; employ a most-likely cost concept for greater risk sharing; and also defining a healthier mix between reimbursable and lump sum contracts,” he said. “We need to devise a risk-reward structure that gives sustainable rewards for everybody. Perhaps the U.S. is the market that we can crack the code for this.”



Laura Beane, president of Vestas North America | © RTO Insider LLC

“Market volatility and cost competitiveness have become key industry challenges,” said Laura Beane, president of Vestas North America, which will supply turbines for the 2.1-GW Empire Wind project. “The U.S. market will need to

adapt to build and maintain an economically viable offshore industry that is sustainable over the long term and free from the boom-and-bust cycles that have largely defined the clean energy buildout here.”

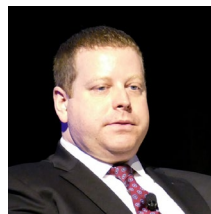
Plummer also expressed concern.

“Offshore wind leases are now really expensive. The New York Bight auction showed that for the first time in the history of American offshore wind industry, the cost of the lease itself is now going to be a non-trivial part of the overall capital expense of that project and, therefore, a non-trivial cost to ratepayers,” he said.

Federal Reinvestment Sought

BNOW’s Burdock called for a “national industrialization strategy,” saying the industry was not capturing the value it will provide in economic benefits, energy security and mitigating climate change.

“Wedges between social and private costs or returns lead to inefficient markets, and in some cases, they may even prevent markets from emerging. A low-cost pricing structure could eventually hold this industry back,” she said.



Sam Eaton, executive vice president of offshore development in the Americas for RWE | © RTO Insider LLC

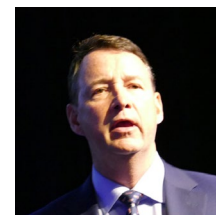
“The federal government and Congress must match the states’ swift and bold actions to create an offshore wind market with equally swift and bold actions to create a U.S. offshore wind domestic supply chain. We need incentives, policies and programs that help businesses overcome

challenges and create resiliency.”

Sam Eaton, executive vice president of offshore development in the Americas for RWE, also said the federal government should do more to nurture the industry.

“The states have done a fantastic job. ... I think we can’t say enough about all the great work that’s been done over the last five years. But I think at the federal level, there’s a little bit more we can do. And I think the \$4.5 billion that we’re talking about for New York Bight offers one of those great opportunities,” he said. “That’s money that should be reinvested in this industry, to help us make the clean energy transition.” (See [Fierce Bidding Pushes NY Bight Auction to \\$4.37 Billion](#).)

Invenergy’s Weinstein agreed, calling for investment in risk mitigation, workforce training and ports development.



Bill White, CEO of Avangrid Renewables | © RTO Insider LLC

Despite the growing pains, Bill White, CEO of Avangrid Renewables, said the industry has a solid foundation.

“The problems that we have as an industry are beautiful problems to have. We are working too hard, and we’re too busy. We’ve got too many [requests for proposals] to respond to. We’ve got too many contracts to deliver. We’ve got too many projects to negotiate,” he said. “Isn’t this what we all wanted?” ■



About 300 organizations and companies from 25 countries exhibited at the International Partnering Forum, including delegations from Virginia, Maryland and North Carolina. | © RTO Insider LLC

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Offshore Wind Conference Highlights NY, NJ Transmission Plans

Interregional OSW Grid Pitched

By Rich Heidorn Jr.

ATLANTIC CITY, N.J. — As the U.S. offshore wind industry prepares to put steel in the water, it is paying increasing attention to how it will deliver its power to load centers.

At the Business Network for Offshore Wind's 2022 International Partnering Forum last week, much of the discussion focused on the challenges and opportunities of an offshore transmission grid and how New Jersey and New York are approaching the puzzle.

No to 'Reactive' Planning

The conference's theme was "Keep, change, toss."

"We're going to talk about keeping policies or practices for mature markets that strengthen the industry and changing or tossing practices that weaken the industry," explained Liz Burdock, CEO of the Business Network. One practice to toss, she said, is the "outdated grid and transmission planning processes."



Clarke Bruno, Anbaric Development Partners (right), speaks on a panel with (from left) Kent Herzog, 1898 & Co.; Jennifer Ayers-Brasher, RWE; Andy Geissbuehler, Atlantic Power Transmission, and Clint Plummer, Rise Light and Power. | © RTO Insider LLC

New York Seeks to Protect Tx Options with Mesh-ready OSW

By Rich Heidorn Jr.

ATLANTIC CITY, N.J. — New York officials told the Business Network for Offshore Wind's 2022 International Partnering Forum last week that they are considering doubling the state's initial 9-GW offshore wind target.



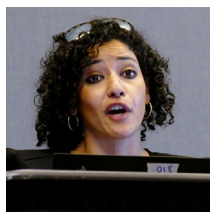
NYSERDA CEO
Doreen Harris | © RTO Insider LLC

"One thing we'll be starting this year is the next Offshore Wind Master Plan, focusing on deep water," said Doreen Harris, CEO of the New York State Energy Research and Development Authority (NYSERDA). "Because we know ... time is not on our side with respect

to climate change."

Laila El-Ashmawy, a project manager with NYSERDA's OSW team, noted that 9 GW represents a third of the state's energy demand. "But we're also considering that that might double" with electrification of transportation

and building heating, she said. "And so when we really think about how much offshore wind [we need], we're not really thinking about this nine-year cycle. We're thinking about ... an economy-wide decarbonization by 2050. So we expect this number to be ... on the order of 15 to 20 GW of offshore wind. So, while we know 9 GW is challenging enough to plan for ... the totality of those goals are what's driving our transmission planning."



Laila El-Ashmawy,
NYSERDA | © RTO Insider LLC

Mesh-ready Requirement

The state's 2021 power grid study concluded the current grid can handle 9 GW of OSW based on radial lines from each wind farm. "To do that, effectively, we need about 6 GW going into New York City, where most of our demand is. And that already starts to trigger a key limitation we have, which is that critical ocean right of way in ecologically sensitive areas: a lot

of marine traffic; you have one of the biggest ports in the world, going through the Narrows [the tidal strait separating Staten Island and Brooklyn]," El-Ashmawy said. "So how we are going to get cables even for 6 GW into New York City is super, super challenging."

The proposed solution: the mesh-ready concept. "Our projects will still be procured on that radial basis — one offshore wind project, one intertie, one point of interconnection — but we'd like to build them keeping in mind some common assumptions around what might be needed in the future; designing these offshore platforms with enough space to accommodate more equipment. We can't go back and build it retroactively; [that] becomes much more expensive. So for incremental, upfront, modest costs, we can preserve a lot of optionality in the future," she said.

NYSERDA's draft offshore renewable energy credits (ORECs) request for proposals spelled out the technical requirements. "Each platform should be able to connect to two different

Continued on page 8

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"We must move away from an overwhelmingly reactive planning process towards an anticipatory grid and transmission investment model. What does that mean? We need to build an offshore shared grid. If you build it, they will come, and the benefits to ratepayers and more offshore wind will follow."

FERC signaled its support for more proactive planning on April 21, when it approved a Notice of Proposed Rulemaking that would require transmission providers to conduct regional transmission planning on a 20-year forward-looking basis. (See *FERC Issues 1st Proposal out of Transmission Proceeding*.)

FERC Chairman Richard Glick, in a conversation at the conference with New Jersey Board of Public Utilities President Joseph Fiordaliso, said he hopes to follow that NOPR "soon" with a rulemaking to expedite processing inter-connection queues. "We need to expedite it dramatically, or a lot of your projects will take years to get hooked up to the grid," Glick said.

"The worst dream I have is ... that we're generating energy out in the ocean, and there's no place to plug it in," Fiordaliso said.

'Balancing Multiple Workstreams'

While there was wide agreement on the need for a networked transmission "backbone" that minimizes shore landings, there were also warnings that long-term transmission plans not slow construction of projects that have already been awarded.

"I think we also need to take a very focused look at costs and timelines," said Joshua Weinstein, vice president and head of offshore development for Invenegy. "A fully integrated, backbone-style grid is not necessarily directly coincident with meeting targets in the short term."

Sam Eaton, executive vice president of offshore development in the Americas for RWE, said the current approach is "not sustainable."

"It's clear, there's a lot of planning and thinking that has to go into what is the right solution. ... But I think we also have to recognize [that] in the interim, we need to get the first projects in the water. We need to demonstrate we can do this while we're figuring out in parallel what the longer-term sustainable solution is going to be."

Doreen Harris, CEO of the New York State Energy Research and Development Authority (NYSERDA), said the state is attempting to balance multiple "workstreams": implementing its climate law, delivering on *five* OSW projects under contract and the ports that will support



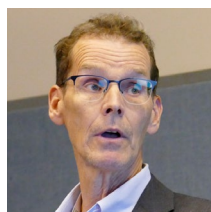
FERC Chairman Richard Glick and New Jersey Board of Public Utilities President Joseph Fiordaliso talked about transmission in a conversation moderated by RTO Insider Editor Rich Heidorn Jr. | Victoria HarmonNYC via Twitter

them, and continuing to build the pipeline with a new solicitation this year. "None of these pieces will wait," she said. "They all need to advance in parallel."

Weinstein said New Jersey, which has committed to build 7.5 GW of OSW, and New York, which has a 9-GW target, are taking "fundamentally different approaches." New York is mandating that wind developers include a "mesh-ready" design for a future offshore grid. (See *NYPSC Mandates Meshed Offshore Tx Grids*.) New Jersey is reviewing responses to a transmission development solicitation issued at its request by PJM. (See *NJ Seeks Efficiency, Savings in OSW Transmission Process*.)

"But I think that's also good," Weinstein said. "We need to look at the book ends; we need to understand the total challenge; the total problem. Different states, different regions of the bulk transmission system, have different problems."

Interregional Backbone?



John Dalton, president, Power Advisory | © RTO Insider LLC

In a workshop, John Dalton, president of Power Advisory, touted the value of an inter-regional offshore grid, noting that Atlantic City's average wind speed that day was 50% higher than the average for New Bedford, Mass.

"That's [an indication of] the diversity that you can get when you start to interconnect the PJM system, the NYISO system and the New England system," he said, predicting such a grid would allow lower operating reserve and capacity requirements.

The U.K., he noted, has five major interconnections with adjacent electricity markets, with more planned.

Dalton said planned transmission means fewer landfalls, "one of the most critical environmental pinch points that projects have when they're being sited."

"So when you can effectively reduce environmental pinch points, you can reduce the level of public opposition. ... If this transmission infrastructure is in place, there's going to be less risk that the offshore wind generation developer has to face. And that could result in benefits in terms of lower costs for the energy produced by these projects," he said. "And then, obviously, once you have a network, it is going to potentially have the benefits of enhanced reliability performance and operability."

But Dalton said he had no illusions about the challenges to building an interregional offshore grid. "I think that it's probably easier to demonstrate the benefits [of such a grid] than to sort through the various commercial issues," he said.

Laila El-Ashmawy, a project manager with NYSERDA's OSW team, said New York officials have had some very preliminary conversa-

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tions with ISO-NE and PJM about offshore interconnections. “We have the benefit of New York state [being] a one-state ISO, and that’s challenging enough. ... Integrating in the region is something we all dream about. But I’d say [interregional connections are] part of that long-term planning, ongoing discussion process. As far as anything material, you have the mesh-ready [approach].” (See related story, [New York Seeks to Protect Tx Options with Mesh-Ready OSW.](#))

In the near term, Dalton said he was encouraged by news that Massachusetts (5.6 GW) and Connecticut (2 GW) officials are considering collaboration on their transmission. “Unlike New York, which has such an ambitious offshore wind goal ... Massachusetts has a more modest, residual offshore procurement target. So to really make this investment effective, it makes sense to increase the volume that you’re planning this transmission for,” he said. “So that’s [the driver for] Massachusetts [and] Connecticut, as well as conceivably Rhode Island, to work together.”

Another factor: “Building [onshore] transmission in New England on new rights of way is, I think, a nonstarter.”

New Jersey Transmission Procurement

The BPU’s 2019 award to Ørsted’s Ocean Wind project (1,100 MW) and its June 2021

awards to Ørsted (1,148 MW) and EDF/Shell’s Atlantic Shores (1,510 MW) makes those projects responsible for their own transmission.

To make sure that it can plug in its additional offshore wind farms, New Jersey contracted with PJM to use the State Agreement Approach (SAA) to solicit transmission proposals. (See [FERC Approves PJM-NJ Transmission Agreement.](#))

PJM is *reviewing* 80 proposals from 13 transmission developers. It has broken up the proposals into four categories: onshore upgrades on existing facilities (option 1a); new onshore transmission connection facilities (option 1b); new offshore transmission connection facilities (option 2); and an offshore network (option 3).

The RTO said it is performing reliability studies for about 20 potential points of interconnection. The winners of the 2021 OSW projects could seek to buy into the SAA transmission if it provides a cheaper alternative than siting their own lines.

Some of the proposals include cost-containment pledges. Under the SAA, New Jersey would be obligated to fund all of the transmission itself.

Asked whether New Jersey would consider a transmission proposal that didn’t include a cost cap, Fiordaliso said “it depends on the proposal.”

“We are prudent in our approach. We just

don’t throw mud up against the wall and hope something sticks. We have to be prudent in the approach; always keep in mind – and this is a direct instruction from [Gov. Phil Murphy] – the impact on the ratepayer.”

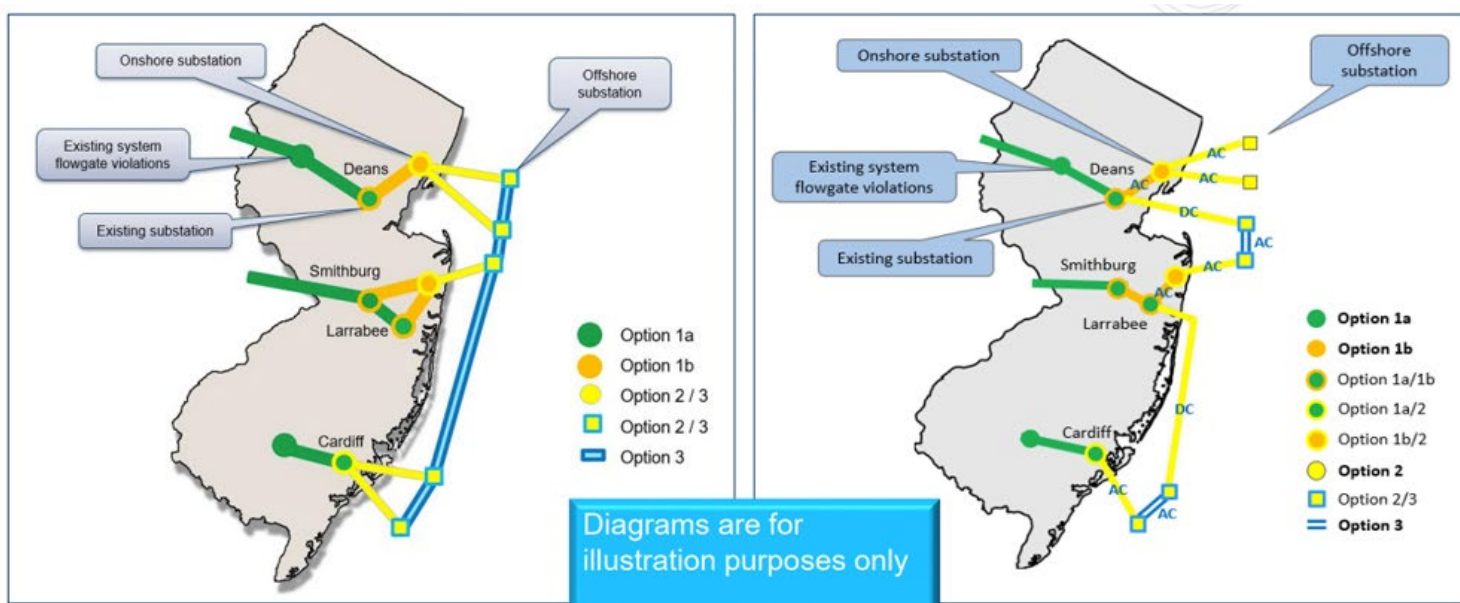
Clarke Bruno, CEO of Anbaric Development Partners, said he supports the approach behind FERC’s NOPR. “The notion of planning in a comprehensive way for two decades and more is, I think, critical to the development of an offshore grid,” he said.



Clarke Bruno, CEO, Anbaric Development Partners | © RTO Insider LLC

But he said he was dismayed by FERC’s proposal to reinstate the federal right of first refusal (ROFR). (See [ANALYSIS: FERC Giving up on Transmission Competition?](#))

“Candidly, I was disappointed in the treatment of competition,” he said. “The Murphy administration has demonstrated, I think, the benefits of an RTO working closely with the state to identify goals, to identify how to get there, and to ask the best of the private sector to come in, and design and price what can work for PJM and New Jersey. And I think that’s a proof point that the current approach is working.” ■



PJM is reviewing 80 proposed transmission projects from 13 transmission developers to deliver New Jersey’s offshore wind farms. | PJM

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New York Seeks to Protect Tx Options with Mesh-ready OSW

Continued from page 5

wind farms. We'd like to be able to transfer around 350 MW of power. And that's an AC offshore grid, contemplating 230-kV lines for those AC connections," El-Ashmawy said. "These are not being built today; we're just building with that in mind. This allows these projects to pivot to a future grid, where projects just in New York are interconnected and can reroute power between zones. But it also allows these to pivot and think about interregional interconnections, which might come in the future."

El-Ashmawy said the next version of the RFP will provide more detail on the mesh-ready concept and clarification on "what is paid for now and what is paid for later."



Pete Kohnstam, business development manager for Siemens Energy, said the mesh-ready approach could be risky because of the lack of standardization on what will be required in an offshore grid.

Pete Kohnstam,
Siemens Energy |
© RTO Insider LLC

"The risks I see in doing the [mesh-ready] right out of the gate is if we have not got everything defined, is there sufficient space [in the platform]? Is there sufficient equipment in that to make it work?"

1st Offshore HVDC Project in the US

New York's first OSW project, the 924-MW Sunrise Wind farm south of Long Island, will not be mesh-ready. But it will be the first implementation in the U.S. of an offshore HVDC grid connection.

Siemens and Aker Solutions were hired by developers Ørsted and Eversource Energy for the project, which will have an offshore converter station to collect the 66-kV AC power from the wind turbines and transform it to 320-kV DC for transmission through a 100-mile export cable. An onshore converter at Holbrook, Long Island, will convert the power back to AC to feed into the distribution grid.

Kohnstam explained the project during a workshop session that attracted dozens of attendees.

"DC obviously offers us lots of opportunities for going that long distance, getting more power into the network with fewer cable connections," Kohnstam, said. "If you've been

in several of the other panels and workshops, you'll hear there's an awful lot of concern about minimizing cable routes and minimizing access points. And DC is obviously perfect for that. So it's happening. It's real."

He added, "The pressures that are put on the networks and the offshore suppliers are forcing us to consider bigger and bigger DC connections, quicker delivery. So it's going to be a wild ride for the next few years."

Cornelis A. Plet, principal consultant for energy systems for DNV, gave a presentation on the advantages of multi-terminal offshore HVDC transmission, which could create an offshore grid that could route power around onshore grid congestion.

Asia has several multi-terminal HVDC grids, and Europe is building its first ones now, with many more planned, Plet said.

"We cannot make a blueprint for 2050. So, offshore grid design is based on maintaining the option value to create expansions and let the grid grow in an almost organic way," he said. "We really need a pilot project [in the U.S.]; [we] need to show not only that the technology is possible, but that it really does bring the benefit to the consumer." ■



The offshore converter station will collect the alternating current power generated by Sunrise Wind's turbines and transform it to direct current. | Siemens Energy

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NJ Stakes Claims in OSW Supply Chain

Many More Homegrown Suppliers Needed to Meet U.S. 30-GW Goal

By Hugh R. Morley

ATLANTIC CITY, N.J. — New Jersey is staking its claims in the offshore wind supply chain, with a monopile factory preparing to start production and the announcement of the first tenant at its offshore Wind Port — both involving large European companies that have been in the industry for decades.

But building a thriving offshore wind industry in the U.S. will require many home-grown members of the supply chain, speakers told the International Offshore Wind Partnering Forum last week.

“If the offshore wind industry is going to survive and thrive, it needs a robust and sustainable and diverse supply chain in the U.S.,” said Amanda Schoen, U.S. policy specialist for Vestas, a Danish turbine manufacturer that has manufacturing facilities in Colorado. “This is where the market is, and there’s a desire to be where the market is. But you do need to grow the industry.”

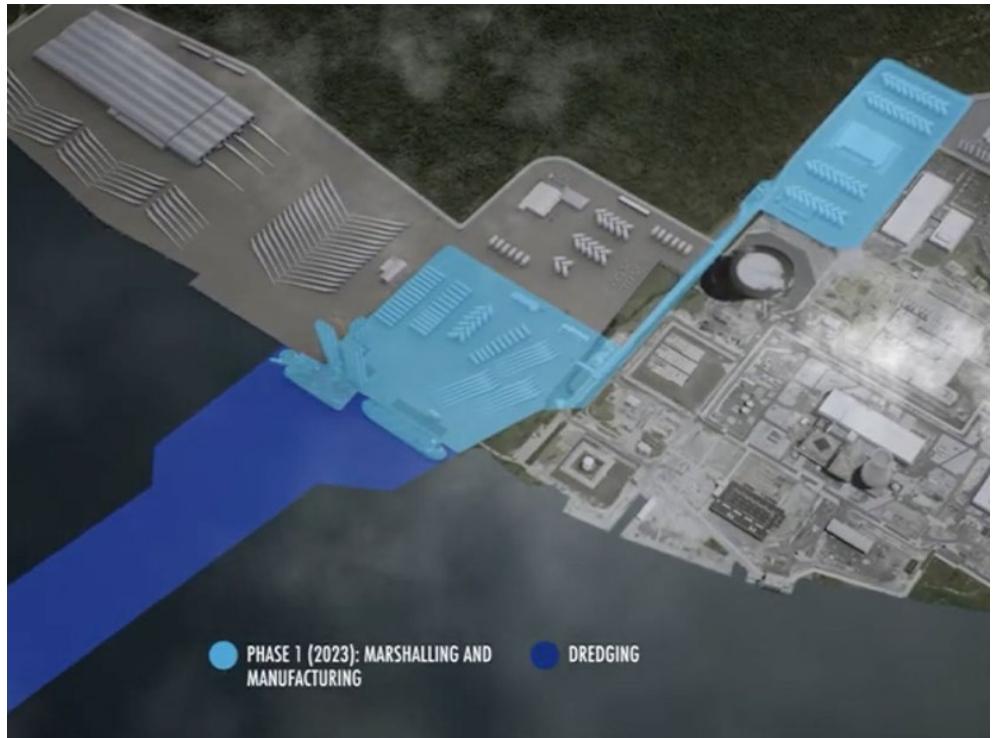
That needs to happen soon, said Ross Gould, vice president of supply chain development for the Business Network for Offshore Wind, which organized the conference. He told a panel that the U.S. is not ready to meet President Biden’s goal of 30 GW of offshore wind by 2030.

“The U.S. doesn’t have sufficient manufacturing infrastructure,” he said. “Meeting the national offshore wind target would require over 2,000 turbines.” It also will require 11,000 kilometers of cable, five wind turbine installation vessels, 10 feeder barges, eight crew transfer vessels and four cable-laying vessels, Gould said, citing data from a [report](#) released in March by the National Renewable Energy Laboratory.

And the U.S. can’t rely on getting those elements from other, more mature offshore wind markets, he said, because the “global supply chain will be occupied on ... other markets and does not have the capacity to supply all the projects that are needed to meet the 30-GW target.”

Building an Industry from Ground Up

New Jersey officials say they are on their way to developing a supply chain that can serve the state and others on the East Coast, and they say that their experience to date can provide a guide on how to develop it for the future.



New Jersey has attracted experienced European companies to help build an offshore wind supply chain at its New Jersey Wind Port in Lower Alloways Creek and a monopile factory at the Paulsboro Marine Terminal. | [New Jersey Wind Port](#)

Speaking on the final day of the conference, Gov. Phil Murphy announced that the New Jersey Economic Development Authority (NJEDA) had signed up the first tenant for the New Jersey Wind Port, which the state says is the first purpose-built wind facility on the East Coast. Ørsted Offshore North America signed a letter of intent to marshal its Ocean Wind 1 project, including staging, assembling and transporting components, at the port.

“There are many more opportunities to come, including ongoing negotiations between offshore developers and major component manufacturers to bring them to New Jersey,” Murphy told the conference. “This is, if you will, New Jersey’s ‘If you build it, they will come’ moment.”

Murphy wants offshore wind to provide 23% of the state’s energy by 2050, and to that end the state plans to award offshore projects totaling 7,500 MW. The New Jersey Board of Public Utilities (BPU) approved the 1,100-MW Ocean Wind 1 project, owned by Ørsted and PSEG, in 2019, and Ørsted’s 1,148-MW Ocean Wind 2 and the 1,510-MW Atlantic Shores project, a joint venture between EDF

Renewables North America and Shell New Energies U.S., last June. (See [NJ Awards Two Offshore Wind Projects.](#))

The BPU expects to award projects in three further solicitations, the first of which will be held early next year.

New Jersey officials envision the Wind Port project as a manufacturing and supply chain hub that will serve not only the state’s wind projects but others along the East Coast, noting it is within one day’s ship travel to half of the U.S.’s OSW lease areas. The state has already committed \$500 million to the port, which is sited on the Delaware River in Lower Alloways Creek. (See [NJ Ramps up Wind Sector Support.](#))

Expected to open in 2024, the Wind Port will include heavy-lift wharfs and component lay-down areas. Subsequent phases are targeted to come online between 2024 and 2026. The project is expected to create up to 1,500 jobs and add \$500 million annually to the state’s economy, Murphy said. The EDA says it has seen high demand for space in the port, noting it received 16 non-binding offers in October

International Partnering Forum 2022

from companies looking to become tenants. (See [NJ Wind Port Draws Offshore Heavy Hitters.](#))

The Wind Port announcement came as EEW American Offshore Structures said it is close to starting operations at its monopile factory at Paulsboro Marine Terminal, also on the Delaware River, into which the state invested [\\$250 million](#).

CEO Lee Laurendeau told a conference panel that EEW expected to receive an imported monopile last weekend on which to conduct welding tests.

After that, “our plan is to start working on the Ocean Wind 1 monopiles in November of this year,” Laurendeau said of the factory, which is expected to make 100 monopiles a year.

Case Study

New Jersey’s success to date provided the conference a case study on how the wind sector can overcome the challenges to building a sustainable industry.

New Jersey officials said they had a clear vision early on.

“Right from the start, in 2018, 2019, we really

dove in headfirst into offshore wind, conducting a number of feasibility analysis studies, listening sessions with developers and industry visits abroad to really understand how do we bring this industry to New Jersey,” said Julia Kortrey, a senior project officer at the EDA.

“Our theory of the case has really been getting these big first movers, [like] EEW’s monopile fabrication facilities — something that feels tangible and helps really anchor the ecosystem,” to come to New Jersey, said Kortrey. And the state believes that the Wind Port will be attractive to suppliers seeking to locate near the larger companies.

State officials are now looking at “who are those sub-suppliers? Who are the next tier to further create that ecosystem?” she said.

Laurendeau said EEW looked at multiple states — and at whether a U.S.-based manufacturing operation was feasible — before deciding to build a factory in New Jersey. A key event was a visit in 2018 by Murphy to EEW’s office in Berlin to pitch to the company the idea of building a factory at Paulsboro.

“From a Tier 1 [large] supplier standpoint, the very biggest question you have to answer

is, can we build a product cheaper than one coming from Europe,” he said, noting that it costs \$1 million to transport a monopile from Europe to the U.S. “That’s, the first business case item that you have to address. And, in Europe, the ports are subsidized. They’re already up and running, they’ve already capitalized their factories, they’re efficient.” That presents an operational challenge and a learning curve to newly created U.S.-based suppliers who are trying to compete, he said.

New Jersey’s investment of \$250 million in the project also was key to it moving forward, Laurendeau said. The decision also was made easier when Ørsted committed to building monopiles at the Paulsboro factory if it was built, he said. EEW has since gained orders from the other offshore wind projects, among them a commitment by Atlantic Shores to make 89 monopiles at the EEW factory out of the 111 monopiles needed for the project. (See [New Jersey Shoots for Key East Coast Wind Role.](#))

With those major hurdles overcome, the company is now “in the process of developing our sub-tier supply chain” that EEW expects will support growth well beyond New Jersey, Laurendeau said.

“The local content gives us that jumpstart,” he said. “Our New Jersey projects get us up to being a fully operational, efficient factory. But our eyes are certainly beyond that. We [have had] every project developer in the last two days up in our conference room, so there’s a lot of interest in our factory. We’ve put in proposals for almost every one of the U.S. projects that are there. So, we’re going to service the entire U.S. market from New Jersey.”

Catching Europe

That kind of calculation is going on in companies across the board as they look to the future and try to work out what is the best way to get a piece of the growing U.S. market, said Schoen, whose company, Vestas, has agreed to build a nacelle manufacturing facility at the Wind Port.

“There’s a lot of interest right now, in growing a domestic supply chain. There’s also a lot of challenges,” she said.

“We are competing with an established marketplace in Europe. And that’s the big challenge. So, if you’re looking at like how we can support this? Well, we need to play catch up. We’re a decade, two decades behind the European marketplace right now. And so, if we want big factories and a huge supply chain, it requires investment.” ■



Speaking at the International Offshore Wind Partnering Forum in Atlantic City, Lee Laurendeau, CEO of EEW American Offshore Structure (left), and Julia Kortrey, senior project officer for NJEDA. | © RTO Insider LLC

International Partnering Forum 2022

BOEM Moves on OSW Plans for Oregon, Central Atlantic

By Rich Heidom Jr.

ATLANTIC CITY, N.J. – The Bureau of Ocean Energy Management on Wednesday announced plans to open two new areas to offshore wind, one in the Central Atlantic and the other off of Oregon.

BOEM Director Amanda Lefton *announced* the calls for information and nominations at the Business Network for Offshore Wind’s International Partnering Forum, where about 2,700

members of the nascent industry gathered for several days of networking at the Atlantic City Convention Center.

The calls initiate comment periods through June 28 on “site conditions, marine resources and ocean uses” regarding the regions and invite OSW developers to nominate specific areas they would like offered for leasing.

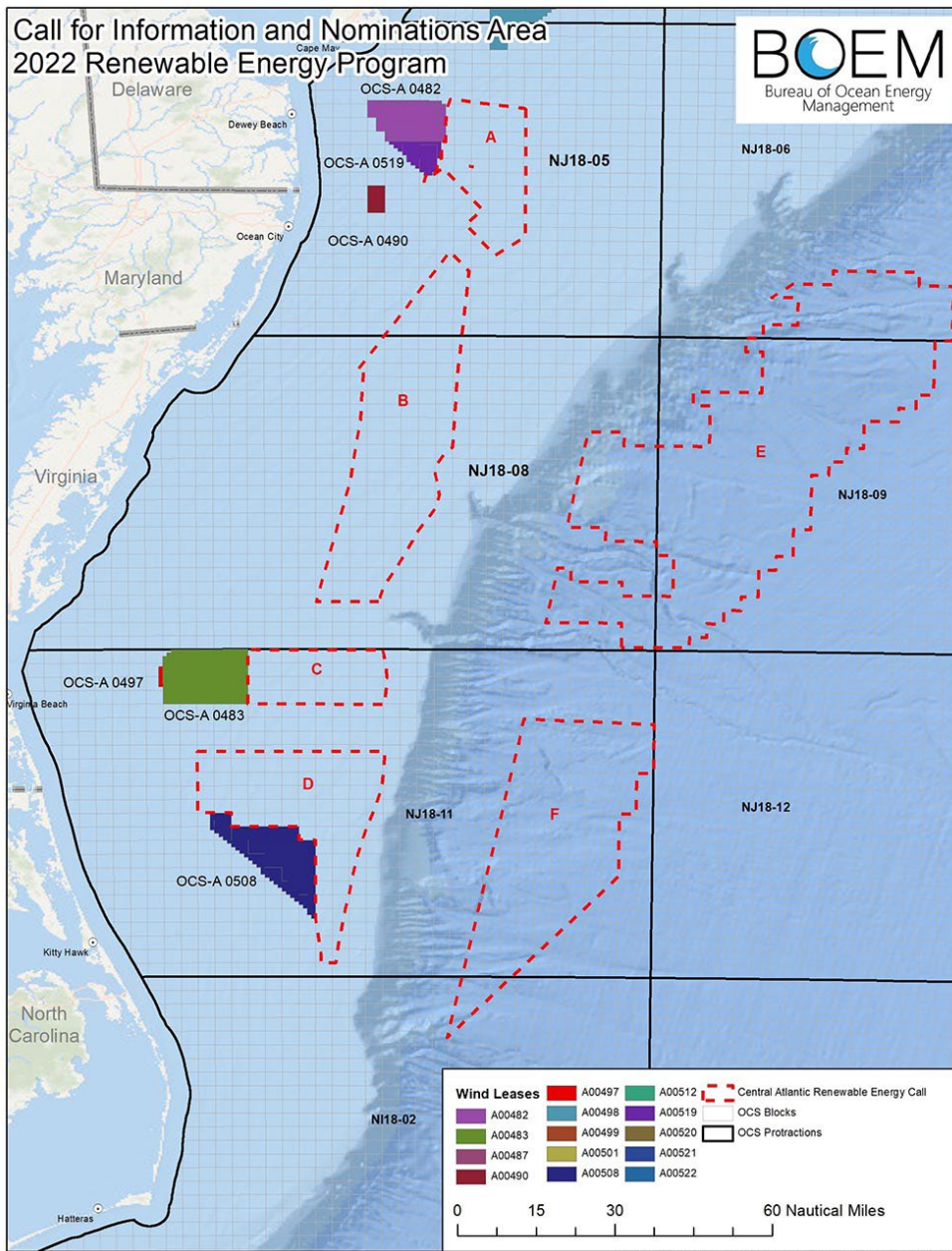
BOEM is looking at *six areas* totaling almost 3.9 million acres in the Central Atlantic, all at least

20 nautical miles off the coast, and *two areas* totaling almost 1.2 million acres off of *Oregon*. The Coos Bay Call Area and the Brookings Call Area are 12 nautical miles from shore at their closest points.

The areas already leased in the Atlantic are all in relatively shallow water on the continental shelf, allowing fixed foundation turbines. Two of the six Central Atlantic call areas would be in deeper water off of the shelf. That location, and the Pacific sites BOEM is considering, would require use of floating turbines.

“Opening new lease areas in the Central Atlantic will spark a second wave of domestic offshore wind development and bolster an emerging manufacturing core in places like Hampton Roads and Baltimore, and in Oregon, where the power of offshore wind can be unleashed along on the West Coast,” said Liz Burdock, CEO of the Business Network for Offshore Wind.

The Biden administration has set a goal of 30 GW of offshore wind by 2030. In February, six companies offered almost \$4.4 billion for leases representing 5.6 GW of offshore wind capacity in the New York Bight. (See *Fierce Bidding Pushes NY Bight Auction to \$4.37 Billion.*) ■



Bureau of Ocean Energy Management Director Amanda Lefton | Business Network for Offshore Wind

FERC/Federal News



SEIA Predicts Severe Fallout from Commerce Probe of Solar Imports Analysis Forecasts Job Loss, Diminished Installation Capacity

By Hugh R. Morley

The U.S. solar industry could lose nearly half its workforce — about 100,000 jobs — and planned installations will decline dramatically if the U.S. Commerce Department concludes that solar panels imported from four Asian countries are actually Chinese goods, the Solar Energy Industries Association (SEIA) said April 26.

The impact of the probe into solar panels from Cambodia, Malaysia, Thailand and Vietnam could cut the volume of solar installations forecasted to take place in 2022 and 2023 by 46%, resulting in a reduction of 24 GW of planned power, according to SEIA's analysis of the sector. The decline could cause the U.S. to emit an additional 364 million metric tons of carbon by 2035 and jeopardize the clean energy goals of the Biden administration, the organization said in a release, as it also published the latest results.

The analysis is based on a survey of more than 700 industry companies. It provided a fresh reminder of the impact of the Commerce Department's decision to launch an investigation March 25 into the origin of crystalline silicon

photovoltaic cells imported from the four countries. The probe is scrutinizing whether the solar panels and related equipment are actually Chinese products shipped through those four countries to avoid anti-dumping and countervailing duties that would otherwise have to be paid by Chinese manufacturers. (See *Solar Sector Braces for Tariff Probe Impact.*)

The bleak picture offered by SEIA is the latest step in the organization's aggressive effort to counter the investigation. On Wednesday, the effort included putting more than 50 senior solar executives on Capitol Hill to lobby government officials, an SEIA official told *POLITICO*.

SEIA and some solar developers say that the start of the investigation prompted manufacturers in the four countries to immediately reduce the volume of goods sent to the U.S., diverting them to other countries, out of fear that they would face retroactive U.S. tariff increases if the department concludes that circumvention took place. That has resulted in equipment shortages and delays, and price hikes, developers say.

NextEra Energy, a major investor in wind and solar projects, told investors on an April 21 earnings call that 2.1 to 2.8 GW of the

company's solar and storage projects could be delayed until 2023 because suppliers are not shipping panels while they wait for the Commerce Department's decision. After the statement, the company lost about 10% of its market value. (See *NextEra Shares Tumble on Solar Supply Woes.*)

CFO Kirk Crews said the company believes it will be "difficult" for the Commerce Department to conclude that solar panels from the four countries are circumventing tariffs, based on the department's past analysis of the sector. For this and other reasons, the company is "optimistic" that the department will rule "favorably" and will not impose additional tariffs, he said.

"However, given that a number of suppliers are not expected to ship panels to the U.S. until the Commerce Department makes a preliminary determination as late as August, we continue to expect some of our solar and storage projects may be adversely impacted by this delay," he said, according to a *transcript* of the earnings call published by Seeking Alpha.

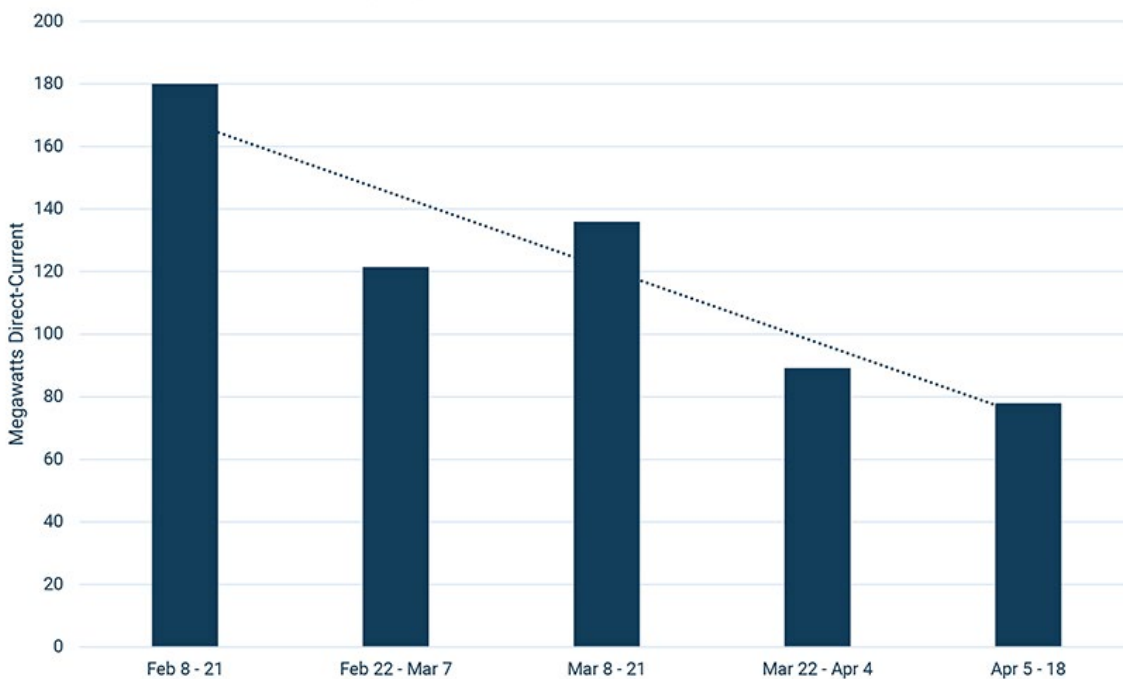
In an earnings call Wednesday morning, Entergy CEO Leo Denault spoke of near-term cost and schedule pressures. "Supply chain constraints [are being] further exacerbated by the [investigation], which we expect will lead to further delays and cost increases. We are continuing to work through these constraints and are executing on our solar expansion plan."

Future Hard Times

SEIA based its conclusions on the potential industry impact on a scenario in which the Commerce Department concludes that circumvention took place and places new tariffs of 50 to 250% on imports from the four countries.

"This case is destroying clean energy and needlessly taking down American businesses and workers in its wake," said SEIA CEO Abigail Ross Hopper, who called the predicted job reduction "a monumental loss."

Weekly Crystalline Silicon Solar Cell Imports



| U.S. Customs and Border Protection

FERC/Federal News



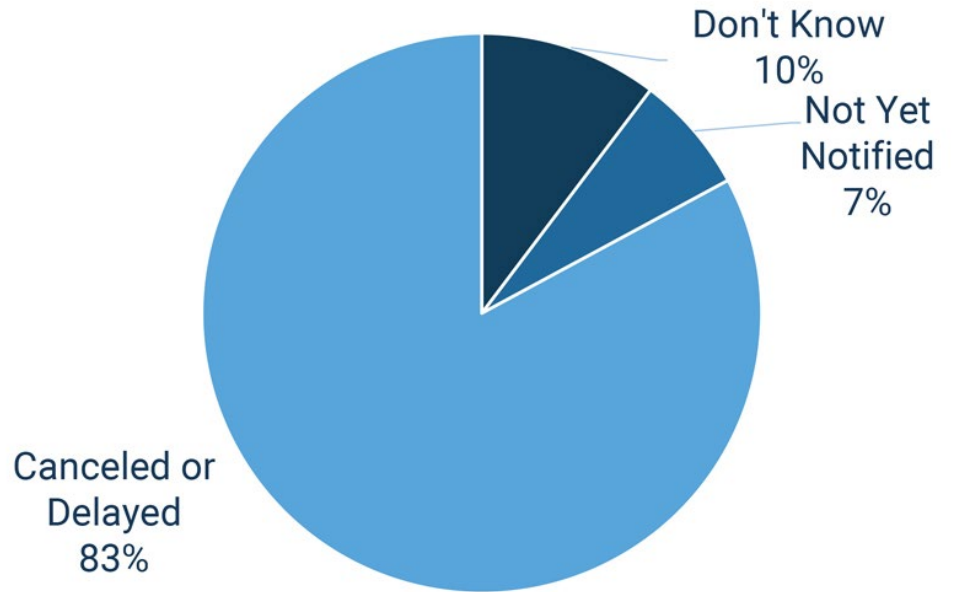
“The Commerce Department is on track to wipe out nearly half of all solar jobs and force a surrender on the president’s climate goals,” she said.

The survey found that 83% of respondents said that their “expected module supply has been delayed or canceled.” Slightly more than 50% of the respondents said they expect a “devastating negative impact” on their businesses from the investigation, and slightly less than 40% said they expect it to have a “severe negative impact.”

More than 200 respondents said that their “entire solar and storage workforce is at risk” because of the investigation, and 70% of respondents said that at least half of their solar and storage workforce was at risk. Eighty percent of respondents said that at least half of their current year solar pipeline is at risk.

SEIA said that even the domestic crystalline silicon module production sector had suffered from the investigation, because “nearly half of all cell imports came from the four target countries” in 2021. Cell imports have fallen since the probe began, the organization’s report said. ■

Current Module Supply Status

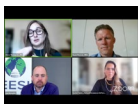


More than 4/5 of survey respondents reported canceled or delayed procurement of solar panels. | SEIA

National/Federal news from our other channels



White House Believes US-EU Climate, LNG Goals Can Align



Green Hydrogen Too Expensive to Replace Blue – for Now



DOE Announces \$3.1B to Build out US Battery Supply Chain



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ReliabilityFirst Considering Expansion of Grid Security Exercises



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FERC/Federal News



FERC, NERC Drill down on Generators' Winter Readiness

By Hudson Sangree, Robert Mullin, Michael Brooks and Holden Mann

More than a year after the events of February 2021, in which an unprecedented winter storm nearly led to the entire collapse of the Texas Interconnection, FERC and NERC continue to gather information from utilities, generators and grid operators on maintaining electric reliability during severe cold weather.

That continued last week with a two-day joint FERC-NERC technical conference on winterizing generation. Staff heard from more than 25 stakeholders on the best practices, lessons learned and continuing challenges of generator owners' and operators' preparations for the winter season.

"It's a very important discussion," Chairman Richard Glick said, starting off the conference Wednesday. "I think people recognize what happened in Texas. ... One of [the] factors was that the generating facilities, in many cases, didn't operate very well under the cold weather that was experienced, and we need to make sure that doesn't happen again."

He referred to a similar event 10 years before, when an arctic cold front in Texas and New Mexico caused 1.3 million customers to lose power in early February 2011. More than 200 generating units in ERCOT experienced an outage, derate or failure to start, and a joint FERC-NERC *report* found that many generators had failed to adequately prepare for winter, even though extreme cold fronts hit the region every few years.

"We know for a fact that a decade before Winter Storm Uri, there was a similar issue in Texas and some of the other Southwest states," Glick said. "A report was done. The report said, 'We have a problem. We need to winterize these generating facilities.' The report was put on the shelf, and nothing happened."

During last year's storm, dubbed by The Weather Channel as "Uri," ERCOT ordered a total of 20,000 MW of rolling blackouts as it tried to prevent grid collapse — the largest manually controlled load shedding event in U.S. history.

More than 4.5 million people lost power for as long as four days, with numerous deaths resulting from the outages, another *report* by FERC, NERC and six regional entities said. Among its recommendations was to hold a tech conference "to discuss how to improve the winter readiness of generating units"



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before NERC reliability standards approved by FERC in August — in response to another prior cold snap in the Midwest in 2018 — become effective on April 1, 2023. (See *FERC, NERC Release Final Texas Storm Report*.)

"We're not going to let that happen again, and today's technical conference is one of the steps that we are taking to ensure that to be the case," Glick said. "We will work with our partners at NERC and the regional entities as well. I think at the end of the day, we're going to have a much stronger and much more reliable grid because of it."

"I can't stress enough how important communication is," NERC CEO Jim Robb said in opening Day 2 of the conference Thursday. "I think one of the worst things to happen to a grid operator is to be surprised when they're expecting resources to be there and they aren't. ... We're hoping for a lot of insights to come out of this conference. ..."

"And of course, while this is focused on winter prep, we have to remember that changing climate conditions aren't just limited to cold-weather events. We also have to be cognizant of hot-weather events and in general rethink how we plan and operate the system to deal with extreme events, which are not rare, as we've seen over the last several years."

Cold Weather Preparedness Plans

The conference's first panel consisted of utility executives discussing the measures they were taking to head off another winter catastrophe.

Most natural gas plants in Texas are outdoor facilities that require additional protection during cold fronts, they said.

Garry Waggoner, senior director of engineering services for Luminant, the main generation subsidiary of Vistra, said that following the 2011 cold front, the company began hardening its generation units against freezing by instituting measures to be completed by November of each year.

Luminant's fleetwide measures include temporary wind breaks for critical equipment, freeze-protection circuitry monitoring and enclosing sensitive equipment in heat- and humidity-controlled boxes, he said.

Other generators said they use similar measures.

Roger Morgan, vice president of operations at NRG Energy, said that the company's outdoor generating units in ERCOT installed wind breaks, additional insulation and roofing over essential systems susceptible to the cold and precipitation.

FERC/Federal News



Precipitation, especially in the form of freezing rain, had a big impact during the storm and “probably caused a lot more grief at the plant levels than people may recognize or understand,” Morgan said.

NRG also pre-starts gas units before cold snaps to avoid icing, he said. Each generation site has a winter-readiness coordinator who reports to a regional coordinator. And after every winter, the company conducts a root-cause analysis of problems to avoid repeating them in future years, he said.

“We revise and develop mitigation plans and put those back into our procedure to make sure that we never have a repeat issue at any of our sites,” Morgan said.

Experiences and Lessons Learned

A panel on planning, engineering and technologies for weatherization offered some practical insights and suggestions for addressing cold weather events in what are typically warm climates.

“In the South, we used to use an event time of about 24 hours as a common design [standard],” said Mark Dittus, a project manager for infrastructure consulting firm Black and Veatch. “You would expect to see the freeze event during the night, but then you’d expect to go above freezing again the next day. So you only had a short period that you were worried about.”

But growing instances of “unprecedented” long-duration cold snaps are driving the firm’s clients to upgrade their systems, Dittus said.

El Paso Electric (EPE) is one of those clients. The utility, which serves about 450,000 customers in far West Texas and southeast New Mexico, dealt with the winter events of 2011 and 2021 but faced “severely different” outcomes in each, according to Kyle Olson, director of power generation and asset management at the utility.

EPE “did not do so well” during and after the 2011 storm. “We had major issues with our generation fleet, and we had days of rolling blackouts as a result,” Olson said, noting that in 2011 the majority of the EPE’s generation fleet had been built between 1957 and 1988.

In the wake of the storm, EPE worked with Black and Veatch to devise new facility design criteria rated to -10 degrees F, 2 degrees below El Paso’s all-time low temperature. The consulting firm helped the utility prioritize equipment for freeze protection based on risk to a unit’s operational ability. Top priorities included steam drum level transmitters and

major control valves; further down the list were water lines used for a facility’s drinking water.

EPE has also brought on about 500 MW of new generation since 2011 and is currently adding another 228 MW, most of which is gas-fired. Olson said the utility’s newer gas-fired Montana plant is designed for minimal water use and freezing risk and can run on diesel as a backup.

The utility fared much better during the 2021 storm, in part because of its access to power from the Palo Verde nuclear plant in Arizona, which helped the utility avoid price spikes in the market. But the utility did identify one new vulnerability after the storm: inexperienced staff.

“They hadn’t gone through the training and then gone through the implementation of the freeze protection in 2011, so what they thought was good freeze protection, being a summer-peaking utility,” was inadequate, Olson said. “We found gaps where they would go by and walk past something and go, ‘That looks fine; that looks good.’”



Amanda Frazier, Vistra
| FERC

Amanda Frazier, senior vice president of regulatory policy at Vistra, said her company “had a disappointing performance” during the 2011 storm but experienced different problems in February 2021, despite having worked with NERC,

ERCOT and Texas regulators to implement recommended best practices around weatherization.

Between 2011 and 2021, Vistra retired about 4,000 MW of coal-fired generation and discontinued use of fuel oil backup at several plants because both were considered uneconomic, Frazier said. Like other Texas utilities, Vistra faced frozen coal piles and limitations on the gas system during the 2021 storm. The company has since invested \$50 million to winterize its plants and is working to restore dual-fuel capability at those facilities with permitted fuel tanks.

But Frazier said weatherization of generating plants won’t be enough to head off another grid event like that stemming from Uri.

“It’s necessary, but it’s not sufficient to prevent the next winter storm event,” Frazier said.

“Unique to Winter Storm Uri were gas shortages, exceptionally high gas prices and lack of

incentives to invest properly in the weatherization of the gas infrastructure facilities. ... So, there must be an equivalent focus on improving the reliability of that key supply chain.”

In a similar vein, Steve Metcalf, vice president of power production and delivery at Arkansas Electric Cooperative Corporation, pointed to yet another exigency that’s not within a utility’s control during cold weather events: the standards of other utilities.



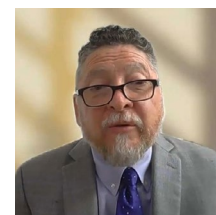
Steve Metcalf, AECC
| FERC

Metcalf noted that while his co-op’s consumers might be willing to pay more than other electricity customers to ensure winter reliability, the broader market might have higher tolerance for risk that could force his company to institute outages anyway.

“It’s not up to us whether or not we’re experiencing or required to do rolling blackouts or brownouts; it’s up to the market,” he said.

A Rare Success Story

During the third panel, FERC heard from representatives of ISO-NE, NYISO, PJM and SPP about their generators’ winter readiness procedures.



Andrew Valencia, LCRA
| FERC

But also on the panel was Andrew Valencia, senior vice president of generation for Lower Colorado River Authority, whom FERC and NERC were “very eager to hear from,” according to Heather Polzin, of the commission’s Office of Enforcement.

While many gas plants did not operate during the 2021 storm, the Austin, Texas-based nonprofit utility’s Thomas C. Ferguson plant — a 556-MW gas-fired combined cycle facility located in the nearby city of Horseshoe Bay — “actually performed quite well” despite the many challenges staff faced, Valencia said.

The plant broke ground in 2012 and, according to Valencia, was “designed with the 2011 event in mind,” able to withstand down to 0 F and up to 40-mph winds.

But the plant was not designed to withstand below-freezing temps for extended periods of time. Valencia said that is true of most plants in Texas, even those with very low tempera-

FERC/Federal News



ture ratings, so “it’s definitely a concern going forward.” Even with the plant’s performance, LCRA installed permanent wind walls and shielding around certain pieces of equipment that froze during the event, Valencia said. Though they required responses, increased staffing meant the freezing did not impact plant operations. LCRA called for Level 3 staffing — what Valencia said is called “battle stations” — in place about two days before the most severe weather hit because in 2011, the extreme cold came earlier than forecast.

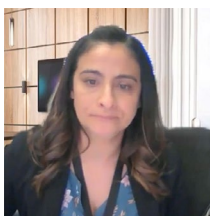
One of the challenges to cold weather preparation that Valencia wanted to stress during his presentation is that a plant “can’t functionally test [its] weather-protection systems. You know we can test relays; we can test water-induction systems; we can test all of the different subsystems ... [but] the only way [to test] is to actually endure some type of an event.”

Another challenge, especially in Texas, is “that the things that you do to protect your plant from extreme cold hurt your plant in extreme heat. We can go and add enclosures and things of that nature to protect us from the cold, but an enclosure around a pump or a motor during the hot summer season is going to be problematic.”

Gas-Electric Coordination Key to Resilience

In the last panel, participants discussed how last year’s winter revealed just how intertwined the gas and electric industries have become, and the pitfalls that can result when they don’t communicate their needs.

“We’ve found that training and drill exercises are critical to preparedness,” said Jessica Lucas, senior director of reliability coordination



Jessica Lucas, MISO
| FERC

and its annual generation winterization survey. Both information requests are still voluntary, but for the latest winter, Lucas said the RTO attempted to impress on its entities the importance of supplying accurate information.

Measures to encourage cooperation with the annual survey this year included pre-season conferences with major utilities. For the weekly fuel surveys, Lucas said MISO has elevated them to formal data requests. While this format is still voluntary, she said the goal is to emphasize to respondents how seriously the RTO views the situation.



Todd Staples, Texas Oil and Gas Association
| FERC

ability to respond to changing grid conditions in real time.

“Even with the best hardening of field assets, we have to keep in mind that most of these

at MISO. “Experience has proven to be the best teacher, and we’ve had quite a bit of that in recent years.”

Among the lessons that MISO learned from Uri was to bring more urgency to both its weekly fuel data requests

Last year’s storms also brought home the fact that generators’ theoretical performance doesn’t always match their real-world functioning, said Todd Staples, president of the Texas Oil and Gas Association. He reminded participants not to take for granted the

assets are unmanned. ... There are more assets than there are people,” Staples said. “And so there’s going to be a production decline, depending on the severity of the weather, and it’s very important for reliability that we plan on this production decline and take the steps that are going to mitigate that.”

Representatives of the pipeline industry focused on the efforts their companies have made to work with electric utilities and regulators on predicting how loads are likely to shift in response to changing weather conditions.

“We really believe in the continued improvement of the balancing authority websites — that’s a huge asset for us as a pipeline operator,” said Frank Rozmus, vice president of gas control and facility planning at Northern Natural Gas. Rozmus said he and his team “spend possibly hours a day on the websites of the [BAs] in our footprint, making sure that we get up-to-date information, and it really assists us with our load supply forecast.”

Speakers also highlighted the role that government can play in facilitating the sharing of information across industries. Staples pointed to the Railroad Commission of Texas’ recent designation of critical load facilities as a sign that the needed collaboration, not only between industry segments but also with the public sector, is finally taking root.

“In my eight years here ... I’ve never seen this level of engagement ... between industries. The Railroad Commission of Texas, ERCOT, the Public Utility Commission [and] Division of Emergency Management have all been fully engaged, and private industry has been having multiple conversations,” Staples said. “And so I think we’re moving in the right direction.” ■

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FERC/Federal News



GOP to Granholm: 'You're Anti-Fossil Fuels, Aren't You?'

Energy Secretary Defends DOE Budget, Biden's Energy Policies at House Hearing

By K Kaufmann

Energy Secretary Jennifer Granholm announced Thursday that the U.S. will boost its LNG exports to 15 Bcfd by the end of the year, with most of the increase going to European allies attempting to cut their dependence on Russia's fossil fuels.

The announcement came as Granholm parried attacks from Republican lawmakers on the House Energy and Commerce Subcommittee on Energy, criticizing President Biden's clean energy policies and his response to high gasoline prices — and the near-term need to increase natural gas and other fossil fuel production.

Granholm was on Capitol Hill ostensibly to discuss the Department of Energy's \$48.2 billion 2023 budget request, but the Energy and Commerce hearing provided yet another demonstration of the politicization and polarization of energy policy in the wake of Russia's invasion of Ukraine and post-COVID-19 inflation.

In her opening statement, Rep. Cathy McMorris Rodgers (R-Wash.), the full committee's ranking member, called out a recent Granholm statement that "perhaps renewable energy is the greatest peace plan this world will ever know."

"I cannot overstate how dangerous I believe this statement is for our energy security, our national security, our future as Americans," Rodgers said. She called on Congress and the



Rep. Cathy McMorris Rodgers (R-Wash.) | House E&C Committee



Energy Secretary Jennifer Granholm | House E&C Committee

administration to "say yes to flipping the switch on domestic production of cleaner oil and natural gas."

Rep. Jeff Duncan (R-S.C.) was equally confrontational. His first question to Granholm was: "You're anti-fossil fuels, aren't you?"

Granholm replied, "I would like to transition away from unabated fossil fuels to a clean energy future."

Rep. Fred Upton (R-Mich.) called on DOE to lead by example by "issuing waivers to streamline the permitting process for LNG export facilities and send the signal that our country will be a stable and reliable supplier of natural gas for many decades to come. Our European allies need more certainty to push back on Russia and build new import facilities and pipeline interconnections."

Granholm and Democrats on the committee countered with arguments that clean energy would lower prices and the dependence of the U.S. and its allies on fossil fuels from Russia and critical minerals — such as lithium for energy storage batteries — from China.

COVID, Ukraine and the rising number and severity of extreme weather events "tell

us that global energy security and energy independence all depend on a shift toward American-made clean energy," Granholm said in her opening remarks. DOE is "committed to securing the clean energy supply chains needed to reduce our reliance on unabated fossil fuels and increase our energy independence."

At the same time, Granholm said the administration and DOE are "using every tool at



Rep. Jeff Duncan (R-S.C.) | House E&C Committee

FERC/Federal News



our disposal to increase oil supply,” citing the president’s release of **1 million barrels** of oil a day from the U.S. Strategic Petroleum Reserves and DOE’s approval on Wednesday of permits allowing two LNG facilities to increase their capacity.

With the approvals, both facilities, one in Louisiana and the other in Texas, will be able to increase their combined exports by 500 Mmcf/d, the *DOE announcement* said. The Texas facility is scheduled to come online in 2024; the Louisiana plant is still in development, the announcement said.

Current export levels are about 12 Bcfd, DOE said.

“We have permitted completely 30 billion cubic feet of liquefied natural gas that has not been constructed yet,” Granholm said. “Every molecule of natural gas that can be liquefied at a terminal is being liquefied and exported.”

Echoing Granholm, Rep. Frank Pallone (D-N.J.), chair of the full committee, argued that natural gas production and LNG exports are at “record highs.”

“Five decades of fossil fuel dependency have left us reliant on volatile commodities that are priced at the whim of global markets,” Pallone said. “If we truly want to lower prices and to reduce our reliance on foreign adversaries, we must invest in renewable energy and domestic supply chains here in America.”

Solar Tariffs and Supply Chain Acceleration

While Democrats on the committee mostly offered Granholm questions that allowed her talk up DOE programs and accomplishments — like the *release* of new standards for energy-efficient light bulbs — she faced some hard questions from them as well.

Rep. Scott Peters (D-Calif.) raised concerns about the Commerce Department’s investigation of potential import violations of solar manufacturers in Cambodia, Malaysia, Thailand and Vietnam, and the devastating impact the investigation is already having on the U.S. solar industry. (See *SEIA Predicts Severe Fallout from Commerce Probe of Solar Imports*.)

“Is the Department of Energy researching how this potential loss in solar deployment could affect energy reliability and our climate goals, and planning what steps the administration needs to take to offset the solar project losses if they decide to impose tariffs?” Peters said.

While the final decision in the case will be “adjudicative,” Granholm said DOE and the White



Rep. Frank Pallone (D-NJ) | House E&C Committee

House Office of Domestic Climate Policy share “deep concern” about the case. “It’s safe to say that there is an awful lot of effort around how to address this given that it is an adjudicative proceeding.”

Granholm also pointed to funding in the 2023 budget for a solar manufacturing accelerator that “would help to achieve what the manufacturing processes are that can be accelerated in the solar realm, in addition to research that’s necessary in advanced components. Whether it’s the use of technology, the use of integrated systems, the bottom line is, we have to accelerate,” she said.

House Appropriations Committee

Granholm had an easier time before the Subcommittee on Energy and Water Development Thursday afternoon, where both Democrats and Republicans wanted to talk about the figures and programs outlined in Granholm’s *16-page written testimony*.

While both sides of the aisle chided Granholm for not providing them with a more detailed budget justification report, she said a key priority for the 2023 budget will be building on the \$62 billion in energy funding contained in the Infrastructure Investment and Jobs Act (IIJA).

That “historic long-term investment ... is not on its own sufficient to address the nation’s energy challenge,” Granholm said. “That’s why our request includes base-year funding to complement the infrastructure law and maximize its impact to lower costs, to make us energy secure and to provide us with reliable baseload power.”

For example, a newly created Office of the Undersecretary of Infrastructure will be getting \$2.1 billion in total, for a range of

programs, including:

- \$90 million for the Grid Deployment Office “to catalyze the development of new and upgraded high-capacity electricity and distribution systems nationwide.” The money will also fund two new programs to focus on improving wholesale electricity markets and removing barriers to offshore wind deployment.
- \$214 million for the Office of Clean Energy Demonstrations for a new program that will “support full-scale and commercial-scale demonstrations that address integration issues of renewable energy in the U.S. transmission and distribution grid. The office also oversees the DOE’s initiative to develop and build two advanced nuclear reactors, one in Washington and one in Wyoming.
- \$727 million for state and community energy programs “to reduce energy costs for households and businesses, deploy low-cost clean energy solutions [and] weatherize at least 50,000 homes.”

Republicans on the committee criticized what they called the budget’s skewed priorities, with defense-related spending getting minimal increases versus more substantial increases for non-defense spending.

“The request for the nuclear program is a mere \$10 million,” said Rep. Michael Simpson (R-Idaho). “In contrast, the increase for energy efficiency and renewable energy ... is more than \$1.7 billion, or more than a 54% increase.”

Simpson also criticized the DOE’s programs on rare earth and critical minerals as “scattered and unfocused, not only with the Department of Energy, but with other agencies that have a role to play” in developing those supply chains.

Similarly, Rep. Ken Calvert (R-Calif.) voiced disappointment that “you’re requesting a mere 3.7% increase for the [National Nuclear Security Administration] compared to 17% nondefense. ... That’s a hefty cut when you account for inflation. I’m not sure how anyone can justify [shortchanging] our national security, especially now.”

Calvert was particularly concerned that the DOE has fallen behind on the production of nuclear “pits,” a key component in nuclear warheads. Granholm said the Los Alamos National Laboratory was on schedule to produce 30 pits, and the Oak Ridge National Laboratory is currently being redesigned to ensure it can also meet its quota of 50 pits, though she could not say when the redesign would be complete. ■

CAISO/West News

'A Lot of Interest' in Proposed Wash. OSW Project, Developer Says

By John Stang

A Seattle-based wind developer has applied for permission to build a floating offshore wind facility in the Pacific Ocean off Washington's coast.

Trident Winds last month submitted an unsolicited lease request to the U.S. Bureau of Ocean Energy Management (BOEM) to build up to 2,000 MW of floating offshore wind (FOSW) roughly 43 miles west of Grays Harbor and Aberdeen, Wash., at the southern edge of the Olympic Peninsula.

The Olympic Wind project has the potential to become the first FOSW wind farm off Washington's coast — and the West Coast.

Trident Winds has not determined the number and capacity of individual turbines needed, or the size of the floating platforms, company CEO Alla Weinstein told *RTO Insider*. The expected budget has not been nailed down, but construction would begin in 2028 and finish in 2030, if Trident Winds obtains a green light from BOEM.

"There is a lot of interest," Weinstein said. "There is a lot of [investor] money available."

Trident is choosing to locate the site 40 miles offshore to avoid shipping lanes and U.S. Navy ship routes, Weinstein said. The location's average wind speeds are 8 meters per second, and the winds peak in winter, she said.

A derrick-like offshore wind turbine usually needs to reach 100 to 200 feet below the ocean's surface. Weinstein said the Olympic



The proposed Olympic Wind project would be located about 40 miles off the coast of Grays Harbor, Wash. | Port of Grays Harbor

project will likely be held in place by cables reaching to depths of 700 to 1,000 feet.

BOEM will review the proposal to confirm that Trident meets federal legal, technical and financial qualifications to hold a lease on the outer continental shelf for offshore wind turbines. If the company qualifies, the federal

agency will advertise for other potential developers to bid for the site.

Weinstein founded another company, Principle Power, that made an unsolicited lease request for a wind farm off the Oregon coast in 2013, she said. That project died during discussions with state and federal officials. ■

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CAISO/West News

Western Utilities to Support SPP Market Development

By Hudson Sangree and Robert Mullin

Fifteen Western utilities plan to support SPP’s efforts to develop a regional day-ahead energy market so can they evaluate it against CAISO’s proposed day-ahead market, according to a joint letter provided to *RTO Insider* by one of the effort’s organizers.

“Over the past several months, it has become increasingly clear that two leading options are forming for an integrated day-ahead and real-time organized market platform in the West,” the letter says. Those options are CAISO’s proposal to establish an extended day-ahead market (EDAM) for its real-time Western Energy Imbalance Market and SPP’s planned Markets+ offering, which would include real-time and day-ahead components.

“Given the importance of a full day-ahead and real-time integrated market to the future of Western wholesale electricity markets, the Joint Entities believe that both options should be further advanced and subsequently evaluated before any commitment decision can be made,” the letter says. “Although each of us will decide on the best path forward for our customers, we believe the governance models and market design for both of these options must be sufficiently complete in order to enable

each of us to make an informed decision.”

The letter states that, to evaluate “two fully-formed alternatives,” the joint entities will commit to “support the further development” of the Markets+ effort by “dedicating key staff” to participate in the initiative over the next year and “working collaboratively with SPP and other stakeholders towards the design of a governance framework and conceptual market design proposal,” slated to be completed by the end of 2022.

Two of the letter’s signatories, Arizona Public Service and Powerex, already participate in the *Markets+ design team*.

The letter was sent to *RTO Insider* by Shawn Smith, managing director of energy resources at Chelan County Public Utility District in Washington.

In addition to APS, Chelan, and Powerex, the joint entities listed in the letter include Avista, Douglas County PUD, Eugene Water & Electric Board, Grant County PUD, NorthWestern Energy, NV Energy, Public Service Company of Colorado, Puget Sound Energy, Salt River Project, Snohomish PUD, Tacoma Power and Tucson Electric Power.

Utilities contacted for this story did not immediately confirm their participation.

In an email, Smith said the letter was provided to the 15 named entities on April 22 for each to distribute more widely to the Western electric industry as it sees fit.

Real-time transactions in the West account for 5% of the market, while day-ahead transactions make up 40% of all sales, Smith said in the email.

“This is an important decision,” he said. “The impacts to our utility may last decades. We want to see both markets developed to a point we can evaluate [them] before selecting which one is best for Chelan PUD customer-owners. This shouldn’t be a race of which option is developed first or attracts commitments first, but rather which option is better for our customers from a governance and market-design perspective.”

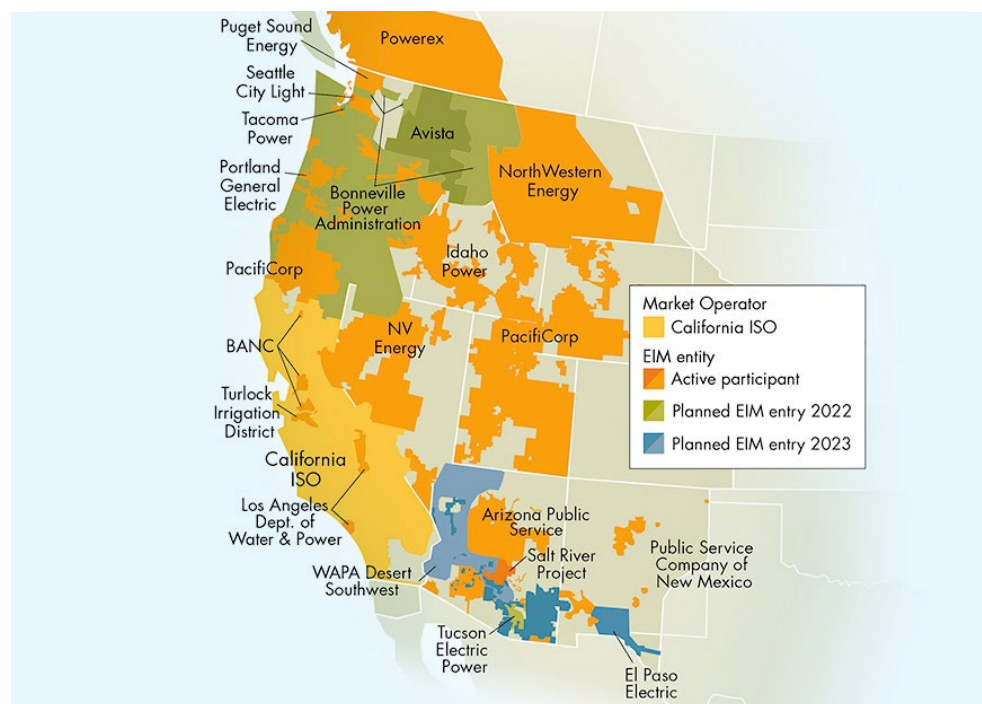
Chelan and at least 13 of the other joint entities are participants in the Western Power Pool’s Western Resource Adequacy Program (WRAP), which SPP is administering. Most of the letter’s signatories also currently participate in the WEIM, although Chelan is not a member.

SPP has been making inroads in the West lately, competing with CAISO to attract members to its real-time Western Energy Imbalance Service (WEIS) and proposing the Markets+ platform, a combination of services that stops short of full RTO membership. It also hopes to launch a Western version of its Eastern RTO, called RTO West.

SPP said April 12 that it plans to phase out the WEIS after the 14 active participants join either Markets+ or RTO West. (See *SPP to Phase Out WEIS as New Market Offerings Expand*.)

CAISO is planning to release an EDAM straw proposal by April 28. It has fast-tracked the effort this year, trying to get a jump on SPP and draw many of its current and expected WEIM participants to the planned day-ahead market. The WEIM now has 17 participants with five more scheduled to join through 2023, eventually representing more than 80% of the West’s electric load.

Because of its one-state governance CAISO cannot yet form a Western RTO, but it offers interstate market services through the WEIS and its reliability coordinator, RC West, which serves 42 balancing authorities and transmission owners in the Western Interconnection. ■



CAISO expects its real-time Western Energy Imbalance Market to include 22 participants by 2023, but it is unknown how many will participate in a day-ahead market. | CAISO

CAISO/West News

Nev. Looks to Capitalize on Becoming Tx Crossroads

Task Force to Examine Impact of RTO on State Goals

By Elaine Goodman

Nevada is poised to be at the center of a robust and interconnected transmission system in the Western U.S., but the state must move quickly, the chairman of a new task force said last week.

Speed is necessary because of the extended time it takes to develop new transmission projects, said Nevada state Sen. Chris Brooks (D), who chairs the Regional Transmission Coordination Task Force. The group held its first meeting on April 26.

And Nevada faces competition from other states, Brooks noted.

"We are not alone in this," Brooks said. "We are in a race with our neighboring states to really take full advantage of our position here in the West."

During the 2021 session Brooks was the sponsor of Senate Bill 448, wide-ranging energy legislation that included creation of the task force. Gov. Steve Sisolak signed the bill into law in June and appointed the group's members in December. (See [Nevada Gov. Sisolak Appoints Regional Tx Task Force](#).)

SB 448 requires transmission providers in the state to join a regional transmission organization by Jan. 1, 2030, although providers may be able to receive a waiver of the deadline.

The task force's work will complement that goal. The mission of the 21-member panel is to advise the governor and lawmakers on the potential costs and benefits of the state joining or forming an RTO.

The group will explore policies that would support the state entering an RTO by Jan. 1, 2030.

It will look at the siting of transmission facilities needed to reach the state's clean energy and economic development goals.

And it will evaluate which businesses and industries could move to the state once it enters an organized, competitive regional wholesale electricity market.

The group will prepare a report to the Legislature, which is due by Nov. 30. Another meeting is scheduled on Oct. 12, and the group is expected to meet again after that to vote on a final report.

Brooks said there's also an option for the task

force to form working groups to tackle specific topics.

Member Perspectives

The group's first meeting featured overviews of electric transmission and wholesale markets, and it also heard about Nevada's existing transmission network and the status of projects in the pipeline.

Task force members introduced themselves and shared their perspectives on a regional transmission system.

Mona Tierney-Lloyd, head of U.S. policy for Enel North America, is the geothermal industry's representative on the task force. Enel's projects in Nevada include the Salt Wells geothermal plant and Stillwater, a combined solar and geothermal facility.

Tierney-Lloyd said Enel has "a very strong interest" in the creation of an RTO, which would deliver economic opportunity, boost system efficiency and increase reliability. It would also provide an avenue for developing demand-side technologies, she said. "Having a strong transmission grid is really the backbone for providing development of those resources."

Kris Sanchez, deputy director of the Governor's Office of Economic Development, said his office has been looking at how to ensure Nevada's economic vitality coming out of the pandemic.

"One of the things that we recognized is that

Nevada needed to start really investing in ... looking at what we would need to make sure that the state was strong moving forward, and that we grow jobs in these critical industries like energy and transmission," Sanchez said.

As a representative of the Bureau of Consumer Protection in the Office of the Attorney General, Consumer Advocate Ernest Figueroa said his goal is to maximize ratepayer benefits. Figueroa is a non-voting member of the task force.

Economic Benefits

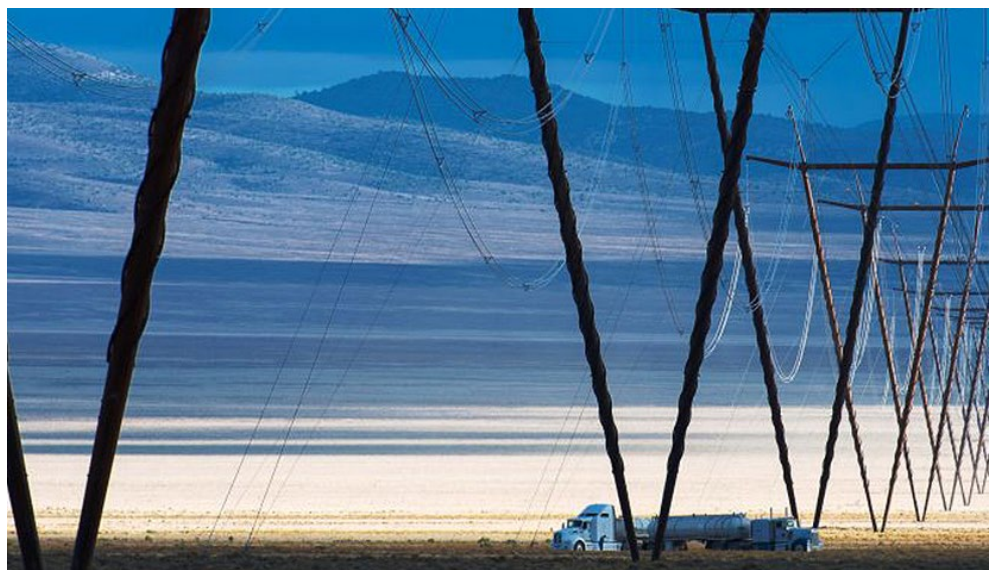
Task force member Leslie Mujica, executive director of Las Vegas Power Professionals, a nonprofit focused on workforce development, represents the general public on the panel.

She said Nevada can become a leader in renewable energy and electrification.

"Most importantly ... there are billions of dollars ready to be spent and invested in our state that will create not only high-paying jobs, but careers, long-term careers," Mujica said.

John Seeliger, regional energy manager for Nevada Gold Mines, represents the mining industry on the task force. The mining industry is very energy-intensive, he said, and it's looking at ways to decarbonize.

"We're very interested in making sure we have a stable and robust transmission system," Seeliger said. ■



The One Nevada Line, a 500-kV line connecting the southern and northern parts of the state | LS Power

CAISO/West News

CAISO Issues EDAM Straw Proposal for the West Seeks Day-ahead Extension of Western Energy Imbalance Market

By Hudson Sangree

CAISO on Thursday published its much-anticipated proposal to add a day-ahead market to its real-time Western Energy Imbalance Market as it tries to secure a larger share of a more regionalized Western energy landscape.

The extended day-ahead market (EDAM) plan covers key components, including transmission commitment, resource sufficiency evaluation and market-power mitigation.

“EDAM is a voluntary day-ahead electricity market with the potential to deliver significant economic, environmental, and reliability benefits for participants across the West,” CAISO said in the *straw proposal*. It “builds upon the proven ability of the Western Energy Imbalance Market (WEIM) to increase regional coordination, support state policy goals, and cost effectively meet demand.”

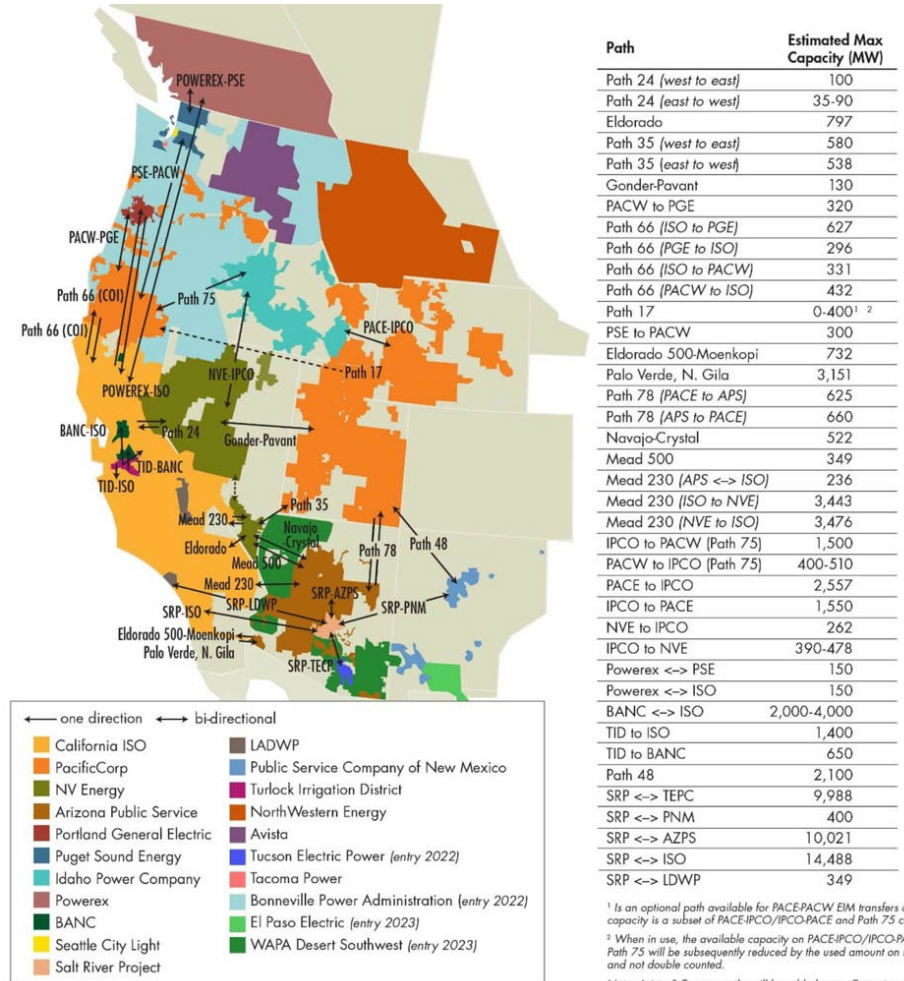
The WEIM recently surpassed \$2 billion in cumulative benefits for participants since it went live in November 2014. It has 17 members and is expected to grow to 22 participants by 2023, its benefits keeping pace with participation, CAISO said. (See [Western EIM Tops \\$2B in Benefits](#).)

CAISO is hoping that the WEIM’s growth record will attract new and current members to its day-ahead offering and fend off competition from SPP, which also has a real-time market – the Western Energy Imbalance Service (WEIS) – and is planning to start its own day-ahead market in the West as part of its Markets+ program, now under development. (See [Western Utilities to Support SPP Market Development](#).)

The stakes in the CAISO-SPP day-ahead competition could be higher than in the real-time segment because real-time trades account for only about 5-10% of energy transactions in the Western Interconnection while the day-ahead market accounts for 40% or more of all transactions, according to WECC.

CAISO projects EDAM benefits, above those already seen in the WEIM, at \$95 million to \$400 million annually. The ability to trade greater amounts of renewable output and reduce curtailments as states transition from fossil fuels to clean energy is viewed as a primary benefit of the EDAM.

The day-ahead market will also promote reliability, a prime concern in the West, where



A map in CAISO's Q1 2022 benefits report shows transfer paths in the Western Energy Imbalance Market. | CAISO

resources have been spread thin during summer heat waves as fossil-fuel plants retire and weather-dependent wind and solar resources take their place.

“The EDAM will ... enhance reliability across [its] footprint ... through a robust resource sufficiency evaluation and an imbalance reserve product that accounts for a level of uncertainty ... between the day-ahead and real-time [markets],” CAISO said.

The Western Power Pool’s Western Resource Adequacy Program (WRAP), covering much of the West, is aimed at the same problem – one of a number of current efforts to promote greater regional cooperation in the balkanized Western Interconnection.

Some FERC commissioners have urged the

formation of one or more RTOs in the West, while CAISO and SPP have been developing their own regional market programs, including SPP’s planned RTO West. (See [Changing Grid, State Policies Favor Western RTO](#).)

Key Components

After a pandemic hiatus, CAISO fast-tracked EDAM development starting last fall. Three stakeholder working groups met from January through mid-March to offer input on important design elements, and CAISO incorporated the groups’ results into Thursday’s straw proposal.

“First, voluntary participation is a key feature, as it is with the WEIM,” the straw proposal said. “This will allow for voluntary entry and exit, as well as resource participation.” Ensuring fair

CAISO/West News

rates for EDAM participation and confidence in market transfers were additional “threshold features” determined by the stakeholder groups, CAISO said.

Transmission commitment was another must-have, the ISO said.

“An EDAM entity and its transmission customers will need to make transmission available for the market to commit supply optimally within the EDAM [balancing authority areas] and identify transfers between EDAM BAAs,” it said. “The proposal retains the transmission bucket concept previously put forward by WEIM entities, where high-quality firm or conditional firm transmission is made available to support transfers between EDAM BAAs.”

The proposal requires participants to pass a day-ahead resource sufficiency evaluation (RSE) to show they have enough supply to meet internal demand and reserve requirements to avoid “leaning” on the market for additional supply. Failure to pass the RSE could lead to transfer limits or an opportunity for the entity to cure the deficiency through residual supply for a fee.

Other elements of the straw proposal include:

- Integrated forward market (IFM) and residual unit commitment (RUC) would be “two primary processes of the day-ahead market,” CAISO said. “The IFM balances supply and demand, which results in optimized supply commitment schedules and identification of market transfers. The RUC process runs after the IFM and will procure incremental or decremental capacity, as a backstop to the IFM, to ensure there is sufficient physical capacity to meet demand in real-time.”
- Market power mitigation tools would ensure that, when supply is limited, “suppliers cannot exercise market power to influence prices at arbitrarily high levels,” it said. “As a starting point for consideration, we propose to extend the WEIM market power mitigation methodology for EDAM but seek stakeholder input on the need for potential enhancements to evaluate market power across groupings of BAAs, instead of individual BAAs [in the WEIM], to better account for dynamic constraints affecting the groupings.”
- Convergence bidding would allow submission of financial bids in the IFM that do not represent physical supply or demand, CAISO said. “Convergence bidding is a common feature of forward electricity markets and is designed to improve price convergence between the day-ahead and real-time



Transmission lines traverse a basin near Highway 50 in central Nevada. | © RTO Insider LLC

market,” it said.

- External resource participation would let resources outside of the EDAM footprint offer supply into the market. “These resources may be pseudo-tied or dynamically scheduled into an EDAM BAA,” CAISO said. “We propose that economic bids and self-schedules continue to be supported in the EDAM.”
- Transfer revenue is the “settlement difference between the revenue paid to the import transfers and the cost charged to the export transfers,” CAISO said. “The ISO will distribute the transfer revenue to the EDAM entity that made the transmission available to the day-ahead market. The distribution of the transfer revenue between BAAs depends on the type of transmission used to facilitate the transfer at the transfer point. We are proposing a transmission settlement method to ensure each EDAM BAA is equitably compensated for releasing

transmission capacity at each transfer point that is optimized in the day-ahead market.”

- For greenhouse gas (GHG) accounting and reporting, the EDAM proposal recommends two potential options: a “resource-specific bidding and attribution approach, an extension of the WEIM framework for GHG accounting, and the zonal approach, which allows resources to be reflected as internal to a GHG regulation area or utilizes a hurdle rate for transfers.”

“We are considering deploying the resource specific approach at the onset of EDAM because it is more developed and better aligned with the WEIM design,” CAISO said.

The 37-page straw proposal goes into greater detail on these elements and more. A [stakeholder meeting](#) on the proposal is scheduled for May 25-26, both in-person at CAISO headquarters, in Folsom, Calif., and via a virtual option. ■

ERCOT News



ERCOT Board of Directors Briefs

Board Sides with Staff over Change to Outage Request Rules

ERCOT's Board of Directors last week sided with staff over a nodal protocol revision request that gives the grid operator the authority to review, coordinate and approve or deny all planned generation maintenance outages.

Stakeholders rejected staff's version of [NPRR1108](#) earlier last month, unanimously approving the measure as amended by several [joint commentators](#). (See [ERCOT Technical Advisory Committee Briefs: April 13, 2022](#).)

However, the directors approved [staff comments](#) filed April 26 that eliminated guardrails the Technical Advisory Committee had placed around the outage process to allow for weather variations during outage seasons that would provide predictable minimum outage windows for resource owners. The staff comments also modified TAC's approved language for determining the inputs to the maximum daily planned resource outage capacity (MDRPOC) calculation used to evaluate outage requests.



ERCOT's Woody Rickerson lays out ERCOT's viewpoint on NPRR1108. | [ERCOT](#)

Woody Rickerson, ERCOT's vice president of system planning and weatherization, told the board the MDRPOC is the process' key feature. Staff currently approve any outage request that is made 45 days or more in advance, but the calculation places a limit on the total amount of

outage capacity for each day over the next five years.

Rickerson said the MDRPOC will be updated twice each month, and daily remaining outage capacity values will be updated at least twice per day. The calculation allows a higher number of outages during fall and spring to ensure generation availability for the summer and winter peak load seasons, he said.

"We should have done this a long time ago. This gives resource owners the ability to look at the schedule of available outages, compare them to what is already scheduled and gives more information when looking at scheduling outages," Rickerson said in laying out [ERCOT's position](#). "It's useful for everyone. Having that transparency will aid us in approving these outages because generators can see what others doing."



Board Chair Paul Foster facilitates the board's April 28 meeting. | [ERCOT](#)

Staff said they were concerned with TAC's recommendation to establish a guaranteed minimum for the MDRPOC, saying it would impair their reliability responsibility by preventing them from ensuring sufficient generation capacity is available to meet expected conditions when the floor exceeds the MDRPOC.

TAC's requirement that it approve ERCOT's methodology also drew pushback from Rickerson. He said ERCOT's goal is to allow as much capacity and flexibility as possible for planned outages while maintaining reliability.

"ERCOT recognizes the fastest way to get into trouble is to restrict planned outages," he said. "We want the outage process to be as flexible as possible. We've got to find a way that resources can take outages."

To that end, Rickerson said staff want to further review the MDRPOC with stakeholders and bring it back to the board. He offered that for any change, the grid operator will solicit stakeholder feedback through a market notice at least 14 days before seeking board's approval of the changes.

"We all want the same thing: safe, reliable operations of this grid," Calpine's Bryan Sams said



Calpine's Bryan Sams advocates the TAC position on NPRR1108. | [ERCOT](#)

in advocating TAC's position. "For resource owners, that includes the opportunity to take planned maintenance outages with plenty of time to plan things that are very complicated."

Sams said that while TAC endorsed the NPRR, "it doesn't stop

ERCOT from maintaining reliability or cancelling planned outages and directing generators to be online during tight conditions."

Asked whether greater visibility into other generators' planned outages would be beneficial, Sams reminded the board that generators are trying to maximize prices.

"You'll see generators moving outages when times are tight," he said. "If ERCOT increased the MDRPOC a week before [an outage], you've lost a year. As a resource owner, if you believe the time period is going to be a little sketchy, you don't schedule your outage for that period."

ERCOT News



Board Chair Paul Foster asked that ERCOT continue to work with the generators to refine the outage calculation's inputs and bring the NPRR back to the board's June 20-21 meeting.

"That would be evidence of all of us working together," he said.

Staff drafted NPRR1108 to meet the requirements of legislation passed last year in the wake of the February winter storm that came within minutes of collapsing the ERCOT grid.

Senate Bill 3 included a provision that the grid operator "shall review, coordinate and approve or deny requests by providers of electric generation service ... for a planned power outage during any season and for any period of time."

The board tabled a second staff appeal of another TAC-endorsed rule change (*NPRR1112*) that would reduce unsecured credit limits from \$50 million to \$30 million. Staff argued that eliminating unsecured credit "will reduce the inconsistent cross-subsidization of credit exposure and provide a more level playing field for market participants."

TAC last month rejected a motion to amend the measure with ERCOT's comments, 16-3 with 11 abstentions. (See "Unsecured Credit Limit Lowered," *ERCOT Technical Advisory Committee Briefs: April 13, 2022*.)

Kenan Ögelman, vice president of commercial operations, explained to the board that when ERCOT's competitive market was opened in 2001, "certain parties" requested the grid operator grant credit, a practice that continues today.

In advocating *TAC's position*, Garland Power & Light CEO Darrell Cline said no parties have supported the grid operator's position and that eliminating unsecured credit does not "materially improve" credit risk in ERCOT. He pointed out that about \$420 million in market transactions during last year's winter storm remains in default, in addition to the \$1.9 billion Brazos Electric Power Cooperative owes the market.

Cline said none of the entities at default was extended unsecured credit and that other more appropriate vehicles exist to target credit risk, such as a comprehensive study of best practices.

"I believe I'll be able to say all of those that are receiving unsecured credit have fully repaid ERCOT," he said.

Saying that TAC's presentation "should raise a level of doubt in the board about the wisdom of proceeding" with the approach, Director John Swainson urged tabling the NPRR and directing staff to study best practices. Legal counsel Chad Seely responded that staff would

gather additional information from other grid operators and bring it to TAC's May 25 meeting.

Board Nears Decisions on Governance

Foster said the directors, fully seated since January, have been spending time with ERCOT staff and stakeholders "to become better educated on the board's duties and responsibilities" so they can make "sound and strategic decisions" on a governance framework.

He said the board plans to reach consensus on key principles that will guide decision-making as it considers modifications to the "governing documents and stakeholder process structure in a way that helps us all achieve our goal of a reliable, resilient and secure Texas power grid, and fair, competitive markets."

Foster said the directors expect to provide more information and begin staff and stakeholder discussion on the changes during their June meeting. In the interim, senior staff will reach out to TAC's leadership to discuss the board's preliminary thoughts.

TAC Chair Clif Lange, with South Texas Electric Cooperative, told *RTO Insider* that he is glad the board's learning curve has begun to flatten and that the directors are ready to discuss "the future of stakeholder interaction and participation." TAC members have raised concerns since last summer that its participation may be bypassed under the new governance structure.

"I think the robust discussions held recently pertaining to high-profile NPRRs really displays the mutually beneficial nature of a strong process that allows ERCOT and stakeholders to vet ideas," Lange said.

ERCOT Tracking 17 GW of Crypto Load

Interim ERCOT CEO Brad Jones told the board that staff is tracking 17 GW of potential cryptocurrency mining load that is interested in connecting to the Texas grid. That would be more than a 20% increase in peak demand were all 17 GW to begin operations.

"That's just slightly over two New York Cities," Jones said in providing directors an image of what could be coming. "This seems to be a great place to come."

ERCOT expects about 5 to 6 GW of crypto load to be added in the next two years. The

miners have been drawn to the state by cheap power prices and lax regulations. They have argued they can make the grid more resilient because their load can be quickly shut down when demand spikes.

"We've got to get ready for that, because it's an entirely new type of load for us," Jones said. "It's a loan that we know is going to come offline at certain price points, and we have to prepare for that."

He said he has had "great conversations" with 75% of U.S. investment in cryptocurrency. "They're very willing to work with us to find reliability solutions for us and all of Texas," Jones said.

ERCOT has already established an *interim process* to ensure new large loads can be reliably connected to the grid, helping staff to identify and resolve any issues before adding the loads to the system. The process applies to those projects or expansions that add 20 MW of demand at a generator within the next two years.

The grid operator is also creating a task force to develop policy recommendations for interconnecting large flexible loads. (See "Committee Approves Task Force to Address Crypto Mining Loads," *ERCOT Technical Advisory Committee Briefs: March 30, 2022*.)

In his *CEO's report*, Jones also said the grid operator's budget variance is facing a \$13.6 million shortfall, primarily because of a \$9.7 million overrun from data center timing issues. Some of the projects expenditures were held over last year, and some budgeted for next year were accelerated.

TAC Leadership Finally Confirmed

The board confirmed TAC's leadership after a two-month delay. Lange and ENGIE's Bob Helton, the committee's vice chair, will serve through 2022.

TAC approved Helton, who stepped down as chair after 2020, as its vice chair in March. He replaced Just Energy's Eric Blakey, whom the board had "discomfort" with over his company's November lawsuit against ERCOT and the Texas Public Utility Commission. That discomfort led the board to put off confirmation of Blakey and Lange during its March meeting. (See "Helton Replaces Blakey as Vice Chair," *ERCOT Technical Advisory Committee Briefs: March 30, 2022*.)

Just Energy filed for bankruptcy after the February 2021 winter storm. It is trying to recover payments that were made by its parties to the grid operator for certain invoices relating to the storm.



TAC Chair Clif Lange |
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ERCOT News



Board Signs off on SCT Directives, 13 Changes

Meeting for the first time in almost two months, the directors approved a raft of changes brought forward by staff and TAC, including:

- two directives issued by the PUC related to the Southern Cross Transmission (SCT) project, a merchant long-haul HVDC transmission line that would connect ERCOT with systems in the SERC Reliability region. In responding to the [14 PUC directives](#), ERCOT staff found they would not need to study and determine transmission upgrades to address congestion caused by SCT (*No. 6*). They also determined in the second directive (*No. 8*) that as of Jan. 1, 2021, DC ties should be required to have at least a 0.95 power factor leading/lagging reactive power capability, which several revision requests have already addressed. (See “Two More SCT Directives Approved,” *ERCOT Technical Advisory Committee Briefs: April 13, 2022*.)
- a minimum duration threshold of two hours for energy storage resources (ESRs). Lower-duration ESRs would be prorated to their continuous real power capability for two hours.

The board also approved eight NPRRs, two revisions to the Planning Guide (PGRR), a system change request (SCR) and a modification to the Settlement Metering Operating Guide (SMOGR):

- *NPRR1092*: lowers the reliability unit commitment's (RUC) offer floor from \$1,500/MWh to \$250/MWh and includes a two-hour opt-out provision.
- *NPRR1096*: requires resources providing

ERCOT contingency reserve service (ECRS) to provide two consecutive hours and/or be capable of sustaining four consecutive hours of non-spinning reserve service. The measure also requires the grid operator to conduct unannounced tests on ESRs providing ECRS and/or non-spin in real time to verify their state of charge.

- *NPRR1116*: removes obsolete language from Market Information System Administrative and Design Requirements referencing other binding documents on the system. Those documents are posted to the ERCOT website.
- *NPRR1117*: aligns the protocols with the Settlement Meter Operating Guide revisions to allow for losses in short runs of connecting lines to be disregarded when the ERCOT-pollled settlement meter (EPS) is not physically placed at the point of interconnection (POI).
- *NPRR1122*: clarifies that ERCOT will retain all securitization default charge escrow deposits to cover necessary potential future obligations for securitization default charges, and that funds provided for default charge escrow deposits must be sent to the correct account to be properly credited. It also corrects a subscript definition error in the securitization default charge maximum megawatt-hour activity ratio share.
- *NPRR1123*: provides for the assessment of securitization uplift charge escrow deposits based on counterparty initial estimated adjusted meter load.
- *NPRR1124*: ensures generation resources that receive an RUC dispatch instruction can recover their actual fuel costs by setting the start-up price and minimum-energy price to

the start-up cap and the minimum-energy cap.

- *NPRR1125*: clarifies that ERCOT may use available financial security held for other market activities should there be payment defaults in either of the two securitization proceedings. The change also specifies the prioritization for applying the securities when there are concurrent defaults for either invoices or escrow deposit requests.
- *PGRR096*: establishes requirements for the consistent representation of distributed generation resources, distributed energy storage resources, settlement-only distributed generators and unregistered distributed generation in steady-state base cases.
- *PGRR098*: enables corrective action plans to be developed under certain outage scenarios to the existing reliability performance criteria.
- *SCR818*: modifies the Network Model Management System (NMMS) and topology processor to incorporate geomagnetically induced currents (GIC) modeling data for maintaining GIC system models for the ERCOT planning area to comply with NERC standard TPL-007-4 (Transmission System Planned Performance for Geomagnetic Disturbance Events). Additional changes include automated email notifications of the need for the GIC modeling data submittals and updates.
- *SMOGR025*: allows for losses in short runs of connecting lines to be disregarded in instances where the EPS meter is not physically placed at the POI and requires calculation to verify that the watts copper losses are below 0.001%.

— Tom Kleckner

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ERCOT News



Texas Officials Complete Critical Infrastructure Map

By Tom Kleckner

A committee comprising Texas regulators, ERCOT staff and state emergency management officials has completed the first map of the state's critical infrastructure for use during disasters and emergency preparedness and response.

The map, released Friday, identifies critical infrastructure facilities that make up the state's electricity supply chain, including generation plants and the natural gas facilities that supply fuel to power the plants. State emergency management officials will use the map during weather emergencies and disasters to pinpoint the location of critical electric and natural gas facilities and emergency contact information for those facilities.

It is a result of last February's winter storm, when natural gas and other fuel supply issues exacerbated ERCOT's inability to quickly meet massive demand with reduced supply. In the wake of the storm, Texas lawmakers passed [legislation](#) requiring the map's creation. The law

prohibits its public release and its corresponding data for security reasons.

Thomas Gleeson, the Public Utility Commission's executive director and the mapping committee's chair, said the map will save lives in Texas.

"Our agencies have collected an enormous amount of critical information in one place, available to state emergency officials with a click of a mouse. That means better coordinated preparedness before a disaster and faster response times in an emergency, to protect the Texas grid," he said.

The map has more than 65,000 facilities, including generation plants powered by natural gas, electric substations, natural gas processing plants, underground gas storage facilities, oil and gas well leases, and saltwater disposal wells. The map also includes more than 21,000 miles of gas transmission pipelines and about 60,000 miles of transmission lines.

It is a product of months of work by representatives from the PUC, the Railroad Commis-



The new Texas map of critical infrastructure includes the state's 21,000 miles of natural gas transmission pipelines. | Shutterstock

sion (RRC), ERCOT and the Texas Division of Emergency Management. The committee plans to hold a public meeting May 31 that will be [livestreamed](#).

The map's release also starts a six-month statutory clock for the RRC, which regulates the state's natural gas industry, to adopt a weatherization standard for the listed gas infrastructure.

"All the layers of facilities on the map will help the state's planning and response to fix problems real time and prioritize electricity service during emergencies," RRC Executive Director Wei Wang said. ■



OMS Seeks a New Director – Legal and Regulatory Affairs Organization of MISO States

Position Overview

Support the Executive Director in development of filings at the Federal Energy Regulatory Commission and management of workstreams key to the organization's success. Assist with member interaction and education, particularly focusing on commission staff, to execute the needs of the organization as established by the OMS Executive Committee and Board of Directors. Legal experience a plus. Office location negotiable. Salary commensurate with experience

Those wishing to be considered should submit a resume to Amanda Wood at amanda@misostates.org

by Wednesday, May 4, 2022. Find out more about OMS on our web site at www.misostates.org.

OMS is the regional state committee for the Midcontinent Independent System Operator (MISO) region representing regulatory entities in 15 states and Manitoba, Canada. The purpose of the OMS is to coordinate regulatory oversight among its members, to make recommendations to MISO, the MISO Board of Directors, the Federal Energy Regulatory Commission, and other relevant government entities and state commissions as appropriate to express the positions of the OMS member agencies.



ISO-NE News

ISO-NE Weighs Allowing Storage as Transmission

By Sam Mintz

As New England wrestles with building the new transmission infrastructure it needs to fuel the clean energy transition, a new effort by the region's grid operator could help bring some relief that doesn't come in the form of wires.

ISO-NE is developing a process for allowing energy storage projects to be used as transmission assets.

Storage-as-transmission-only assets (SATOAs) would be energy storage devices connected to the grid that can "inject stored power to address transmission system concerns," ISO-NE's Brent Oberlin *told* the NEPOOL Transmission Committee at its meeting last month.

The proposal would be technology agnostic, and the projects could come in the form of batteries, air, water or even "large concrete blocks on cranes," Oberlin said, *referencing* a Swiss clean energy firm called Energy Vault.

ISO-NE is moving forward on allowing SATOAs after a number of stakeholder requests but said that it will have to be careful to avoid both compromising reliability and significant impacts on the markets.

Toward that goal, the grid operator is setting several limits on its initial plans to allow the projects, which will have to advance through the NEPOOL stakeholder process and ultimately be approved by FERC.

In transmission planning, SATOAs would be limited to being discharged in post-second contingency (post N-1-1). And in operations, they would be "used as a last step to avoid load shedding or criteria violations," Oberlin's presentation said. They could only be operated after all other market-facing resources were exhausted.

SATOAs would not be allowed to participate in the region's wholesale markets. They would only be paid through the transmission cost recovery process.

The initial proposal from ISO-NE would also set size limits, with individual stations not being allowed to exceed 30 MW of charge or discharge capability and total SATOAs in New England limited to 300 MW.

Industry Reactions

Energy storage advocates said that the rollout was a welcome first step, but the process has a



A Nexamp solar-plus-storage project in Massachusetts | Nexamp

long road to implementation.

"Given the transmission investments that will be needed to reach the region's clean energy and decarbonization commitments, we'll need every tool and technology available to do that as cost-effectively as possible, and allowing storage to solve transmission needs is a step that we've been asking ISO-NE to take," said Caitlin Marquis, director of Advanced Energy Economy. "The real question will be whether the changes result in storage being considered and selected to meet transmission needs in practice."

Jason Burwen, vice president of energy storage at the American Clean Power Association, said that ISO-NE's caution as it develops a process for SATOAs is unsurprising.

"I think ISO-NE is going in with a fairly conservative stance, understandably so, to make sure that its market participants understand that they are going to be watching out to make sure the use cases of these assets are narrowed to when they are really truly for transmission reliability purposes," Burwen said.

Utilizing SATOAs requires outside-the-box thinking for grid operators, he added.

"It's really figuring out how to work them into a framework that has traditionally not looked at this as a solution. And that's always going to be a lot of thinking through complex and challenging topics," he said.

The MISO Model

In trying to bring in storage projects as a transmission solution, New England is following in the footsteps of other parts of the world, including Australia and parts of Europe, as well as elsewhere in the U.S.

Most notably, MISO has developed a SATOA framework that led to a project currently under development in Waupaca, Wisc. The \$8.1 million, 2.5-MW project was *found* to be cheaper and easier to site than a transmission line rebuild that was also under consideration. It's set to come online later this year.

Now debate in MISO has evolved toward some of the same questions that New England stakeholders are wrestling with: whether the project and others like it can participate in the electricity markets too.

The project's owner, American Transmission Co., is looking for a way to both participate as a transmission solution and in the region's energy market, but right now it has no avenue to do so.

MISO has discussed allowing one-off agreements for storage projects that want to do both in the interim to give itself time to think about the rules it wants to put into its tariff, but some stakeholders have urged it to use a deliberate process. (See *MISO Market Subcommittee Briefs: Jan. 27, 2022.*) ■

ISO-NE News



ISO-NE Planning Advisory Committee Briefs

ISO-NE is starting the process of figuring out how to solve future transmission challenges raised by a study looking at the system in 2050.

The preliminary results of the 2050 Transmission Study found that “paradigm shifts” in the region’s grid could lead to overloads on as much as half of the region’s 9,000 miles of transmission lines. (See *2050 Tx Study Finds Thousands of Miles of Overloads in ISO-NE.*)

In a *presentation* to the Planning Advisory Committee on Thursday, ISO-NE officials laid out how they plan to begin addressing those shortfalls. Its primary set of solutions would consist of adding new transmission lines, re-building existing lines, and adding or replacing transformers.

The grid operator would also add specific transmission elements to deal with aligned but separate needs found by 2035 and 2040, and a specific winter peak load case that sees the region using 57 GW of energy.

Dan Schwarting, an ISO-NE transmission planner, warned that the study comes with a “certain degree of uncertainty” and that “developing detailed cost estimates for each component could be very costly and time-consuming.”

The study was done at the behest of the New England States Committee on Electricity, and ISO-NE is working with the states to fine-tune its results and proposed solutions, Schwarting said.

Cape Cod Curtailments

ISO-NE’s Al McBride also presented at the



New England’s grid operator is working to find solutions for transmission overloads found in a new 2050 study. | Shutterstock

PAC *a new pilot study* analyzing potential curtailments that could be caused by new generation, specifically big additions of offshore wind off Cape Cod and at Brayton Point.

Looking at a scenario with up to 3,200 MW of wind injected into the Cape Cod area and up to 2,000 MW into Brayton Point, the study found that “a number of lines in the area have the potential to be binding and cause curtailment.”

In particular, the 399E line, a 345-kV line from West Barnstable to Bourne, Mass., was found to be the most limiting for injecting new offshore wind on Cape Cod.

But upgrading it would just mean that other constraints upstream would become the limiting factors, the study found.

Planning for Geomagnetic Disturbances

ISO-NE also outlined its plan for meeting a

NERC standard on transmission system planning for geomagnetic disturbances (GMDs).

Transmission planning engineer Jinlin Zhang presented the outline of a 2026 needs assessment project regarding NERC standard TPL-007-4.

GMDs, caused by solar flares, can introduce new currents to the grid, driving transformer cores into saturation and leading to a number of adverse effects. A nine-hour blackout in Quebec in 1989 was caused by a GMD that hit power grids across North America and Europe, according to Zhang.

ISO-NE is weighing a number of contingencies to determine how vulnerable the region’s grid is to these events, which Zhang laid out in her *presentation*. ■

— Sam Mintz

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ISO-NE News

Maine Governor Vetoes Bill to Limit Regional Transmission Lines

Veto Letter Says Bill Would Hinder Regional Climate Efforts

By Jennifer Delony

Maine Gov. Janet Mills on Wednesday vetoed a bill designed to limit development of transmission lines that would deliver electricity out of the state.

“The bill (*LD 170*) would create inappropriate barriers to the development of transmission lines, which could hinder the ability of the state and region to meet our critically important climate and energy goals,” Mills said in a veto letter.

As passed with a committee amendment, the bill sets guidelines for regulatory approval of transmission lines that are deemed “nonessential,” in that they are not needed primarily for in-state electric reliability, in-state retail electric service or meeting Maine’s climate goals.

“LD 170 does not prevent future transmission lines in Maine to serve Massachusetts and others in the region,” Rep. Seth Berry (D), House chair of the joint Energy, Utilities and Technology (EUT) Committee, said in a statement. “On the contrary, it asks that they be developed for mutual benefit and in consultation with communities and landowners who may otherwise

be forced to host new infrastructure.”

Designating transmission lines as nonessential based on their functional benefit outside of Maine misrepresents the regional nature of the New England power grid and the global nature of the climate crisis, according to Mills. For Maine and other states in New England to meet their climate goals, “it will be essential to work strategically on a regional level, and this bill would seriously interfere with those efforts,” she said.

Amendments made by the EUT Committee established nonessential line approval requirements that Mills called “vague, ill-considered and unworkable.” The requirements included ensuring the developer demonstrates it has negotiated with stakeholders, attempted to work with impacted communities and negotiated for shared ownership if the developer cannot finance the project through revenue bonds.

The bill also would direct regulators to consult with municipal governments affected by the potential taking of land by eminent domain for a proposed transmission line before approving it.

“I worked hard to address concerns that the public flagged in the [New England Clean Energy Connect (NECEC)] debate so that we have a more transparent and accountable process moving forward and that our clean energy transition proceeds at the necessary pace to meet our climate goals,” the bill’s sponsor, Rep. Nicole Grohoski (D), said in a statement.

Mills has been a steadfast proponent of the NECEC project, which is planned to deliver Canadian hydropower to Massachusetts via a 145-mile transmission line that would run through Maine. Voters in the state, however, approved a measure in November to halt construction of the project.

Avangrid subsidiary Central Maine Power, developer of the project, agreed to stop constructing NECEC while the courts consider its claim that the referendum is unconstitutional.

Legislators will return May 9 to consider LD 170 and other vetoed bills. Mills urged the legislature to sustain her veto.

Grohoski said she is “surprised and disappointed” by Mills’ veto and hoped her colleagues will join her in voting to override it. ■



Gov. Janet Mills vetoed a transmission bill that its sponsor, Rep. Nicole Grohoski, says sprang from the public debate over the New England Clean Energy Connect project, seen under construction here. | Roger Merchant

MISO News



Stakeholders to MISO: Don't Preclude Generation from Tx Cost Sharing

By Amanda Durish Cook

Cost allocation negotiations for the second half of MISO's long-range transmission planning process heated up last week over whether interconnecting generators should bear a portion of project costs.

At a meeting of MISO's cost allocation stakeholder group April 26, staff said the RTO is leaning toward ruling out a "generator pays" element in its long-range transmission cost allocation.

Jeremiah Doner, MISO director of economic and policy planning, said the RTO prefers keeping transmission cost allocation to load separate from network upgrades to interconnection customers. Several stakeholders at the meeting asked MISO to reconsider devising cost assignments for interconnecting generators in order to pay for long-range transmission projects.

MISO is currently designing a different cost al-

location to apply to the third and fourth cycles of its multiyear long-range transmission plan. (See [MISO Seeking New Tx Cost Allocation for Major Buildout](#).) The grid operator hopes to have a new allocation in place by the end of next year, though some stakeholders hope it can finish earlier than that.

The long-range planning is occurring in four parts, with the first two focusing on the RTO's Midwestern footprint and more immediate needs. The third cycle will include transmission needs in MISO South, while the fourth will include both the Midwest and South and solutions to increase transfer capability between them. MISO has so far studied and recommended \$10 billion worth of projects for the first phase of the plan. (See [MISO Focuses Stakeholders on \\$10B LRTP Projects](#).)

Sustainable FERC Project attorney Lauren Azar said implementing a generator-pays model will introduce a host of complex issues.

Clean Grid Alliance's Natalie McIntire said that

if MISO plans to allocate transmission costs to generation, it must also "slice and dice" its current process for assigning interconnection upgrade costs. She also said that if generators take on transmission costs based on how it benefits them, the RTO should also consider compensating generators for the contributions they provide, including reliability and furthering carbon reductions.

"There's two sides to these questions about generator benefits," McIntire said.

Doner said generation trying to clear the interconnection queue will still have network upgrade costs even after long-range projects are built, though they will be comparatively cheaper than current costs. Doner pointed out that ultimately, transmission charges flow back to load.

Mississippi Public Service Commission counsel David Carr said he was in favor of exploring a "generator pays" percentage of cost sharing and said it seemed that clean energy nonprofits were trying to "shut down" the possibility. He also said that while load will ultimately pay, it's a matter of "which load" will pay: "All load, or the load from generators that rely on the projects?"

Southern Renewable Energy Association Executive Director Simon Mahan said that existing generation will likely benefit from the long-range projects. He asked if stakeholders would want long-range project costs assigned to existing generation. Mahan also said assigning costs to generation on transmission projects that stand to increase MISO's Midwest-South regional transfer constraint is bound to be complicated.

Some stakeholders asked that proponents of generator cost assignments come forward with proposals of how and when generation could be assessed and assigned transmission costs.

Entergy's Yarrow Etheredge said that while the RTO didn't seem receptive to exploring generator charges in transmission cost sharing, it's possible for projects stemming from MISO and SPP's Joint Targeted Interconnection Queue study. (See [Now, the Hard Part: MISO, SPP Tackle JTIQ Cost Allocation](#).)

Recognizing that cost allocation will continue to feature heavily in stakeholder meetings, MISO announced that it's assembling an internal cost allocation team. Current employee Milica Geissler is serving as team lead. ■



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MISO News

DOE Plan Unlikely to Save Entergy's Palisades Nuke

By Tom Kleckner

Entergy said during its first-quarter earnings call Wednesday that it remains on course to shut down its nuclear-powered Palisades plant in Michigan, despite the Department of Energy's \$6 billion program to prevent the early closure of nuclear generators. (See [Federal Aid Likely Too Late to Save Palisades, Diablo Canyon Nukes.](#))

"We're supportive of the federal initiative to keep nuclear plants operating," CEO Leo Denault told financial analysts. "However, we are five years into the Palisades shutdown process. There are significant technical and commercial hurdles. It's a real heavy lift at the last hour."

Denault said Entergy has not ordered additional fuel for Palisades Nuclear Generating Station, which is out of fuel and is scheduled to shut down at the end of this month. The company has been preparing to shutter Palisades

since 2017 and has not refueled the plant since 2020.

The Nuclear Regulatory Commission in December approved Entergy's request to transfer Palisades, its nuclear trust fund and its spent fuel to Holtec Decommissioning International. The company said it will work with Holtec or any party interested in getting the Federal funding.

"This does not change our strategy. We are exiting the merchant nuclear business," Denault said.

Shutting down nuclear plants "is just backwards," Denault said, noting their importance in supporting the grid's reliability and in decarbonization efforts.

New Orleans' only Fortune 500 company [reported](#) earnings of \$276 million (\$1.36/share), down from 2021's first-quarter earnings

performance of \$335 million (\$1.66/share). Entergy said it is ahead of schedule for its 2022 objectives based on favorable weather and higher-than-expected retail sales in the quarter.

The company's adjusted earnings of \$269 million (\$1.32/share) missed the Zacks Consensus Estimate of \$1.38/share.

Denault said the company has 650 MW of renewable capacity in place, with another 625 MW of solar energy gaining regulatory approval and a further 725 MW of projects announced. Entergy also has 4 GW of requests for proposals out for bid, totaling more than half of its 11-GW renewable target through 2030.

Entergy's share price closed at \$120.68, a gain of 2 cents from its previous close and up from its \$119.88 open. ■



The Palisades nuclear plant | Nuclear Regulatory Commission

MISO News

CGA Requests MISO Help for Late-stage Interconnection Projects

By Amanda Durish Cook

Clean Grid Alliance is asking MISO to develop a means to see late-stage generation projects through the interconnection queue when they're dogged by uncertain and delayed affected-system study results.

The request comes as MISO and SPP have filed to enact a new relative interconnection queue priority for generation projects that stand to affect the seams for the purposes of system impact studies, affected-system studies and cost assignments for network upgrades.

MISO and SPP's ongoing Joint Targeted Interconnection Queue transmission planning study compelled them to pivot from a "first-come, first-served" queue priority approach to a "first-ready, first-served" method. The RTOs have a filing before FERC to apply the new prioritization ([ER22-1533](#)).

MISO is processing queue applications that were submitted in 2019 and 2020, while SPP is working on interconnection requests submitted in 2017. In some cases, MISO interconnection customers that entered the queue in 2018 are already signing generator interconnection agreements, the final step before grid access.

Andy Witmeier, MISO director of resource utilization, has said it "doesn't make sense" for MISO interconnection customers to be held up by projects in SPP's queue that may have entered earlier but have yet to be sited. SPP's Neil Robertson has also said the RTOs must "evolve" beyond the instinct that whoever lines up first must finish first. (See [Midwest Energy Policy Series Addresses JTIQ Projects](#).)

But in MISO, batches of projects that entered the queue in 2018 and 2019 were left out of the new priority. The RTO said those cycles of projects are destined for generator interconnection agreements (GIAs) before the changes have a chance to take effect.

CGA's Rhonda Peters said those projects in the late stages of MISO's interconnection could also use a solution from the RTO to ensure they clear the queue.

Speaking to stakeholders at the Planning Advisory Committee's meeting Wednesday, Peters said the generation projects are approaching GIAs without "final or accurate" upgrade costs from MISO's and SPP's affected-system studies. She said these interconnection customers



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don't have a complete enough picture of the affected-system studies or the upgrades they could be on the hook for "to commit significant capital in a GIA or other construction contracts." She said many are considering filing GIAs unexecuted — "not an ideal solution" for either them or MISO.

CGA's Natalie McIntire called for a way to help interconnection customers' advanced-stage projects with uncertain affected-system studies.

"I'm not aware of other industries where you have to sign on the dotted line [while] not understanding what your costs are going to be," McIntire said.

Both EDF Renewables and Invernergy have protested MISO and SPP's FERC filing based in part on similar arguments. EDF said it is "often faced with having to execute a GIA 12 to 18 months before obtaining clarity on final affected-system costs." Invernergy called the affected-system study process "broken."

Peters said advanced-stage interconnection customers in the 2018 and 2019 cycles have already spent millions that could be passed on to ratepayers even if the projects don't reach commercial operation. "These projects are the rule-followers and ones that have gone by the book," she said.

If the projects don't ultimately connect to the grid, it could impact MISO's reliability models and resource adequacy. "As the age-old saying goes, an ounce of prevention is worth a pound of cure," she said.

In February and again in early April, Peters tried to submit a presentation on the topic but was blocked by MISO and the stakeholder leadership of the Interconnection Process Working Group (IPWG). Several stakeholders insisted MISO add the presentation to its website and devote time to stakeholder discussion on the 2018 and 2019 projects.

Future discussions on the topic are likely to take place at IPWG meetings. ■

MISO News

MISO Reassessing Hartburg-Sabine Project amid Texas ROFR Dispute

By Amanda Durish Cook

More than four years since it approved the project, MISO announced last week it will reanalyze the controversial Hartburg-Sabine Junction project in East Texas for a fresh look at its effectiveness.

Speaking at the Planning Advisory Committee’s meeting Wednesday, MISO Senior Manager of Competitive Transmission Administration Brian Pedersen said the project’s schedule delays and an “inability to construct” the line has triggered a variance analysis to consider if it is still necessary. He said MISO will re-evaluate the line’s benefit-to-cost ratio.

MISO said the planning analysis can have one of two outcomes: reassigning the project to Entergy Texas to comply with Texas state law or canceling the project because it’s no longer necessary.

The RTO included the 500-kV, \$130 million Hartburg-Sabine Junction as a market efficiency project (MEP) in its 2017 Transmission Expansion Plan, selecting competitive developer NextEra Energy Transmission Midwest to construct most of the line. MISO expected the

line to relieve congestion and provide access to lower-cost generation at a benefit-to cost ratio greater than 1.25:1.

In 2019, Texas passed a right-of-first-refusal law that allowed Entergy Texas to take over the construction of the line. The U.S. Department of Justice opposed Texas’ ROFR law as anticompetitive. NextEra filed a federal lawsuit, and the Hartburg-Sabine line remains in legal limbo with a pending appeal. Neither Entergy nor NextEra have broken ground. (See [Uncertainty Deepens for Hartburg-Sabine Project.](#))

In 2020, Entergy issued a request for proposals for a 1.2-GW natural gas and hydrogen plant in Orange County to be in operation by 2025. The \$1 billion power plant might nullify the need for the line, according to Southern Renewable Energy Association Executive Director Simon Mahan.

Based on information it receives, MISO still maintains an “on time” construction estimate for August 2023 in its quarterly project information. Stakeholders questioned the reasonableness of a 2023 in-service date given the line’s uncertain status.

Clean Grid Alliance’s Natalie McIntire asked

if MISO will use its current transmission planning future scenarios — since updated to include more renewable energy, energy efficiency, electrification and decarbonization — to reassess the project.

Mahan asked whether MISO will factor Entergy’s future Texas plant into the restudy.

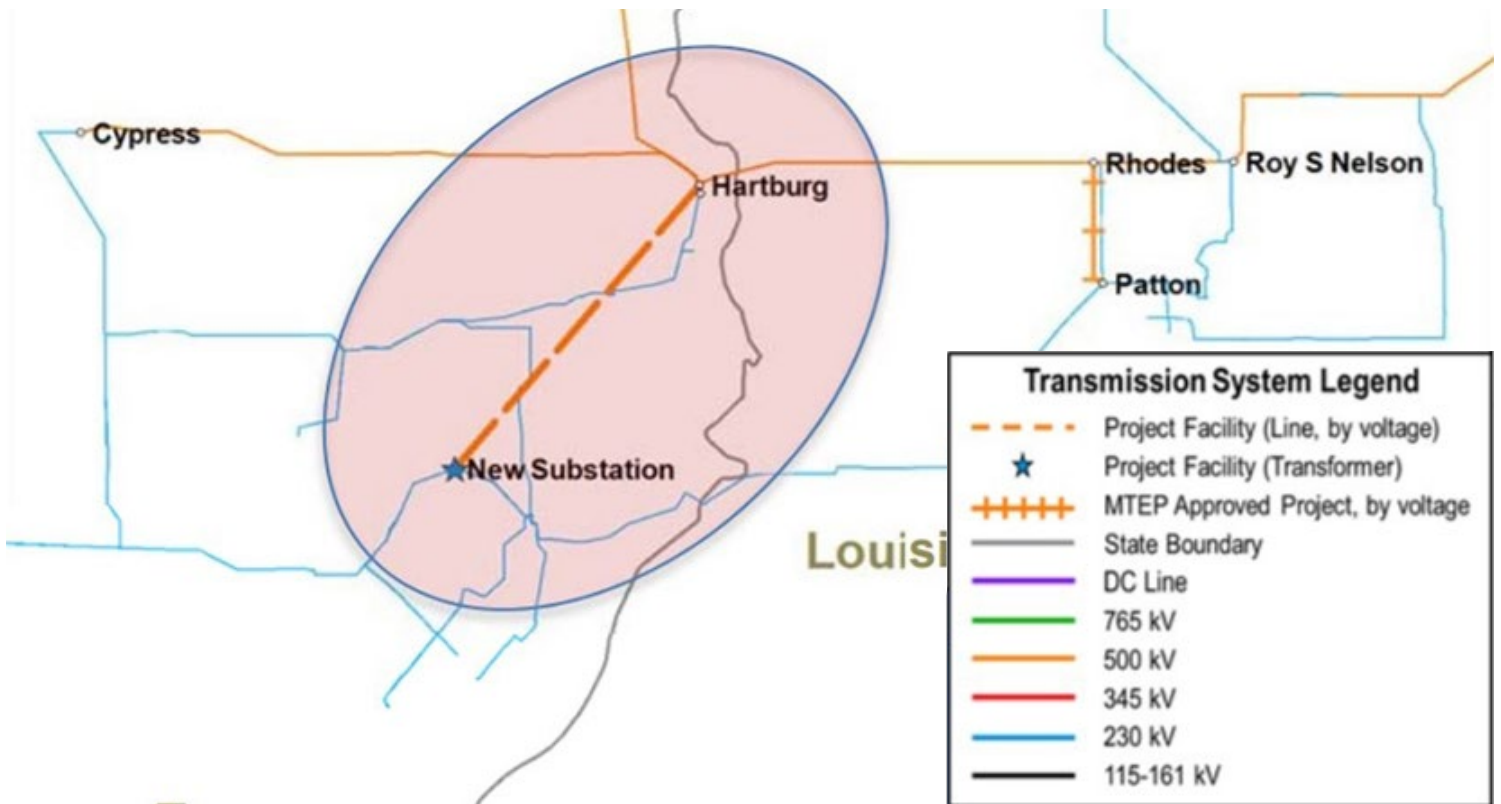
Pedersen said MISO will share the study scope and ensuing results at upcoming meetings of the South Technical Studies Task Force. The task force is set to meet May 11, June 8 and July 20.

Mahan also asked if a replacement project could emerge in MISO’s ongoing long-range transmission plan should Hartburg-Sabine Junction fall off as an MEP. The long-range study is set to evaluate MISO South needs in 2023.

Pedersen said an answer to that would be “speculation,” but “any project could show up.”

Hartburg-Sabine Junction is the first MEP that MISO has ever assigned to its South region.

MISO counsel Chris Supino said that should the RTO decide to cancel the project, it must go before FERC for approval. ■



MISO News



Capacity Shortage Prompts MISO to Consider Broadened Retirement Studies

By Amanda Durish Cook

Faced with a capacity supply shortage in the 2022/23 planning year, MISO is considering broadening its generator retirement studies to consider resource adequacy.

During the Planning Advisory Committee's meeting Wednesday, MISO's Sydney Yeadon said the grid operator is considering changes to its Attachment Y process — the procedures it uses to study whether retiring generation needs to stay online longer under a system support resource agreement.

MISO's current evaluation process focuses solely on the reliability impacts of the retirement to the transmission system.

Yeadon said MISO's capacity shortfall for 2022/23 is causing it to consider whether it should expand the study to include resource adequacy impacts and mitigation options. (See [MISO's 2022/23 Capacity Auction Lays Bare Shortfalls in Midwest](#).)

"A trend of increased retirements is developing quickly across the footprint," Yeadon said,

adding that while MISO respects states' jurisdiction over resource adequacy decisions, the retirements are causing the Midwest footprint to feel a supply squeeze.

MISO said EPA regulations, paired with renewable energy and greenhouse gas emissions targets, are "rushing generation to retirement." The grid operator singled out EPA's recent [Good Neighbor NOx pollution limits](#) and coal ash regulations. (See [EPA Coal Ash Enforcement Impacts Midwest Coal Plants](#).)

According to the Institute for Energy Economics and Financial Analysis' [2022 U.S. Power Outlook](#), 99.2 GW of coal-fired generation in the U.S. is expected to retire or be converted to natural gas from 2021 through 2030. The nonprofit said it expects more closure announcements on top of that.

"I completely disagree with MISO blaming coal retirements ... on EPA regulations and state goals," Sustainable FERC Project attorney Lauren Azar said.

Azar said even during her time as a Wisconsin Public Service Commissioner more than a

dozen years ago, it was "abundantly clear" that coal plants were going to retire at an unprecedented rate while renewables were poised for growth.

"Instead, I would look in the mirror," Azar said to MISO staff. "We are unable to connect generators in much of MISO because of insufficient transmission capacity. ... I'm less than articulate right now; I'm pretty wound up."

MISO's Andy Witmeier said MISO wasn't trying to blame regulations for the poor resource adequacy showings.

Minnesota Public Utilities Commission staff member Hwikwon Ham pointed out that five years ago, MISO ended its [regional transmission overlay study](#) with some members convinced that federal regulations weren't on the horizon. That 2017 study was designed to identify long-term transmission needs under a shifting resource mix; MISO did not recommend any transmission projects from the study.

All the while, Ham said, Wall Street was trending toward decarbonization.

"We really need to pay attention to money," he said.

America's Power CEO Michelle Bloodworth said MISO's retirement studies must consider resource adequacy.

Bloodworth said EPA regulations are "putting pressure on dispatchable resources to retire when they still have economic life left in them." She asked for MISO to "send signals for those resources to stay as long as they're needed."

Stakeholders asked if MISO will simply conduct deeper analysis and share the results with states, which have final say over resource adequacy decisions.

MISO staff said the first discussions will focus on how it can improve its retirement studies, which are becoming more frequent.

MISO plans to hold discussions on improvements in meetings of the Planning Subcommittee through summer; however, stakeholders said the topic might be better left to the Resource Adequacy Subcommittee.

WPPI Energy's Steve Leovy said assigning the initiative to the Planning Subcommittee was "confusing" given MISO's many references to resource adequacy. Nevertheless, he said he agreed with the Planning Subcommittee as the starting forum. ■



AES Indiana's Eagle Valley natural gas plant is offline because of disconnected wires and ruptured pipes at least until June. | AES Indiana

MISO News

MISO Warns of Summer Emergencies, Load Shedding Capacity Auction Shortfall Means Emergency Resources Even Under Normal Conditions

By Amanda Durish Cook

MISO last week warned that even a normal amount of demand and generation outages will likely send it into emergency procedures this summer.

The RTO also didn't rule out summertime load shedding during combinations of high demand and high generation outages.

At a summer readiness workshop Thursday, MISO said it projects "insufficient firm resources" to handle summer peak forecasts. The grid operator said it will probably rely on a combination of emergency resources and non-firm energy imports from neighbors to maintain system reliability in June, July and August.

MISO Resource Adequacy Coordination Engineer Eric Rodriguez said the RTO's projections square with the 1.2-GW capacity shortfall across the Midwest that was exposed in last month's Planning Resource Auction. (See *MISO's 2022/23 Capacity Auction Lays Bare Shortfalls in Midwest.*)

The RTO said all summer months will require

emergency resources to meet peak load conditions. Using a probable peak load forecast, MISO said it has 116 GW of firm resources to cover a 116-GW peak in June, an insufficient 119 GW to tackle a 124-GW peak in July and another 119 GW that will be no match for August's 121-GW peak forecast.

Rodriguez said that while June is "pretty tight," July and August contain significant reliability risks.

"Hopefully, with careful management of emergency resources, we'll be able to navigate through the summer," Rodriguez said.

MISO has about 12 GW worth of load-modifying resources (LMRs) and operational reserves that can only be accessed if it first declares an emergency.

The RTO said it could be in even worse shape if it encounters higher-than-normal temperatures coupled with a high level of generation outages. The grid operator said it's possible it will find itself depleting all emergency resources and still coming up a few gigawatts short over all three months. In a worst-case scenario, MISO could have a little less than 114 GW in

firm capacity and a daunting 131-GW demand during the July peak. In that case, it would be about 5 GW short after all firm and emergency resources are factored in.

MISO staff didn't rule out the possibility of load shedding if it exhausts all its firm resources, emergency reserves and LMRs and emergency energy purchases from neighbors.

In a press release, Executive Director of Market Operations J.T. Smith said MISO Midwest is "at increased risk of temporary, controlled outages to preserve the integrity of the bulk electric system."

"We exhaust every last megawatt before us before we get to that point," Smith assured stakeholders at the workshop.

Smith also acknowledged that MISO is heading into summer without its usual 1,000 MW of firm capacity between Midwest and South, which also poses an additional, if small, risk when it and its neighbors experience heavy demand simultaneously. (See *MISO Midwest-South Transfer Service on Outage until July.*)

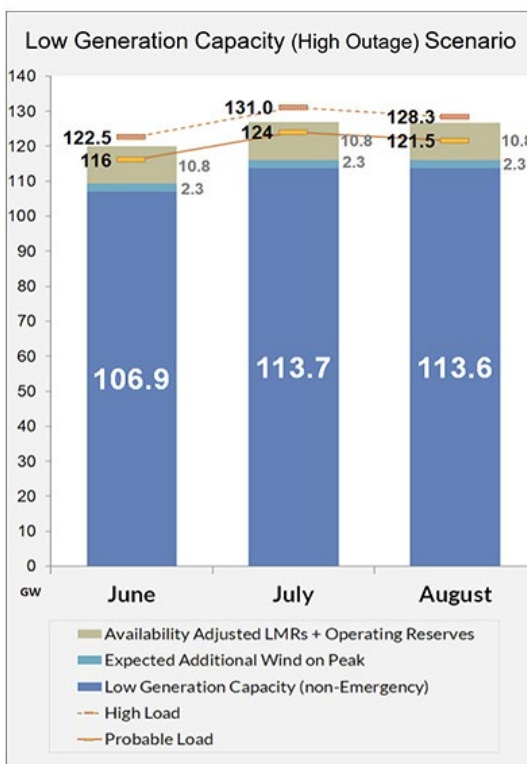
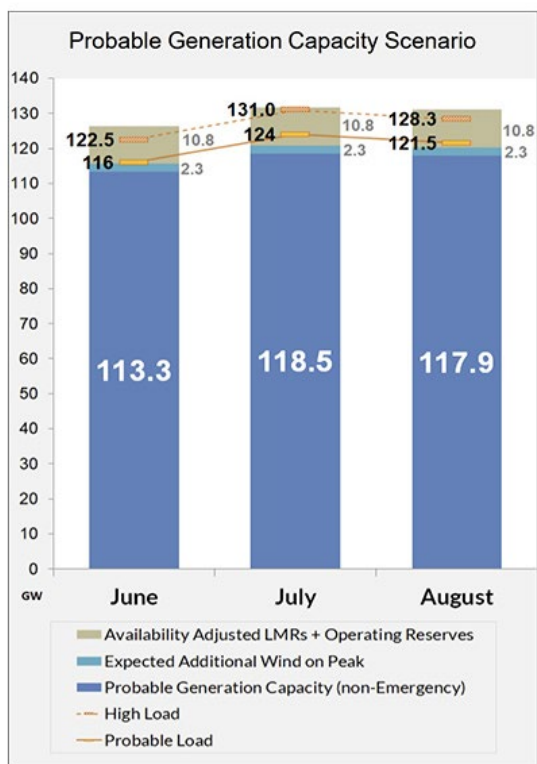
This summer, MISO expects above-normal to slightly above-normal temperatures in Midwest and South. The grid operator is also bracing for a lively Atlantic hurricane season and a "potentially active" storm pattern in the Midwest.

MISO Shift Manager Dan Munson said members should now expect maximum generation procedures during any season, even in spring and fall when temperatures spike.

"The thing to remember as we inch toward the summer is it could happen at anytime now," Munson said. "The risk tolerances are changing."

Since 2016, MISO has spent more than 40 days under a maximum generation alert, warning or event. Prior to 2016, it had not experienced any grid emergencies.

Over 2021, MISO spent 29 days in conservative operations mode for some or all of its regions; nine days were from hot weather, while 13 were from Hurricane Ida's late August strike and recovery, limited to MISO South only. ■



MISO systemwide summer resource adequacy projections | MISO

MISO News

FERC Blocks MISO Self-fund Rule for Merchant HVDC Line Upgrades

By Amanda Durish Cook

MISO's financing options for transmission system upgrades on merchant HVDC lines are not on equal footing with those for interconnecting generators, and therefore not subject to the RTO's self-fund order, FERC said last week in a ruling that could save transmission developers millions.

The April 29 ruling pertains to the commission's 2019 decision that restored transmission owners' option to unilaterally self-fund network upgrades before the interconnection customers are offered the chance to finance them. FERC said the initial funding option cannot be extended to upgrades needed for merchant HVDC lines because those developers aren't offered the same array of financing options as generation developers under some circumstances. (ER22-477).

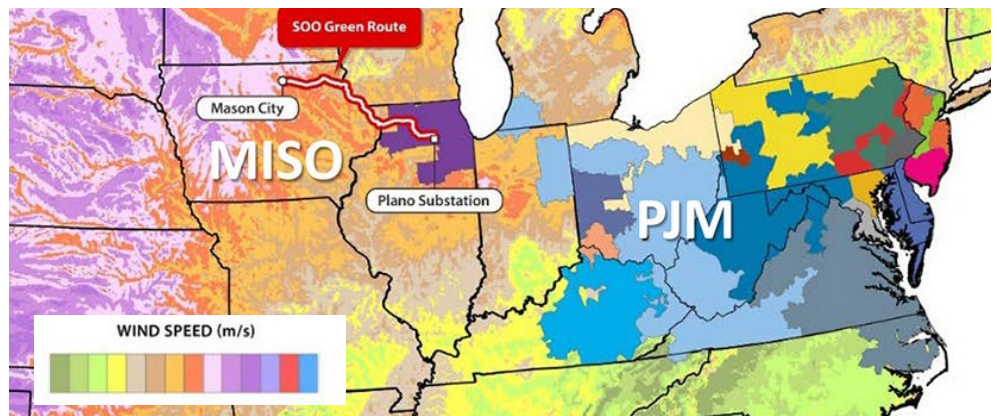
Commissioner James Danly dissented, claiming his fellow commissioners' decision rested on a technicality.

Since the 2019 order, MISO has been revising past interconnection agreements for TOs who wanted to have first crack at initial funding of network upgrades. (See [FERC Accepts Documents in MISO TOs' Self-fund Selection](#).)

In late 2021, MISO filed to extend the self-fund option to transmission owners building upgrades to accommodate merchant HVDC lines. The RTO argued that "both types of connections result in upgrades on the MISO transmission system."

MISO transmission owners agreed that merchant HVDC line-related upgrades should be treated comparably with generator interconnection-related network upgrades. The MISO TOs said they saw no meaningful difference between the two types of projects because both require TOs to install and maintain upgrades that would not be needed but for the projects.

Clean energy organizations, including American Clean Power Association and Clean Grid Alliance, banded together to protest the self-funding expansion. They said the filing "rests on an unproven assertion of comparability" between the two types of upgrades. They said facilities needed for merchant HVDC are developed under a different business model, and a TO self-funding option — which would subject HVDC developers to a TO rate of return rather than a market-based interest rate



SOO Green HVDC Link — which is developing a 350-mile HVDC line along railroad corridors from Iowa to Illinois — contended TO financing could cause its upgrade costs to increase by 30-40%. | SOO Green

— could cause upgrade costs to balloon.

SOO Green HVDC Link, which is developing a 350-mile HVDC line running along corridors from Iowa to Illinois, contended TO financing could cause upgrade costs to increase by 30-40%, meaning a merchant developer with \$100 million in upgrades could be charged tens of millions more at the higher rate of return.

The clean energy group also said MISO's proposal would introduce discriminatory treatment between merchant HVDC-to-transmission owner interconnections and transmission owner-to-transmission owner interconnections "even though all such facilities will be operated as part of an integrated grid."

FERC's decision, however, rested on the differing financing option available for the two types of upgrades rather than material differences between the upgrades themselves.

MISO failed to show how the expansion of TOs' self-funding option to merchant HVDC lines wasn't discriminatory or preferential, the commission decided.

MISO could not insist that the upgrades are "functionally identical" when it doesn't offer all available funding options to merchant HVDC developers when they haven't secured injection rights, FERC said. MISO doesn't include an option to build or liquidated damages provisions in transmission connection agreements for merchant HVDC developers without injection rights, or a pre-certification from MISO that its system can handle the capacity and energy the line plans to deliver. MISO allows merchant HVDC lines to connect to the system without injection rights, but those lines are considered non-firm and the upgrades to accommodate the line are classified as neces-

sary upgrades instead of network upgrades. "MISO created the category of necessary upgrades because it believed that necessary upgrades would be necessary simply for a physical connection between the MHVDC transmission line and the MISO transmission system and thus would likely be limited in scope," FERC explained.

MISO's option-to-build safeguard allows interconnection customers to take over construction of network upgrades when a transmission provider cannot meet pre-negotiated milestones. The liquidated damages provision lets an interconnection customer collect damages when a transmission provider lags in completing upgrades.

FERC also said while MISO characterized its filing as simple housekeeping related to the 2019 self-fund order, the grid operator was actually expanding TO initial funding "into new areas" of its tariff where the option hasn't historically existed. The commission pointed out that its 2019 self-funding order did not address merchant HVDC upgrades.

In his dissent, Danly said the commission's decision "denies the transmission owners' right to receive a return on and of the capital costs of network upgrades, necessary upgrades, and transmission owner system protection facilities."

Danly pointed out that FERC has accepted TO initial funding provisions for merchant HVDC upgrades in other areas of the country.

"...[A]bsent some evidence to the contrary, MISO's proposed tariff revisions bear all the hallmarks of relatively minor improvements to a tariff already deemed just and reasonable," Danly wrote. ■

NYISO News



NYISO ‘Laser-focused’ on Gas System Performance for Winter

Russian Invasion of Ukraine Nearly Doubles Gas and Electricity Prices in March

By Michael Brooks

NYISO made it through last winter without any problems – and without any power from coal generation or the Indian Point nuclear plant, ISO officials reported to stakeholders last week.

But the ISO is focusing intensely on coordinating with natural gas system operators for next winter as prices remain high while the Russo-Ukrainian War rages on.

New York experienced several cold snaps in January – before the Russian invasion began and prices spiked – including one late in the month that included heavy snow. NYISO forecast a peak load of 24,025 MW for the season; the actual peak came in at 23,237 MW on Jan. 11, a mostly sunny day but extremely cold, with the high temperature upstate not

breaking 20 degrees Fahrenheit.

During a presentation to the NYISO Management Committee on Wednesday, Wes Yeomans, the ISO’s vice president of operations, said if that cold weather had come earlier in the month “when there was more load from lighting, I absolutely believe we would have hit the forecasted peak. Jan. 11 was not the coldest day, but there was still significant lighting load that day, he said.

January’s average temperatures were 3 to 4 degrees lower than normal. The lowest temperature recorded during the season was -9 F on Jan. 22 and 30 F in Syracuse.

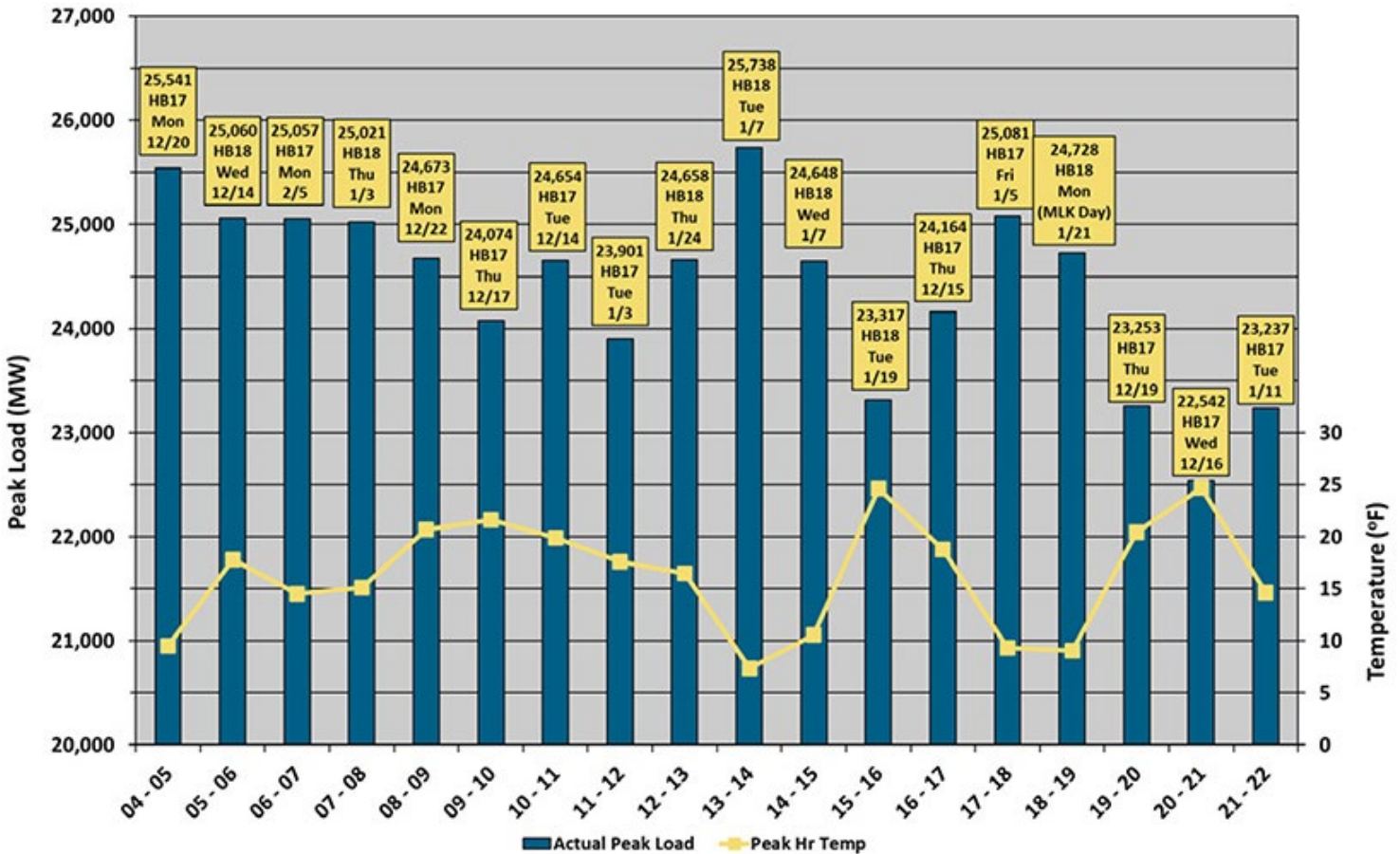
Despite the sometimes extreme cold, the grid performed well. NYISO did not have to use any emergency procedures or call on demand response resources; all inter- and intrastate

gas pipelines remained in service; and behind-the-meter solar contributed more than expected.

Yeomans was especially complimentary of the state’s gas system, which he said was “very tight, but ... it worked very well.”

“We’re laser-focused, in light of the Texas events of February 2021, on the performance of the gas system,” Yeomans said.

Local distribution companies and interstate pipeline companies issued many operational flow orders (OFOs) throughout the winter, Yeomans said. OFOs tell gas producers that they need to carefully balance their supply with demand on a daily or even hourly basis within a specified bandwidth; during winter, they’re most likely to be used to meet increased demand.



NYISO winter peak load has trended downward despite comparable low temperatures because of energy efficiency. | NYISO

NYISO News

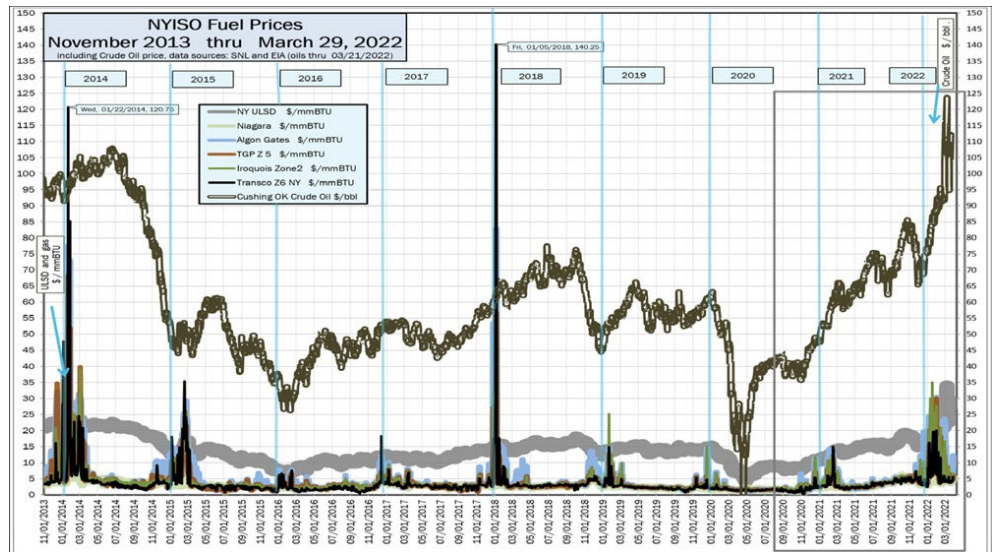
“Oh, this is good,” Yeomans said in reading off a bullet point in his presentation, which noted that in many cases, the notices were “issued with enough lead time before the day-ahead market closed to properly account for the impacts in the day-ahead market solution.’ So in other words, we greatly appreciate the gas industry to the extent that they predict very tight conditions or they think they’re going to declare hourly OFOs. ... If they can get those out to their gas customers prior to the close of the day-ahead, that really helps our generators understand what the fuel situation is.”

Energy efficiency also helped. During his presentation, Yeomans displayed a graph showing that peak loads have trended downward even with comparable winter temperatures. For example, the peak loads during both the winter of 2007/08 and last winter occurred with temperatures around 15 F, but the peak load this year was nearly 2,000 MW lower.

New York is heavily dependent on gas generation. The state’s last coal plant shuttered



Wes Yeomans | NYISO



NYISO fuel prices cratered during the onset of the COVID-19 pandemic, and they have skyrocketed since Russia's invasion of Ukraine. | NYISO

March 31, 2020, and Indian Point closed a year later.

According to NYISO COO Rick Gonzales, gas prices for March 2022 were nearly double those of March 2021, while diesel prices were more than double, at \$4.47/MMBtu and \$27.02/MMBtu, respectively.

Those prices coincided with a near doubling of locational-based marginal prices for electricity: \$56.78/MWh this March compared to \$28.59/MWh last year. Energy sendout was only slightly higher compared to March 2021: 390 GWh/day compared to 381.

A stakeholder noticed that NYISO saw a spike in LBMPs during the last days of March. Yeomans said that the state experienced some unusual cold weather, “but you know, this Ukraine-Russia war ... I think that was beginning to be impactful on LNG and oil prices, and

it may be that gas prices followed.”

Fond Farewell to Yeomans

The MC meeting was the last for Yeomans, who retired at the end of last week. He was replaced by Aaron Markham, the former director of grid operations who was promoted in late February.


There are “very few times in life when you come across a person who is perfectly matched for the position that he or she held,” committee Chair Chris Wentlent, of the Municipal Electric Utilities Association of New York State, told Yeomans. “And in my mind, you fit that picture perfectly.”

The next MC meeting on May 25 will be held in person. Wentlent also reminded attendees to “book your hotel reservations” for the joint meeting of the committee and the Board of Directors on June 13. ■

Northeast news from our other channels



Conn. Governor Set to Sign Expansive Clean Transportation Bill





Conn. Regulators Order 'Immediate' Phaseout of Gas Expansion Plan





Healey Focuses on Climate in Mass. Gubernatorial Race



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PJM News



Emissions in PJM Rebound from Pandemic Lows

Carbon dioxide, nitrogen oxide and sulfur dioxide emission levels in PJM increased last year after the historic lows of 2020 during the height of the COVID-19 pandemic, according to a report released last week by the RTO.

But emission rates did drop, in some cases sharply, compared to 2019 levels, continuing an overall decline since 2005, according to PJM's annual *Emission Rates Report*, used by generators, state regulators and other stakeholders in planning for environmental objectives.

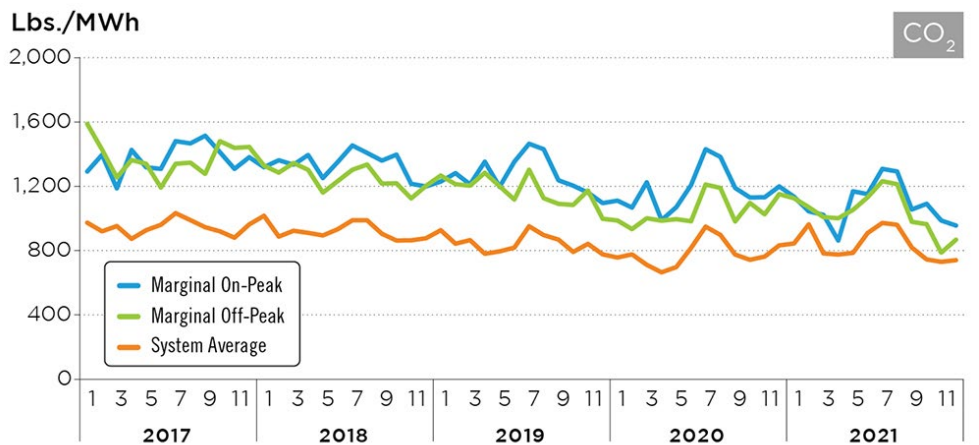
The average CO₂ emission rate for electric generators in PJM increased 6.6% from 2020 to 2021, going from 791 pounds/MWh to 843 pounds/MWh. That, however, was 1% lower than in 2019. The RTO attributed the increased levels last year to relaxed COVID-19 precautions and business and consumer activity returning to near pre-pandemic levels, with 2020 seeing historically low CO₂ emission levels.

Since 2005, CO₂ emission rates have fallen 35% across the RTO's footprint. Emission rates for NO_x and SO₂ have decreased 85% and 94%, respectively, during the same period.

NO_x emission rates increased 5.6% in 2021, but they were down 15.6% compared to 2019. SO₂ rates increased 11.6% in 2021, but they were down 12.7% compared to 2019.

On average, combined cycle gas-fired generators accounted for 59.75% of the marginal unit – the resource that sets the LMP – time on the system in 2021. Combined cycle generators made up 64.33% of the marginal unit time in 2020.

| | | CO ₂ (Lbs./MWh) | | | | | | | | | | | | |
|------|--------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
| 2017 | MARGINAL On-Peak | 1,292 | 1,396 | 1,187 | 1,426 | 1,318 | 1,308 | 1,480 | 1,467 | 1,514 | 1,412 | 1,308 | 1,381 | 1,374 |
| | MARGINAL Off-Peak | 1,588 | 1,428 | 1,255 | 1,363 | 1,340 | 1,192 | 1,340 | 1,347 | 1,277 | 1,480 | 1,439 | 1,444 | 1,374 |
| | PJM System Average | 973 | 920 | 952 | 873 | 926 | 961 | 1,032 | 990 | 945 | 919 | 880 | 963 | 948 |
| 2018 | MARGINAL On-Peak | 1,319 | 1,362 | 1,334 | 1,394 | 1,251 | 1,350 | 1,454 | 1,407 | 1,360 | 1,397 | 1,215 | 1,199 | 1,337 |
| | MARGINAL Off-Peak | 1,328 | 1,285 | 1,344 | 1,302 | 1,160 | 1,232 | 1,302 | 1,335 | 1,216 | 1,219 | 1,124 | 1,202 | 1,254 |
| | PJM System Average | 1,003 | 870 | 901 | 872 | 870 | 906 | 952 | 935 | 870 | 813 | 812 | 837 | 888 |
| 2019 | MARGINAL On-Peak | 1,229 | 1,282 | 1,212 | 1,353 | 1,197 | 1,353 | 1,464 | 1,431 | 1,237 | 1,204 | 1,160 | 1,095 | 1,268 |
| | MARGINAL Off-Peak | 1,266 | 1,213 | 1,204 | 1,284 | 1,200 | 1,117 | 1,302 | 1,125 | 1,091 | 1,084 | 1,173 | 998 | 1,171 |
| | PJM System Average | 927 | 843 | 864 | 780 | 796 | 818 | 951 | 897 | 869 | 792 | 842 | 777 | 851 |
| 2020 | MARGINAL On-Peak | 1,110 | 1,067 | 1,225 | 989 | 1,070 | 1,207 | 1,430 | 1,383 | 1,190 | 1,130 | 1,131 | 1,199 | 1,180 |
| | MARGINAL Off-Peak | 987 | 933 | 1,001 | 986 | 995 | 983 | 1,210 | 1,189 | 981 | 1,096 | 1,026 | 1,151 | 1,046 |
| | PJM System Average | 757 | 777 | 711 | 665 | 698 | 816 | 948 | 898 | 776 | 743 | 763 | 833 | 791 |
| 2021 | MARGINAL On-Peak | 1,135 | 1,044 | 1,022 | 862 | 1,169 | 1,151 | 1,308 | 1,292 | 1,056 | 1,091 | 987 | 956 | 1,089 |
| | MARGINAL Off-Peak | 1,125 | 1,070 | 1,008 | 1,001 | 1,053 | 1,131 | 1,232 | 1,213 | 979 | 964 | 787 | 867 | 1,037 |
| | PJM System Average | 844 | 963 | 783 | 755 | 786 | 909 | 972 | 961 | 818 | 745 | 730 | 740 | 843 |



Marginal carbon dioxide emission rates in PJM from 2017-present | PJM

Coal units were the second largest marginal unit in 2021, coming in at 14.15%, down from 17.53% in 2020. Wind units made up 11.04%,

up from 6.75% in 2020. ■

– Michael Yoder

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PJM News



PJM Stakeholders Endorse New Interconnection Process

By Michael Yoder

PJM stakeholders overwhelmingly endorsed the RTO's proposal for a new interconnection queue process and a related transition plan after several hours of debate and procedural motions at Wednesday's Markets and Reliability Committee and Members Committee meetings.

The proposal, which was developed at the Interconnection Process Reform Task Force over the last year, was endorsed with a sector-weighted vote of 4.37 (87%) at the MRC and 4.52 (90%) at the MC. The new interconnection process was nearly unanimously endorsed at the January Planning Committee meeting, while the transition proposal received 91% support at the February PC. (See "New Interconnection Rules Endorsed," [PJM PC/TEAC Briefs: Jan. 11, 2022](#) and [PJM Planning Committee Endorses 'Fast Lane' Criteria for Gen Projects.](#))

PJM said it plans to file the proposal with FERC before the end of this month.

In a statement issued after Wednesday's meetings, PJM CEO Manu Asthana thanked RTO staff and stakeholders for developing the proposal.

"These changes represent a landmark accomplishment for PJM stakeholders and staff that establishes a better process to handle the unprecedented influx of generation interconnection requests and is critical to clearing the backlog of projects," Asthana said. "We remain committed to our strategy of facilitating decarbonization policies while preserving reliability and cost-effectiveness and will continue to work on issues raised by stakeholders during deliberations that were not part of the package."

Jack Thomas of PJM's Knowledge Management Center [reviewed](#) the RTO's proposal, which includes moving away from the concept of "first come, first served" projects in the queue to a "first ready, first served" concept. PJM said the change will ensure projects that are ready to be built are prioritized instead of allowing speculative projects to fill the interconnection queue.

The number of generation projects entering the interconnection queue has nearly tripled over the last four years as more renewable projects are planned in PJM. The RTO started the year with almost 2,500 projects under

study in the queue, and about 95% of the more than 220 GW is from renewables, storage or a combination of the two.

The proposal also adds language indicating that if a project doesn't require a facility study or network upgrades it could move to the final agreement stage early, speeding up the process. The study window for projects is proposed to be 710 days, or just under two years.

PJM's proposal includes a two-year transition to wade through the backlog of projects in the queue by prioritizing more than 1,200 projects submitted into the queue before 2021. The transition also includes a "fast lane," which will seek to complete about 450 projects (Queues AE1 through AG1) with upgrade cost allocations up to \$5 million within 18 months.

"This has really been a tremendous body of work by our staff and all of our stakeholders to come together to find consensus to some very difficult and complex issues," said Ken Seiler, vice president of PJM's planning department. "This is an opportunity today to control our own destiny and really represents a large step forward towards providing our region and the whole industry with more certainty." ■



| U.S. Department of Agriculture

PJM News



PJM MRC/MC Briefs

Markets and Reliability Committee

Clean Attribute Procurement Task Force Established

PJM stakeholders at last week's Markets and Reliability Committee meeting endorsed an issue charge creating a new senior task force to study a potential market construct for procuring clean resource attributes in the RTO's markets.

The issue charge, which was developed in the Resource Adequacy Senior Task Force (RASTF) over several months of debate, was endorsed with a sector-weighted vote of 3.513 (70.2%), surpassing the necessary 2.5 threshold.

Dave Anders, director of stakeholder affairs for PJM, [reviewed](#) a revised [issue charge](#) from the RASTF, saying the first key work activity in the original called for determining whether the "forward procurement of clean resource attributes" should be pursued by stakeholders and examining the inclusion of the social cost of carbon in PJM markets. He said 70% of RASTF members endorsed pursuing a new issue charge calling for a "comprehensive discussion of market enhancements" that would enable states and other buyers to procure clean resource attributes "on a voluntary basis, through a regional and centralized procurement or market."

Work will start in the new Clean Attribute Procurement Senior Task Force with education on the procurement of clean resource attributes, including defining clean resource attributes across jurisdictions, markets and procurement mechanisms. The second step calls for discussing the objectives of a market construct to enable voluntary procurement of clean resource attributes.

PJM and stakeholders will determine an approach to conduct analysis and select one or more market design solutions for further development. Expected deliverables in the issue charge include proposed market rules to implement the preferred design, if one is found.

"The universe of high-level approaches could vary very widely," Anders said.

Denise Foster Cronin of the East Kentucky Power Cooperative (EKPC) proposed a [friendly amendment](#) to the issue charge, adding language delineating that "for any market design en-



The announcement of the planned closure of NRG's Indian River Generating Station in Delaware was one of several generating unit deactivation notifications in PJM last summer. | [NRG](#)

dorsed by the MRC," stakeholders will conduct a "detailed design and develop market rules for implementation."

"It's not intended to be a substantive change to the work that's going to be undertaken," Foster Cronin said.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, objected, saying that some of the advocates were "concerned" that the amendment could "add delay or extra layers of steps to the process."

The amendment was not adopted in the endorsed issue charge.

Chris Pilong, senior director of operations planning, and Alex Scheirer, senior client manager for PJM, also [provided](#) an update on the Operating Committee's recommendation regarding additional reliability products and services related to the issue charge. The OC approved an initial recommendation at its April 14 meeting for the evaluation of adding more reliability-based generation as greater numbers of intermittent resources are integrated into PJM's grid. (See "Reliability Products and Services Assessment Endorsed," [PJM Operating Committee Briefs: April 14, 2022.](#))

Deactivation Process Timing Update Endorsed

Members endorsed a PJM proposal to update the process timing for generation deactivations, with one stakeholder voting against it.

David Egan, manager of PJM's system planning modeling and support department, [reviewed](#) the proposal and presented the revisions to [Manual 14D](#) and the [tariff](#).

Current tariff language provides 90 days advance notice and 30 days to complete deactivation studies, which Egan said is causing "insufficient and unsustainable" time for PJM staff to determine adverse impacts on reliability if more than one deactivation notice is made in a single study period. New state energy policies are also adding to the number of deactivations, creating more pressure on PJM staff to finish studies.

The proposal calls for establishing quarterly study times for requests, with periods beginning Jan. 1, April 1, July 1 and Oct. 1. PJM staff would study deactivations in batches for more accurate results for the impacts on the system. Egan said the quarterly schedule would allow enough time for additional required seasonal, interim year and short-circuit analyses; sched-

PJM News



uling upgrades and cost estimates; and for PJM operations to identify additional needed operational measures.

Paul Sotkiewicz of E-Cubed Policy Associates thanked PJM for working with stakeholders to amend some of the tariff language that creates exemptions so that generation owners aren't penalized if a unit is forced to deactivate through state legislation or actions by the federal government.

Stakeholders will vote on final endorsement of the proposal at the Members Committee meeting May 17. Conforming Manual 14D language will also go through the OC and System Operations Subcommittee.

Dynamic Line Ratings

PJM provided a first read of the RTO's proposal and manual revisions supporting the interim integration of dynamic line ratings (DLRs) into its operations.

Stakeholders unanimously approved an issue charge and endorsed a proposed solution as part of the "quick fix" process at last month's Planning Committee meeting. (See "Dynamic Rating Issue Endorsed," *PJM Operating Committee Briefs: April 14, 2022*.)

Chris Callaghan, PJM senior business solution engineer, reviewed the proposal. PPL is tentatively scheduled to go live in June with a DLR system on some of its transmission lines, Callaghan said, and PJM wanted to "enable the operational implementation of dynamic ratings" through temporary manual revisions, which will be in place pending submission of the RTO's FERC Order 881 compliance filing, scheduled to be finalized this month.

In December, FERC ordered transmission providers to end the use of static line ratings in evaluating near-term transmission service and required transmission providers to employ ambient-adjusted ratings for short-term transmission requests of 10 days or less for all lines

that are impacted by air temperature. (See *FERC Orders End to Static Tx Line Ratings*.)

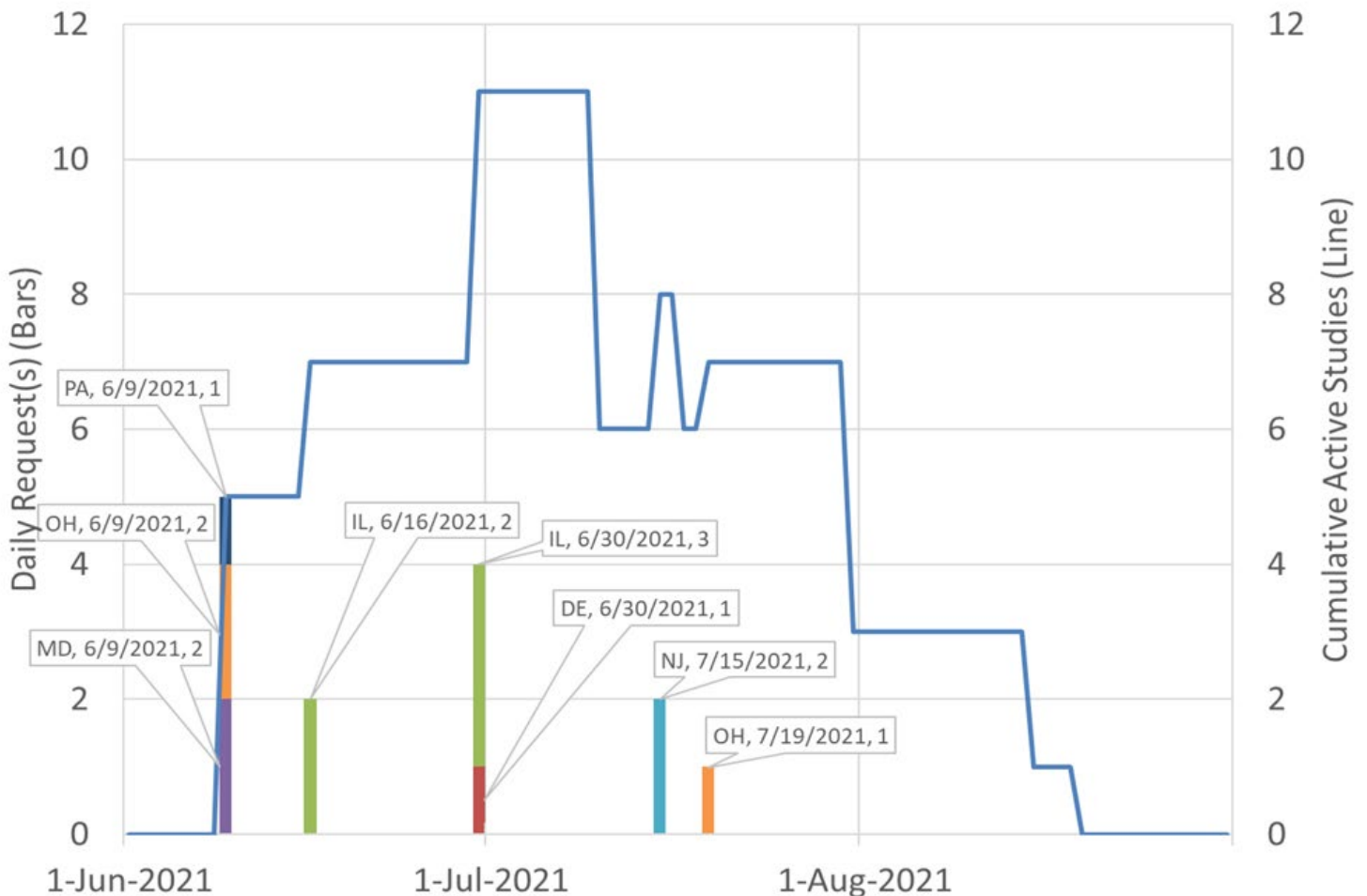
Bilge Derin, PJM senior engineer, reviewed the language changes in *Manual 1: Control Center and Data Exchange Requirements*, *Manual 3: Transmission Operations* and *Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA)*. Derin said the language revisions develop new guidance and requirements related to the operational and technical implementation of dynamic rating systems.

Some of the manual revisions include adding timeline requirements to notify PJM about any new DLR systems to be installed on the grid and to provide details on requirements for real-time and forecasted DLR submissions.

"Our goal with the timeline requirement is to provide for both PJM and other stakeholders to be aware of the implementation and be prepared for it as well," Derin said.

Susan Bruce, counsel to the PJM Industrial

PJM Deactivations June - August 2021



Example of a generation deactivation timeline in PJM from June-August 2021 | PJM

PJM News



Customer Coalition, said she appreciated PJM and PPL “looking at ways to get more out of existing transmission assets.”

Consent Agenda

Stakeholders unanimously endorsed several items, including manual, Operating Agreement and task force charter revisions, as part of the MRC consent agenda. They included:

- revisions to *Manual 1: Control Center and Data Exchange Requirements* resulting from a periodic review and revisions to NERC standards CIP-012, COM-001 and EOP-008.
- revisions to *Manual 14F: Competitive Planning Process* resulting from a periodic review. The changes included updating language so that the Secure File Transfer Tool used to submit all proposals was replaced with a requirement to use “Competitive Planner” to submit proposals.
- revisions to the *OA* intended to appropriately document the underfrequency load shedding (UFLS) relay requirements applicable to EKPC. A recent review of revisions showed “potential confusion” in EKPC’s appropriate UFLS requirement that needed to be corrected.



A PPL helicopter crew installs dynamic line rating sensors on transmission lines. | PPL



The last in-person PJM Annual Meeting was held in 2019 at the Hyatt Regency Chesapeake Bay Golf Resort, Spa & Marina in Cambridge, Md. | © RTO Insider LLC

- revisions to the Energy Price Formation Senior Task Force *charter*. The proposed charter edits relate to the delay in reserve price formation implementation, from May 1 to Oct. 1.

Members Committee

Definition of Workshops

Members are looking to add a definition of “workshops” to the PJM manual to better explain their purpose in the stakeholder process.

At last week’s Members Committee meeting, John Horstmann, director of RTO affairs at AES Ohio, *presented* the proposed revisions to *Manual 34: PJM Stakeholder Process*. The language was partially developed at the Stakeholder Process Forum.

The proposed definition states that workshops are “a series of meetings occasionally convened by PJM to discuss emerging topics and objectives as outlined in its initial communication and meeting. Workshops are non-decisional meetings and will not develop rule changes. Rather, they are formed to engage in education, foster dialogue, share ideas and gather stakeholder feedback.”

Calpine’s David “Scarp” Scarpignato thanked PJM and Horstmann for the work on coming up with a clear definition, saying it

was “much needed.”

“They’re getting used more and more often, and it adds some clarity around these things,” Scarp said.

Remote Voting Endorsed

Stakeholders unanimously endorsed revisions to Manual 34 to allow for remote voting for the Board of Managers election at the PJM Annual Meeting on May 17.

Previous manual language requires written paper ballots for the elections of board members and the Members Committee vice chair. The *revisions* to Manual 34 strikes that language.

PJM said it identified the need to “exercise flexibility” to conduct the 2020 and 2021 board elections because of precautions surrounding the COVID-19 pandemic.

The 2020 board election was done remotely through the PJM Voting Application with special auditing provisions, and the 2021 board election was conducted through a secure, third-party online election service, Survey & Ballot Systems.

PJM is continuing to use a secure third-party voting system for stakeholders not attending the Annual Meeting in person. ■

— Michael Yoder

Mid-Atlantic news from our other channels



Maryland GHG Cuts Beat 2020 Goal, State Says

NetZero
Insider

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

PJM News



FERC Tables PJM Rehearing Request of FTR Credit Requirement Proposal RTO Gets Extension on Show-cause Deadline

FERC on Monday denied PJM’s rehearing request of the commission’s rejection of the RTO’s plan to modify its financial transmission rights credit requirement calculation, but it said it would address the RTO’s arguments in a future order (ER22-703-002, EL22-32-001).

PJM proposed to modify the FTR credit requirement by implementing an initial margin calculation from a historical simulation (HSIM) model using a 97% confidence interval. The commission first rejected the proposal Feb. 28, saying the RTO failed to support the plan because its independent auditors only validated the model at a 99% confidence interval. (See [FERC Rejects PJM’s FTR Credit Requirement Proposal](#).)

FERC directed PJM to show within 60 days why its existing FTR credit requirement remains just and reasonable or explain what tariff changes will remedy the commission’s concerns.

PJM appealed FERC’s decision on March 31 by requesting a rehearing after stakeholders

| Confidence Interval | CLEARED REQUIREMENT | | Change | Failure Rate | Winter Failure Rate |
|---------------------|------------------------------------|------------------------------|--------|--------------|---------------------|
| | Status Quo Total Requirement (\$B) | IM-H Total Requirement (\$B) | | | |
| 99% | \$1.345 | \$1.703 | 27% | 0.45% | 0.90% |
| 97% | \$1.345 | \$1.125 | -16% | 1.65% | 2.72% |
| 95% | \$1.345 | \$0.948 | -30% | 2.98% | 4.89% |

Estimated confidence intervals for total FTR collateral | PJM

voted to endorse a motion for the RTO to refile the original proposal “accompanied by some new supporting rationale.” (See [Stakeholders Encourage PJM to Defend FTR Filing](#).)

On April 22, the RTO asked for another 60 days to respond to the order to show cause to “allow PJM to complete further analyses, and conduct further engagement with PJM stakeholders, that will help PJM better determine the need for, and prepare and support any just

and reasonable revisions to, PJM’s financial transmission rights credit requirement and fully address the concerns identified” by FERC.

The commission on Thursday gave PJM only another 30 days, setting a new deadline of May 31. In its one-page notice on Monday, the commission said the request for rehearing “will be addressed in a future order.” ■

– Michael Yoder

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Submit a Stakeholder Soapbox Op-Ed

See rtoinsider.com/soapbox for editorial guidelines.

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SPP News



SPP Board of Directors/Members Committee Briefs

Directors Approve RTO's 4th Competitive Project Under Order 1000

DALLAS — SPP's Board of Directors last week approved the RTO's fourth competitive transmission project, awarding a \$55 million, 345-kV facility in Oklahoma to NextEra Energy Transmission (NEET) Southwest.

An industry expert panel (IEP) comprising five industry experts recommended the NextEra subsidiary be selected as the project's designated transmission owner. The panel gave NEET Southwest's bid the highest score among six other competitors, saying it presented the best evidence that it could produce a successful project that is constructed on time and within budget.

"There's a clear winner here," IEP Chair Steve Strickland, a 35-year veteran with Entergy Arkansas, told the board and Members Committee. "It's significant to note that while [its bid] provided the highest cost savings, it also scored highest in engineering design and management. That indicated there is substance behind [the bid] in meeting cost commitments."

The panel gave NEET Southwest's bid a 1,000.38 score, 70 points higher than the next closest competitor. The other proposals' scores ranged from 843 to 930.13. NEET Southwest's bid received 225 points for rate analysis, representing the lowest cost to SPP customers in both construction and operating costs. The losing bids' costs were between \$74 million and \$97 million. All seven proposals



SPP's April meeting of its Board of Directors and its Members Committee | © RTO Insider LLC

received the maximum 100 incentive points under SPP's [competitive transmission owner selection process](#), which is required by FERC Order 1000.

Strickland assured the board that "significant" supply chain issues and cost increases would not be an issue.

The IEP unanimously recommended Tran-

source Oklahoma as the alternate designated TO after its bid received the second-highest point total.

The 48.4-mile connection between substations in Minco and Draper is an economic project designed to ease congestion around Oklahoma City. It has a July 2024 completion date, six months ahead of schedule.

"The early in-service date would allow lower-cost energy to flow across the project's transmission lines, to the benefit of SPP's customers, sooner than targeted by SPP," the panel said in its [report](#).

Matt Valle, NEET's president, said the company was pleased to win the project's construction. The project is the second time NEET Southwest has been awarded a competitive project, having won a bid last October for the 345-kV Wolf Creek-Blackberry project in Kansas and Missouri. (See [SPP Board of Directors/Members Committee Briefs: Oct. 26, 2021](#).)

"This project award ... furthers our goal of creating America's leading competitive transmission company and is consistent with our strategy of adding high-quality regulated assets to our portfolio," Valle said in a [statement](#).

Oklahoma Gas & Electric opposed both mo-



IEP Chair Steve Strickland (right), with vice chair Tom Bozeman, explains NEET Southwest's latest winning bid for a competitive project. | © RTO Insider LLC

SPP News

tions approving NEET Southwest and Transource as the projects' designated TOs. Seven members abstained from the NEET Southwest vote and six from the Transource vote.

SPP previously has approved two other competitive projects, the first of which was subsequently withdrawn over changing load projections. (See [SPP Cancels First Competitive Tx Project, Citing Falling Demand Projections](#).)

A third potential project was withdrawn shortly after it went out for bids last year. (See [SPP Board/Members Committee Briefs: April 28, 2021](#).)

Gas Prices, Congestion Up in 2021

Keith Collins, vice president of market monitoring at SPP, said rising natural gas prices and congestion from increased wind capacity is contributing to ongoing negative prices, curtailments and make-whole payments.

Sharing a draft of the Market Monitoring Unit's State of the Market report, Collins said gas prices have doubled to \$7/MMBtu and congestion was "materially higher" last year — at \$1.2 billion — and had little to do with the February winter storm.

"Clearly, congestion is having an impact," he said. "As renewables are more and more a part of the system, we should anticipate those effects to continue and start taking action. In the interim, we'll continue to experience these challenges."

According to the report, SPP's installed wind capacity hit 30.5 GW last year, up from 27.3 GW in 2020 and 22.5 GW in 2019. Wind curtailments averaged 675 GWh in 2021, up from 130 GWh in 2019.

The increase in gas prices has made coal more competitive, Collins said. Coal accounted for



EDP Renewables' David Mindham pleads the renewables developers' case. | © RTO Insider LLC

36% of SPP's generation in 2021, just nudging out wind at 35%. "We see those trends continuing into 2022," he said.

The MMU is recommending an emphasis on previous years' recommendations by updating market and outage requirements to improve transmission congestion rights' funding; improving market-to-market (M2M) efficiencies by collaborating with MISO; and addressing inefficiencies when forecasted resources under-schedule the day-ahead market.

The Monitor added one new recommendation, calling for SPP to expand or adjust the multiconfiguration combined cycle resource model to include additional multiconfiguration resource types. Collins said coal and other resources would be able to offer into the market more efficiently with the multiconfiguration logic's additional applications.

Collins also drew attention to recent comments by David Patton, MISO's Independent Market Monitor, that SPP is not properly recognizing M2M flowgate constraints with its seam neighbor in its day-ahead market. Patton told a MISO stakeholder group that the oversight must be costing SPP members several million dollars in balancing congestion. (See [MISO and SPP Announce New Interregional Stakeholder Meetings](#).)

SPP responded that it does model MISO's system and constraints in the day-ahead market and that it believes the market should best reflect expected real-time operating conditions and not necessarily create day-ahead congestion based on calculated firm flow entitlement values.

"The difference between SPP and MISO is how we reflect expected operating conditions in the day-ahead market," SPP spokesperson Meghan Sever said in an email, saying the RTO has been transparent about its approach. "MISO automatically binds on constraints based on a calculated firm flow entitlement value and not real flows. SPP employs an injection/withdrawal projection based on similar operating days and expected actual operating conditions."

Developers' Self-funding Appeal Fails

The directors rejected an appeal by renewable developers of a revision request ([RR465](#)) that allows transmission facilities constructed to facilitate generator interconnections to be treated on a consistent cost basis with other infrastructure if the TO self-funds the work.

The measure easily passed over the developers' objections last month during the Markets and Operations Policy Committee meeting.

(See "Surplus Interconnection Service Change Remanded," [SPP Markets and Operations Policy Committee Briefs: April 11-12, 2022](#).) As is their right, they filed an appeal with the board that it further consider the self-funding mechanism and that it do so "more holistically" in the stakeholder process by including input from the Regional State Committee (RSC) and the MMU.

Writing for the seven developers April 22, EDP Renewables North America's David Mindham said SPP TOs "severely mischaracterized" legal precedent by claiming "they are simply implementing a mechanism to which they already have a right." He argued that FERC has never indicated that self-funding is allowed outside of MISO "and has been extremely clear" that the MISO example does not require its implementation in any other region.

He also noted that FERC's decision to grant self-funding to MISO TOs is currently before the D.C. Circuit Court of Appeals and that the commission had not found a similar PJM proposal to be just and reasonable, though it did allow it to go into effect subject to refund after a paper hearing. (See [MISO Gauging Aftershocks of TO Self-fund Order](#).) And on Friday, FERC rejected a MISO proposal to allow TO self-funding for merchant HVDC projects. (See related story, [FERC Blocks MISO Self-fund Rule for Merchant HVDC Line Upgrades](#).)

"To use that as the basis that it should be used in SPP is not right," Mindham told the board last week. "This construct increases the costs of network interconnection upgrades to the customers. It would behoove all of us to have that discussion broadly within the stakeholder process. We should have a discussion before suggesting a cost-recovery mechanism."

Southwest Public Service's Jarred Cooley countered that there had been significant discussion of the issue and that SPP's tariff already includes language that allows self-funding, which he said can be potentially discriminatory.

"This revision request was identified to help produce a consistent and repeatable process for the staff and TOs, to put the rules around it so that then these opportunities to fund on the TO side are more clear and transparent," Cooley said.

SPP Legal counsel Paul Suskie said staff would ensure the RSC is educated on RR465's documents and provides feedback before filing its proposal at FERC.

The Advanced Power Alliance, Enel Green Power North America and Tenaska all sided

SPP News

in favor of the appeal during the Members Committee's vote.

Counterflow Optimization not Dead Yet

The board and stakeholders agreed with board Chair Larry Altenbaumer's suggestion to direct staff and stakeholders to work together in reaching some semblance of consensus and adding counterflow optimization (CFO) to the market.

It hasn't been easy. The Holistic Integrated Tariff Team recommended three years ago that counterflow optimization, limited to excess auction revenue, be added to SPP's market mechanism that hedges load against congestion charges. The process, which keeps system transmission flows between two points in balanced, was meant to address concerns about how congestion rights instruments are awarded and the current process's efficiency.

The Market Working Group spent months trying to reach agreement on how best to add CFO, only to eventually turn it over to the Strategic Planning Committee. (See [SPP SPC Takes on Congestion Hedging Issues](#).)

During the MOPC meeting earlier last month, stakeholders rejected a recommendation to stick with the status quo, three months after agreeing with staff to leave the market construct untouched. (See [SPP Markets and Operations Policy Committee Briefs: April 11-12, 2022](#).)

"There's been no shortage of analysis. It's simply a lack of consensus," Altenbaumer said. "Lack of consensus doesn't mean we have a lack of an issue. It's reached a point where it doesn't mean we should delay our concerns."

Altenbaumer said he discussed a path forward with SPP's leadership. Under his proposal, stakeholders, the MMU and state regulators will submit specific congestion-hedging recommendations with near- and long-term solutions. Staff will be responsible for setting parameters for the submissions, reviewing them and conducting a workshop to summarize the recommendations.

With staff freed from the stakeholder process, Altenbaumer envisions them working with regulators, the Strategic Planning Committee and the Cost Allocation Working Group (CAWG) to develop a final recommendation that could be brought to MOPC and the board in October.

NPPD Project to be Re-evaluated

The directors approved a re-evaluation of a 115-kV project interconnecting an industrial



John Tuma, Minnesota Public Utilities Commission | © RTO Insider LLC

facility in Nebraska that has undergone a 24% escalation in costs.

Nebraska Public Power District (NPPD) pulled the item off the consent agenda so that it could move ahead with the project. Its costs went from \$43.4 million to \$53.8 million when a 345-kV substation was moved, resulting in \$3.9 million for additional 345-kV ties. A 115-kV substation was expanded to accommodate three load-serving transformers, adding another \$3.7 million in costs.

"We fully expect the answer will be the same," NPPD CEO Tom Kent said, anticipating that SPP's restudy to again result in a notification to construct. "I don't see the value of going through the restudy process and getting the same result when the planning staff has other important work to do. We want the board to say, 'No,' so we can move forward."

"A cursory look suggests it's not likely to change," said Antoine Lucas, SPP's vice president of engineering. "All re-evaluations aren't created equal, but the nature of this particular project will be simpler than some others. It's not a very heavy lift."

NPPD staff said the project's load has changed several times, and the utility only recently firmed up its design with the industrial facility, which will produce hydrogen and carbon black. They said the Project Cost Working Group was notified as soon as NPPD had a handle on the cost increase.

With the board's action, the restudy's results

will have to go before the Transmission Working Group and MOPC before being brought back to the board, possibly in July.

"We can probably live with the outcome. I don't think it's the right thing to use resources when we know outcome," Kent said. "At the end of the day, we'll be fine. We'll move forward."

RSC Adds 2 New Members

The RSC welcomed two new members during its first in-person meeting in more than two years: Minnesota Public Utilities Commissioner John Tuma and Nebraska Power Review Board Member Chuck Hutchison.

Tuma was eligible for membership because SPP member East River Electric Cooperative has distribution cooperatives with load in Minnesota. The RSC comprises state regulators and responsible for providing input of approval of rate-related issues and other matters of "regional importance."

Hutchison replaces Dennis Grennan, who chaired the RSC in 2020.

In other actions during the April 25 meeting, the committee directed the CAWG to analyze RR465 for any potential effects on retail rates. It also endorsed staff's recommendation to not add CFO to the current market construct and approved a pair of changes to its bylaws that remove a membership classification not used in 18 years and clarify that RSC membership is based on SPP's RTO footprint.

SPP Releases Online Annual Report

SPP's slick [digital 2021 annual report](#) finds the RTO at "another pivotal point" in its continuing growth and development with both challenges and opportunities, including the continuing COVID-19 pandemic, the historic February 2021 winter storm and establishing relationships with new stakeholders in the West.

In their joint letter to stakeholders, CEO Barbara Sugg and Chair Altenbaumer said the previous two years have "prepared us well for the next chapter in SPP's history."

"We've learned valuable lessons from managing reliability in historically unprecedented circumstances, collaborating closely while separated by physical distance and building consensus among an increasingly diverse group of stakeholders," they wrote. "The adaptability we have shown in responding to the unexpected will remain an important part of our ongoing strategy." ■

— Tom Kleckner

Company News

AEP Continues to 'De-risk' by Shedding Assets

AEP, Xcel Q1 Earnings Both up

By Tom Kleckner

American Electric Power last week said it is continuing to transform its energy system for the future and de-risking and simplifying itself.

The company told financial analysts during its first-quarter earnings conference call Thursday that it expects to close the sale of its Kentucky operations by July and that it is preparing to market its 1.6-GW portfolio of unregulated contracted renewables during the second half of the year. The latter's sale proceeds will be directed toward additional investment in AEP's regulated businesses.

"We already have shifted \$1.5 billion in capital to transmission, bringing our planned five-year capital spend to \$14.4 billion in transmission and \$10.4 billion in distribution," AEP CEO Nick Akins told analysts.

The Columbus, Ohio-based company an-

nounced last October that it planned to sell its Kentucky utility and transmission companies to Liberty Utilities, a subsidiary of Algonquin Power & Utilities, for \$2.85 billion. (See [AEP to Sell Kentucky Operations to Algonquin](#).)

AEP said during its earnings call in February that it will sell some or all of its unregulated contracted wind and solar energy resources and redirect capital previously allocated to that business to its transmission assets. (See [AEP to Sell Unregulated Renewables Portfolio](#).)

Akins said the company is making "substantial progress" in transitioning its generating capacity to 50% renewables this decade. It recently commercialized the last of three wind farms making up the almost 1.5-GW *North Central Energy Facilities* in Oklahoma.

AEP [reported](#) earnings of \$715 million (\$1.41/share), up from 2021's first-quarter performance of \$575 million (\$1.16/share). Its share

price closed at \$99.53 the day before the earnings call. It finished the week down 42 cents at \$99.11.

Xcel Earnings up 4.7%

Xcel Energy also [announced](#) first-quarter earnings Thursday. The Minneapolis-based company reported income of \$380 million (\$0.70/share), compared to \$362 million (\$0.67/share) in the same period in 2021.

CEO Bob Frenzel told analysts Xcel had reached "constructive regulatory outcomes" on several key matters, including its Upper Midwest Resource Plan, the Colorado Power Pathway transmission project and a rate case in Colorado.

The Upper Midwest Resource Plan would add 5.8 GW of wind and solar energy to Xcel's system, extend the life of its Monticello nuclear plant in Minnesota to 2040, and retire its regional coal fleet by 2030. The \$1.7 billion Colorado transmission project would enable 5.5 GW of new renewables, Frenzel said.

Xcel's Comanche Peak 3 coal-fired plant in Colorado is out of service following a "transmission event" and is not expected to be back in service until June because of supply-chain constraints. The outage is expected to cost the company about \$25 million.

The 750-MW unit was scheduled to run until 2070, but Xcel has offered to [shutter the plant by 2031](#). Comanche 3 went online in 2010, but it has been beset by breakdowns and outages. (See [Co-op Accuses Xcel of Coal Plant Mismanagement, Deception](#).)

Xcel's share price closed the week at \$73.26, a 29-cent increase following Wednesday's close. ■



AEP recently commercialized the last of three wind farms making up the almost 1.5-GW North Central Energy Facilities in Oklahoma. | SWEPCO

Company Briefs

Investors at 3 Major Banks Defeat Climate Resolutions

Activist shareholder groups filed climate resolutions this year at six of the largest U.S. investment banks, with the resolutions calling on the firms to back long-term climate commitments with policies that would ensure they do not contribute to the expansion of the fossil fuel industry.

However, three of the banks — Wells Fargo, Bank of America and Citigroup — held their annual shareholder meetings and gave investors the chance to weigh in. Just under 13% of shareholders backed the fossil fuel-related resolution at Citigroup, while 11% supported the proposal at both Wells Fargo and Bank of America.

The resolutions called on the three banks, along with JPMorgan Chase, Goldman Sachs and Morgan Stanley, to adopt a policy before 2023 “committing to proactive measures” to ensure that their lending and underwriting do not contribute to new fossil fuel development. Still, proponents were pleased with the numbers, as the resolution garnered enough support to be filed again in 2023.

More: [E&E News](#)

Judge Rules for Musk in \$13B Lawsuit over Tesla-SolarCity Deal

Vice Chancellor Joseph Slight of Dela-



TESLA

where Musk was chairman and the largest shareholder.

“The preponderance of the evidence reveals that Tesla paid a fair price — SolarCity was, at a minimum, worth what Tesla paid for it, and the acquisition otherwise was highly beneficial to Tesla,” Slight’s opinion said. Slight said Musk was more involved than he should have been, but a fair price for SolarCity outweighed claims the deal unjustly enriched Musk. The all-stock deal was valued at \$2.6 billion in 2016.

Tesla shareholders had accused Musk of coercing Tesla’s board into buying SolarCity, a struggling solar panel maker, to rescue his investment, and had sought up to \$13 billion in damages.

More: [Reuters](#)

Riot Blockchain to Build Private Electricity Station for Bitcoin Miners



a \$333 million, 1.7-GW electrical subst-

station in Navarro County, Texas, to meet the electricity demands of its mining equipment without compromising the city’s grid.

More: [CryptoPotato](#)

tion in Navarro County, Texas, to meet the electricity demands of its mining equipment without compromising the city’s grid.

The project’s first phase, which will encompass 400 MW, should be fully operational by July 2023.

More: [CryptoPotato](#)

Tesla Leads the Way as EV Sales Soar in Q1

U.S. electric vehicle sales rose 76% in the first quarter of 2022 and doubled EVs’ share of the market to 5.2%, which was up from 2.5% in the first quarter last year, according to Kelley Blue Book.

Of all the EVs sold in the country during the quarter, 41% (71,358 units) were Tesla’s Model Y, which accounted for more sales than all the non-Tesla EVs combined. The runner-up was the Tesla Model 3, with 46,707 vehicles sold. Tesla’s Model X and Model S came in fourth and seventh, respectively.

More: [Inside Climate News](#)

Federal Briefs

16 States Sue USPS over its Gas-powered Purchases

Sixteen states last week filed lawsuits in New York and California in an attempt to halt the Postal Service’s purchase of 165,000 gas-powered trucks.

The lawsuits ask judges to order a more thorough environmental review before the Postal Service moves forward with its next-generation delivery vehicle program and say the fossil fuel-powered vehicles will cause environmental harm for decades to come.

The Postal Service defended the process it followed under Postmaster Louis DeJoy, saying it conducted a robust and thorough review and fully complied with all obligations under the National Environmental

Policy Act.

More: [The Associated Press](#)

Consumer Brands Push for Clean Energy Tax Credits



energy legislation to provide additional financial incentives for clean-energy projects.

In a letter to lawmakers, the companies said that federal spending for such projects would help reduce costs for U.S. businesses, along with their employees and customers, and free up money “to invest into innovation, manufacturing, and employment.”

More than 40 companies, including Airbnb, Lyft and IKEA, last week called on Congress to adopt federal

They companies called for federal tax credits for developers and suppliers of major wind, solar, nuclear and energy-storage projects, as well as for electric vehicles and charging-station tax credits, which could benefit company-run fleets.

More: [The Wall Street Journal](#)

DOE OKs Expanded LNG Exports from Texas, Louisiana



The Energy Department last week authorized additional exports of liquefied natural gas (LNG) from planned terminals in Texas and Louisiana.

The orders allow Golden Pass LNG Terminal near Port Arthur, Texas, and Magnolia LNG

Terminal in Lake Charles, Louisiana, to export additional natural gas as LNG to any country not prohibited by U.S. law or policy.

The \$10 billion Golden Pass project is expected to be operational in 2024, while Magnolia should come online by 2026. The two terminals are expected to produce more than 3 billion cubic feet of natural gas per day.

More: [The Washington Post](#)

Senators Plead for Quick End to Solar Trade Probe

Nearly two dozen senators on Monday implored President Biden to swiftly advance

a trade probe that they said was already causing “massive disruption” in the U.S. solar industry.

The investigation into whether Chinese companies are circumventing decade-old tariffs by assembling solar cells and modules in Southeast Asia “will severely harm” American businesses and workers “as long as it continues,” the 22 senators said.

The group asked the Biden administration to quickly make a preliminary determination on the matter, rather than waiting until an Aug. 30 deadline to issue its initial findings. That could limit the domestic impact from the investigation and neuter the threat of



retroactive tariffs on panels imported from Cambodia, Malaysia, Thailand and Vietnam, which represent about 80% of imported supply in the U.S. New tariffs could mean “massive price hikes for U.S. utility customers,” delays in deploying clean energy and halted projects, the senators said.

More: [Bloomberg](#)

State Briefs

CALIFORNIA

Senate Energy Committee Passes Aliso Canyon Closure Bill



The Senate Energy, Utilities and Communications Committee last week voted 8-1

to pass along a bill that sets a 2027 timeline for the shutdown of SoCalGas' Aliso Canyon storage facility.

More than a dozen people testified supporting the bill in the hearing's public comment period, citing climate and public health concerns. Only two comments opposed the bill.

The bill now goes to the Appropriations Committee.

More: [Food & Water Watch](#)

COLORADO

New Car Sales Tilt Toward EVs

Car buyers continued their steady push for fully electric vehicles and plug-in hybrid electrics in the first quarter of 2022, although overall sales were down because of a lack of supply and spiking interest rates, according to an analysis from dealers.

Tesla sales were up 38% from the first quarter of 2021, leading the charge for the state's EV and plug-in hybrid EV sales to hit 8.6% of total new vehicle registrations so far this year. That's up sharply from 5.6% in the comparable period of 2021.

Overall 2022 sales of light trucks, SUVs and cars fell 10% from the year-ago period

to about 58,000. It was a significant drop, but not as bad as the nationwide decline of nearly 15% for the quarter.

More: [The Colorado Sun](#)

Xcel Energy Agrees to Shut Down Comanche 3 Early



Xcel Energy last week reached an

agreement to shut down its Comanche 3 coal plant and end the company's use of coal in the state by 2031.

The company proposed shutting the plant by 2040 and then revised the date to Dec. 31, 2034. However, several parties involved in the proceedings before the Public Utilities Commission said it wasn't soon enough. Two commissioners also expressed concerns about how long Xcel would keep the plant running.

Xcel said if regulators approve its resource plan, it will meet more than 80% of customer energy needs with renewable sources by 2030 and cut carbon dioxide emissions by 85% from 2005 levels by 2030.

More: [The Denver Post](#)

FLORIDA

DeSantis Vetoes Utility Bill to Add Heavy Fees to Solar Installations

Gov. Ron DeSantis last week vetoed a bill that would have allowed utilities to impose steep fees on businesses and homeowners who install solar panels.

The bill would have required solar customers to pay all fixed costs of having access to transmission lines and backup generation as determined by the Public Service Commission, but the customers would not have received any benefits for reducing the utility's electricity demand. The Legislature is not expected to override the veto.

“Given that the United States is experiencing the worst inflation in 40 years and that customers have seen steep increases in the price of gas and groceries, as well as escalating bills, the state of Florida should not contribute to the financial crunch that our citizens are experiencing,” DeSantis wrote.

More: [The Miami Herald](#)

GEORGIA

JDA, Rivian Reach Economic Development Agreement

The Joint Development Authority (JDA) of Jasper, Morgan, Newton and Walton counties last week voted to approve an “economic development agreement” for a planned \$5 billion Rivian factory that outlines terms with the electric vehicle company, including environmental standards and taxpayer-backed incentives.

The deal between the JDA, the state and Rivian comes days after the state held the first of 16 community engagement meetings to address residents' concerns. Opponents of the plant expressed fears about traffic, environmental issues, loss of farmland and over-development. Full details of the deal have not yet been made public.

State officials said the incentive package is

likely to include tax exemptions, tax credits for jobs created, infrastructure improvements that could include a new interchange, and free worker training.

More: [The Atlanta Journal-Constitution](#)

LOUISIANA

Entergy New Orleans Applies for Rate Increase



Entergy New Orleans announced last week that it is applying for a \$40 million rate increase to increase the reliability of its service.

If approved, the increase would have a \$7.62 monthly impact on electric service and a \$2.02 impact on gas for the average residential customer. The request comes on top of another bump approved by the City Council last year that added about \$10 to the average bill.

The New Orleans City Council must approve the request before it can move further.

More: [Nola.com](#)

MINNESOTA

AG Sues Utah-based Solar Companies for 'Deceptive' Practices



Attorney General **Keith Ellison** last week announced a lawsuit against four Utah-based companies, alleging they violated consumer protection laws and used deceitful business practices to push Minne-

sotans into expensive solar panel contracts without delivering on promised bonuses or tax incentives.

The lawsuit against Brio Energy, Bello Solar Energy, Avolta Power and Sunny Solar Utah follows complaints from about 400 homeowners who said the salespeople used high-pressure tactics to get them to sign contracts. The individual contracts ranged from \$20,000 to \$55,000 for solar panels.

The suit seeks civil penalties against the companies and restitution for consumers and asks the court to order that current and future customers be able to cancel their installation contracts and loans in "a reasonable period of time."

More: [Star Tribune](#)

NEW MEXICO

PRC Rejects PNM's Desire to Separate Revenue from Sales

The Public Regulation Commission last week voted 5-0 to reject a proposal that would allow utilities to separate their revenue targets from their sales.

The PRC said such a system would stymie its authority to make sure rates are reasonable while protecting companies and investors. The Public Service Company of New Mexico, however, said it shouldn't be penalized for finding energy efficiency that diminishes its sales.

Separating, or "decoupling," sales has been adopted in other states. The concept asserts that companies urged or ordered to reduce the amount of energy used should be guaranteed a certain amount of revenue to insulate themselves and their investors.

More: [Santa Fe New Mexican](#)

OHIO

Consumers' Counsel Says FirstEnergy Should Pay \$1.5B in Penalties



In comments filed with the Public Utilities Commission last week, the Ohio Consumers' Counsel argued that FirstEnergy Corp. should pay nearly \$1.5 billion in penalties under state law for not spending hundreds of millions of dollars collected from customers on grid modernization, as promised.

The Counsel noted that a recent PUC-commissioned audit found no evidence that FirstEnergy used \$456 million collected from ratepayers between 2017 and 2019 directly or indirectly in support of modernizing its grid. FirstEnergy defended its use of the money, saying its goal was not direct spending on projects but to increase the company's overall financial health.

Under Ohio law, anytime a regulated utility fails to do something required by the PUC, that utility is liable to pay triple the amount in damages. In this case, that is \$1.368 billion. Other laws would allow for the addition of roughly \$80 million to the penalty total.

More: [Cleveland.com](#)

OREGON

PUC Approves Utilities' Wildfire Mitigation Plans

The Public Utility Commission last week ap-

proved wildfire mitigation plans (WMPs) for PacifiCorp, Portland General Electric and Idaho Power, and recommended the utilities collaborate with PUC staff to improve their 2023 plans.

The companies filed WMPs on Dec. 30, 2021. PUC staff and an independent evaluator then reviewed each plan to ensure it met statutory requirements and made recommendations to address future risk.

The PUC said PacifiCorp and PGE's plans met all the requirements, while Idaho Power must resubmit its WMP by June 28 "with an explanation of their cost/risk mitigation assumptions and analysis that was completed but not described in their 2022 plan, their strategy to address these gaps in their 2023 plan, additional data relating to specific risk areas in their Oregon service territory, as well as projects to be pursued in Oregon, and the costs associated with those projects."

More: [KDRV](#)

TENNESSEE

Bill to Hinder Local Governments from Stopping Fossil Fuel Projects Advances

The House of Representatives last week voted 68-25 to pass a bill that will prevent local governments from taking action that would prohibit fossil fuel development or expansion.

The bill does not define what a "prohibitive action" is, and the vague text could allow fossil fuel companies to intimidate governments with lawsuits to fast-track construction. The Chamber of Commerce and the Fuel and Convenience Store Association supported the legislation. Both groups receive financial support from fossil fuel companies.

Gov. Bill Lee is expected to sign the bill within the next two weeks.

More: [WPLN](#)

TEXAS

Republicans Squeeze Wall Street Firms over Climate Policies

Comptroller Glenn Hegar last week demanded that more than 140 financial firms disclose their climate policies and whether they restrict or prohibit doing business with energy companies and are "boycotting" the fossil-fuel industry.

Firms that end up on the list will face restrictions on doing business in the state

and possibly lose out on managing billions of dollars in public-pension assets. Republicans in other states such as West Virginia and Kansas have introduced similar legislation that bans government agencies from investing with firms seen as cutting ties with the energy industry.

The comptroller gave the firms 61 days to respond. Failure to do so will result in the presumption under Texas law that the company is boycotting energy companies.

More: [Bloomberg](#)

VIRGINIA

SCC Questions Dominion Wind Farm's 'Economic Benefits'

The State Corporation Commission, which is currently considering approval for Dominion Energy's offshore wind farm, last week questioned whether the project will be as economically beneficial as the company claims.

In testimony filed earlier this month, the SCC said that in claiming the wind farm will create jobs and tax growth, Dominion relied on a "stale" study that didn't account for the impact of its ratepayers bearing the cost of the nearly \$10 billion project. The commission's own analysis found the project was

expected to come with an economic cost — including 1,100 lost jobs in the first five rate-years of the project — that might negate any "speculative" benefits. Meanwhile, Dominion argued that cost-benefit analysis does not need to be considered under the Virginia Clean Economy Act.

The SCC's decision on the project and whether to allow the costs to be recovered from ratepayers is due by Aug. 5.

More: [The Associated Press](#)

WISCONSIN

PSC Approves Second Phase of Alliant's Clean Energy Plan



The Public Service Commission last week voted unanimously to approve the second phase of

Alliant Energy's plans to spend more than \$1.5 billion to replace its coal-fired plants with solar energy.

The PSC authorized Alliant to buy or build six solar farms at a cost of about \$620 million. The projects will be in Dodge, Grant, Green, Rock and Waushara counties and have a combined capacity of 414 MW.

The approval comes about a year after the commission approved a roughly \$925 million investment in 675 MW of solar spread over six projects currently under development.

More: [Wisconsin State Journal](#)

WEC Seeks Rate Hikes Amid Shift to Clean Energy

WEC Energy Group last week filed a request with the Public Service Commission seeking rate hikes for its We Energies and Wisconsin Public Service Corp. subsidiaries to finance renewable energy projects.

WEC was expected to ask for an 8.4% increase for We Energies and 6.2% increase for Wisconsin Public Service Corp. WEC said it needs the added revenue to cover expenses, primarily investments of more than \$1.1 billion in renewable energy. WEC is also seeking increases for each of its three natural gas subsidiaries that will translate to an additional \$4 to \$8 a month in order to pay for new pipes and a \$370 million storage project approved last year.

If approved, it would be the fifth consecutive year We Energies customers have seen rates rise, and the fourth for WPS customers.

More: [Wisconsin State Journal](#)

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