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YOUR EYES AND EARS ON THE ORGANIZED ELECTRIC MARKETS

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

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FERC/Federal News

Summer Forecasts Spark Warnings of 'Reliability Crisis' at FERC

Glick Says Commission Probing for Gas Market Manipulation

By Rich Heidorn Jr.

FERC commissioners expressed alarm Thursday over forecasts of potential supply shortfalls this summer in the West, ERCOT, MISO and SPP.

A day after NERC issued a sobering *Summer Reliability Assessment*, FERC staff *presented* its Summer Energy Market and Reliability Assessment, concurring that drought, wildfires, plant retirements and transmission outages have elevated risks of load sheds this summer in much of the country. (See *West, Texas, Midwest at Risk of Summer Shortfalls, NERC Says*.)

Commissioner Mark Christie | *FERC*

"We're heading for reliability crisis. That's what came through the NERC report yesterday," Commissioner Mark Christie said at the commission's monthly open meeting. "It isn't the first time NERC has been warning us about this."

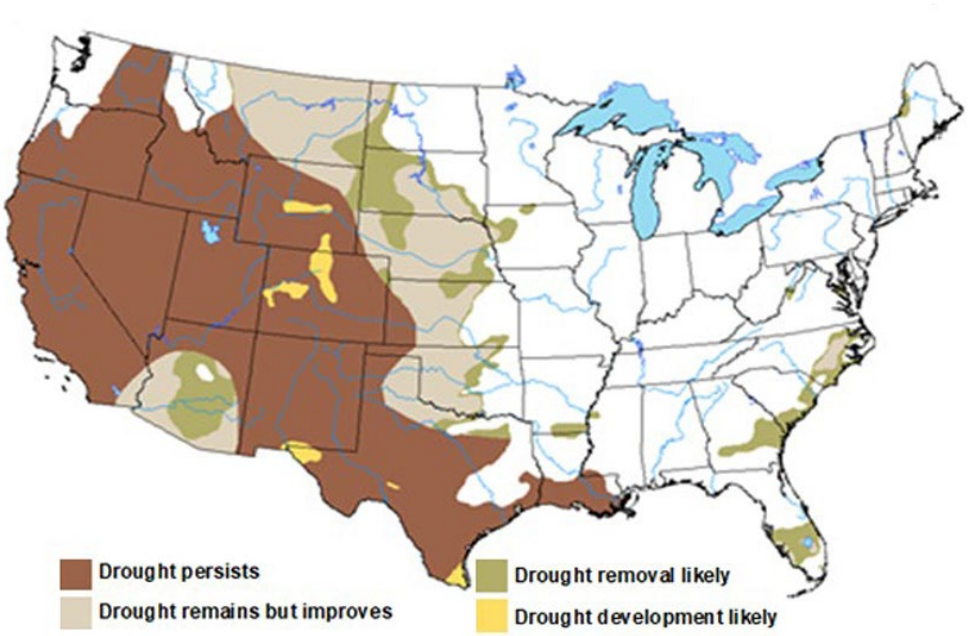
Quoting from the NERC report, Christie said the "the nation's grid reliability is deteriorating, because utilities are switching too rapidly from baseload power plants to intermittent renewables. … There is clear, objective, conclusive data indicating that the pace of our grid transformation is out of sync with the underlying realities and physics of the system."

State Decisions

Christie said the problem is the result of state policymakers adopting overly aggressive renewable portfolio standards and climate goals.

"The decision about what generating resources get built or retired is a state decision," he said. "Utility regulators, believe me, they know this is coming. It's the state policymakers and legislators that are driving a lot of this. [You] need to really start paying attention to the resources in each state, what you're building and what you're forcing to retire, and start listening to experts like NERC."

Christie's fellow Republican, Commissioner James Danly called it a "grim assessment," faulting FERC's market policies for failing to provide "the correct price signals to ensure the orderly entry and exit of the resources that are required."



Severe and extreme drought conditions across the Western U.S. | *NOAA*

He also said FERC had failed to encourage investment in natural gas infrastructure and criticized what he called an overreliance on electric transmission expansion.

Commissioner James Danly | *FERC*

"I think that there is, in the minds of some, an idea that that as long as we get the transmission issue correct, everything will eventually solve itself. I'm simply a skeptic," Danly said. "Not only is transmission itself expensive, and not only does it have a long timeline, but we are constrained by the law as to how we're going to allocate costs.

"My grave, grave fear here is that what's going to have to happen to focus people's attention on the solutions that are necessary to ensure resource adequacy and infrastructure reliability is going to be some catastrophic event," Danly said.

Christie initially called the reports a "wake-up call," before disavowing the phrase as "cliché."

But Commissioner Willie Phillips, a Democrat, said Christie was spot on.

"I don't think it's too far [off] to say it's a bit of a wake-up call," Phillips said. "I mean, I think the alarm has been going off. We've just been hitting snooze."

FERC Chair Richard Glick and Commissioner Allison Clements, both Democrats, also expressed alarm.

"There is no longer a shoulder month [when] we can kind of take a deep breath and allow for regularly scheduled maintenance outages to shore up for the for the next season," Clements said. "We're always bracing for the next extreme weather event."

Glick said much of the problem is extreme weather linked to climate change.

"I was in Texas earlier this week, and someone said they were in their 22nd year of drought. [They said], 'These things come and go every 20 years or so.' Well, we don't know that anymore," Glick said. "The extreme weather events that we're seeing around the country, whether it be extreme heat, extreme cold … drought, obviously, hydropower reductions, but also wildfires … these issues aren't going away."

Hyperbole?

In a press conference after the meeting, Glick responded to his Republicans colleagues' comments.

FERC/Federal News

FERC Chairman Richard Glick | *FERC*

"Regarding Commissioner Danly's comment, I mean, he's prone to hyperbole, and so I think I don't really think there's much there," he said.

He responded at length to Christie's comments on the pace of the generation transition.

"There's no doubt we have challenges on our hands, but I think that argument about going back to the way it used to be 30 years ago, that's not going to happen," Glick said. "We're moving forward. Going forward has nothing to do with FERC. We're moving forward because decisions are made elsewhere about the resource mix. We're addressing those challenges, and we're taking them seriously, trying to address them head on."

During the meeting, Glick announced the commission will host a forum in Burlington, Vt., on Sept. 8 to discuss New England's gas-electric winter reliability challenges (*AD22-9*).

He also took note of two orders approving new gas infrastructure, saying they showed critics were wrong when they said FERC's proposed policy statements on gas permitting and greenhouse gas emissions would make it impossible to approve new pipelines. (See *EBA Panel Hits FERC Pipeline Permitting*.)

One order approved Kern River Gas Transmission Co.'s application for a 36-mile pipeline in Utah that will provide up to 140,000 dekatherms of gas per day to allow Intermountain Power Agency's plan to convert an existing coal-fired generator to a gas-fired combined cycle plant (*CP21-197*).

"In this particular case, there's actually net negative emissions," Glick said.

In the second order, FERC approved ANR Pipeline Co.'s proposed Wisconsin Access Project to provide an additional 50,707 dekatherms of gas daily for six shippers (*CP21-78*).

Glick said he supported that project even though he concluded it would result in "significant" additional GHG emissions.

"Nonetheless, in my opinion, the benefits of the project outweighed the impact of those particular significant emissions on the environment," he said. "The aim is to try to address this issue in a way that understands that we can follow what the courts tell us to do on greenhouse gas emissions. … and at the same time, pursue our responsibilities under the Natural Gas Act."

Gas Market Manipulation?

Glick also expressed concern that the increase in natural gas prices, which have spurred higher power prices, may not be entirely explained by market dynamics.

FERC's summer assessment said futures prices are higher at every major U.S. trading hub, with Henry Hub prices averaging $7.06/MMBtu for June 2022 through September 2022, up 88% from last summer's average of $3.75/MMBtu.

"I've had a couple of CEOs suggest that they don't think the market fundamentals support the current natural gas pricing," Glick said. "They may or may not … [and] that's something we need to consider and take a look at."

He elaborated in the press conference. "FERC has authority over natural gas market manipulation as we do on electric market manipulation. And so that's something we're taking a look at. But I don't want to suggest that we've found anything. I don't want to suggest we haven't found anything. It takes a while to do these investigations.

"That's just good regulatory practice to make sure that the markets that we oversee aren't being manipulated," Glick said. ■

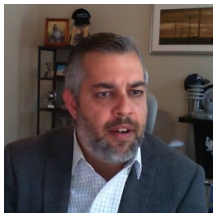
FERC/Federal News

West, Texas, Midwest at Risk of Summer Shortfalls, NERC Says

'A Pretty Sobering Report'

By Rich Heidorn Jr.

Drought, wildfires, plant retirements and transmission outages have elevated the risk of supply shortfalls in the West, Texas, MISO and SPP, NERC said in its *Summer Reliability Assessment* on Wednesday.



John Moura, NERC | *NERC*

"It's a pretty sobering report," John Moura, NERC's director of reliability assessment and performance analysis, said in a media briefing. "It's clear the risks are spreading. … Year after year, extreme weather is leading to reliability impacts."

MISO's North and Central areas face a "high risk of energy emergencies during peak summer conditions" because of a capacity shortfall and the outage of a key transmission line, NERC said in the assessment, which covers June to September. Drought is the cause of concern in Texas, and drought and wildfire risks will present challenges in the West, the report said.

Table 1: Seasonal Risk Scenario On-Peak Reserve Margins

Assessment Area	Anticipated Reserve Margin	Anticipated Reserve Margin with Typical Outages	Anticipated Reserve Margin with Higher Demand, Outages, Derates in Extreme Conditions
MISO	21.1%	3.2%	-8.3%
MRO-Manitoba	27.3%	21.5%	7.8%
MRO-SaskPower	12.2%	2.6%	-5.3%
NPCC-Maritimes	39.2%	28.7%	11.7%
NPCC-New England	20.6%	9.3%	-2.5%[6]
NPCC-New York	30.4%	22.4%	13.5%
NPCC-Ontario	18.0%	18.0%	3.0%
NPCC-Québec	40.3%	40.3%	35.0%
PJM	31.7%	23.9%	16.1%
SERC-Central	18.3%	10.7%	3.3%
SERC-East	21.4%	18.3%	11.3%
SERC-Florida Peninsula	20.7%	17.3%	15.1%
SERC-Southeast	29.8%	25.4%	17.4%
SPP	30.6%	12.3%	-4.7%
Texas RE-ERCOT	22.0%	15.9%	1.1%
WECC-NWPP-AB	19.7%	17.2%	5.3%
WECC-NWPP-BC	39.3%	39.1%	10.4%
WECC-CA/MX	31.5%	25.4%	-13.1%
WECC-NWPP-US	18.3%	16.3%	-13.8%
WECC-SRSG	16.3%	11.8%	-6.8%

On-peak reserve margins for summer 2022 | *NERC 2022 Summer Reliability Assessment*

Risk of Load Sheds in MISO/MRO

MISO has been unable to reverse capacity shortfall projections NERC has reported since 2018, with load-serving entities in four of its capacity zones currently lacking sufficient owned or contracted capacity to cover their requirements. (See *OMS Drafting Letter over MISO Resource Adequacy Concerns*.)

The RTO faces both a 1.7% increase in projected peak demand — largely a rebound from the pandemic — and a 2.3% (3,200 MW) reduction in generation capacity compared with summer 2021.

"System operators in MISO are more likely to need operating mitigations, such as load-modifying resources or non-firm imports, to meet reserve requirements under normal peak summer conditions," NERC said. "More extreme temperatures, higher generation outages or low wind conditions expose the MISO North and Central areas to higher risk of temporary operator-initiated load shedding to maintain system reliability."

MISO also will enter summer lacking a 500-kV transmission line that was damaged by a tornado in December. That will affect 1,000 MW of firm transfers between MISO Midwest and South, including parts of Arkansas, Louisiana and Mississippi. Restoration of a 4-mile section of the line is expected at the end of June.

Canada's Saskatchewan, which is part of the Midwest Reliability Organization, has seen a 7.5% increase in projected peak demand since 2021. Although SaskPower is projected to remain above its planning reserve margin, with sufficient operating reserves for normal peak conditions, "external assistance is expected to be needed in extreme conditions that cause above-normal generator outages or demand," NERC said.

Dry in the West, Texas, SPP

Drought conditions in Texas and much of the West threaten to reduce hydropower output and pose "unique challenges to area electricity supplies and potential impacts on demand," NERC said.

Below-normal snowpack threatens the availability of hydroelectricity for transfers throughout the Western Interconnection, a particular risk for WECC's California-Mexico (CA/MX) and Southwest Reserve Sharing Group (SRSG), which depend on imports to meet demand on hot summer evenings and other times when wind and solar output are reduced. "In the event of wide-area extreme heat event, all U.S. assessment areas in the Western Interconnection are at risk of energy emergencies due to the limited supply of electricity available for transfer," the assessment said.

Much of Texas also faces extreme drought, which NERC said "can produce weather conditions that are favorable to prolonged, wide-area heat events and extreme peak electricity demand."

Recent additions of solar and wind have raised ERCOT's anticipated reserve margins above reference margin levels, meaning the grid operator should have sufficient capacity for normal peak demand. But extreme heat will increase peak demand and could cause a spike in forced outages or reduced output from generating resources. "A combination of extreme peak demand, low wind and high outage rates from thermal generators could require system operators to use emergency procedures, up to

FERC/Federal News

and including temporary manual load shedding," NERC warned.

Mark Olson, NERC | *NERC*

Mark Olson, manager of reliability assessments, said another risk is the retirement of thermal plants and influx of renewables.

"There are fewer and fewer thermal plants in a number of areas as generation retires. So the ones that are remaining are being driven hard. They have to cycle to be able to balance variable energy," he said. "That takes a toll on the plants. So we can expect to see higher forced outage rates in the future [and] more generation mechanical issues."

Continued drought in the Missouri River Basin also could result in reduced output from thermal generators in SPP that use the river for once-through cooling. Output from hydro generators on the river may also be reduced.

Solar PV Tripping Remains an Issue

Unexpected tripping of solar PV resources during grid disturbances remains a problem despite attempts to address it since 2016, with widespread losses last May and June in Texas and four events in California between last June and August.

"During these events, widespread loss of solar PV resources was also coupled with the loss of synchronous generation, unintended interactions with remedial action schemes and some tripping of distributed energy resources," NERC said.

Since the 2016 *Blue Cut Fire* in California, which caused nearly 1,200 MW of solar PV to trip offline, NERC has been warning that the lack of inverter-based resources' (IBRs) ride-through capability risks turning minor system disturbances into major ones.

NERC said a series of trips last year "reinforces that improvements to NERC reliability standards are needed to address systemic issues with IBRs," an issue highlighted in a joint NERC-WECC report last month. (See *NERC, WECC Repeat Solar Performance Warnings*.)

The *report* said that the one inverter manufacturer involved in the Blue Cut Fire "quickly and proactively responded by ensuring that all [bulk power system]-connected solar PV facilities changed their frequency protection settings to avoid future issues. However, these disturbances in 2021 involve different inverter manufacturers, illustrating that the issue is still not widely understood or addressed across all manufacturers and plant owner/operators."

Although NERC standards require documentation that demonstrates compliance with ride-through requirements in PRC-024-3, "they do not specify a certain degree of performance that must be met," the organization said, calling for the standard to be retired and "replaced with a comprehensive ride-through standard that focuses specifically on the generator protections and controls."

NERC "strongly recommends that a performance validation standard be developed that ensures that reliability coordinators, transmission operators or [balancing authorities] are assessing the performance of interconnected facilities during grid disturbances, identifying any abnormalities and executing corrective actions with affected facility owners to eliminate these issues."

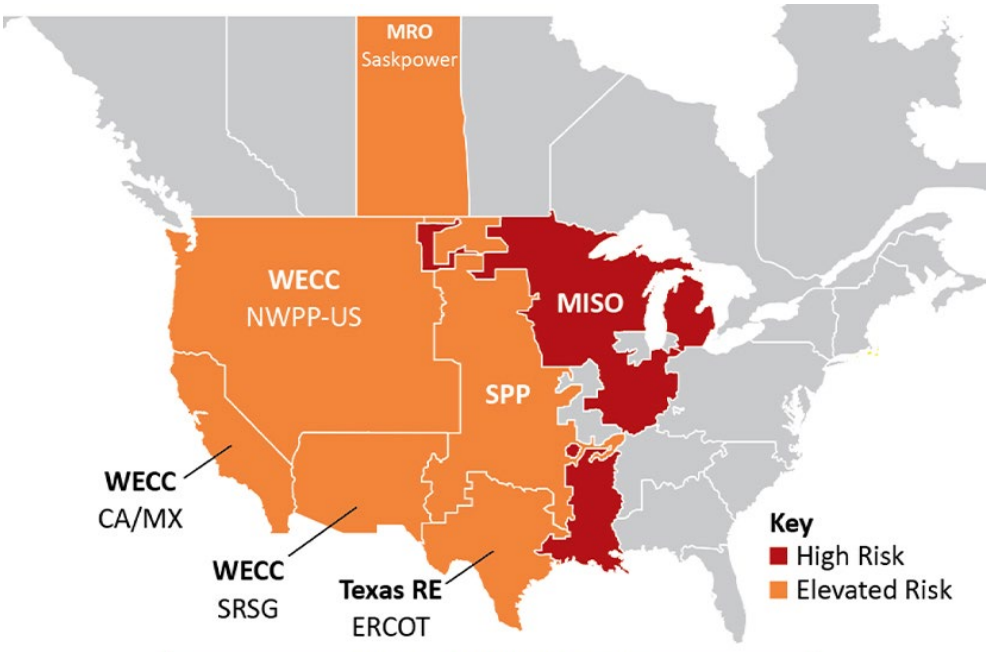
On Wednesday, NERC's Standards Committee approved the *Inverter-Based Resource Performance Subcommittee's* request to approve a standard authorization request to address the issue. (See "Other Standards Actions" in *NERC Cold Weather Standards Set for Shortened Comment Period*.)

"These types of risks have the potential to have a widespread impact across the entire interconnection, and that's really the entire Western Interconnection, or the entire Eastern Interconnection, or the entire Texas Interconnection if you're in ERCOT," Moura said. "It's a matter of keeping the balance of supply and demand. And if the supply and demand balance is shifted — even 1,000 MW very quickly — that really creates real trouble for the operators. They're not used to dealing with this huge imbalance.

"The inverter tripping challenge is really one of the most risky issues I think we have to deal with as an industry in order to ensure we can reliably integrate interconnect the nearly 500 GW of solar we see coming online in the next 10 years," he added.

NERC also has issued recommendations that electromagnetic transient (EMT) modeling and studies be incorporated into its reliability standards. "Existing positive sequence simulation platforms have limitations in their ability to identify possible performance issues, many of which can be identified using EMT modeling and studies," NERC said. "As the penetration of IBRs continues to grow across North America, the need for EMT modeling and studies will only grow exponentially. Furthermore, NERC reliability standards need enhancements to ensure that model accuracy and model quality checks are explicitly defined."

Moura said NERC wants FERC to add a requirement for EMT modeling in its *pro forma* interconnection agreement to ensure reliable



Seasonal Risk Assessment Summary	
High	Potential for insufficient operating reserves in normal peak conditions
Elevated	Potential for insufficient operating reserves in above-normal conditions
Low	Sufficient operating reserves expected

MISO is at high risk of insufficient operating reserves this summer and SPP, Texas and the West face an elevated risk, NERC says. | *NERC 2022 Summer Reliability Assessment*

FERC/Federal News

connection of asynchronous inverter-based resources: solar, batteries or wind.

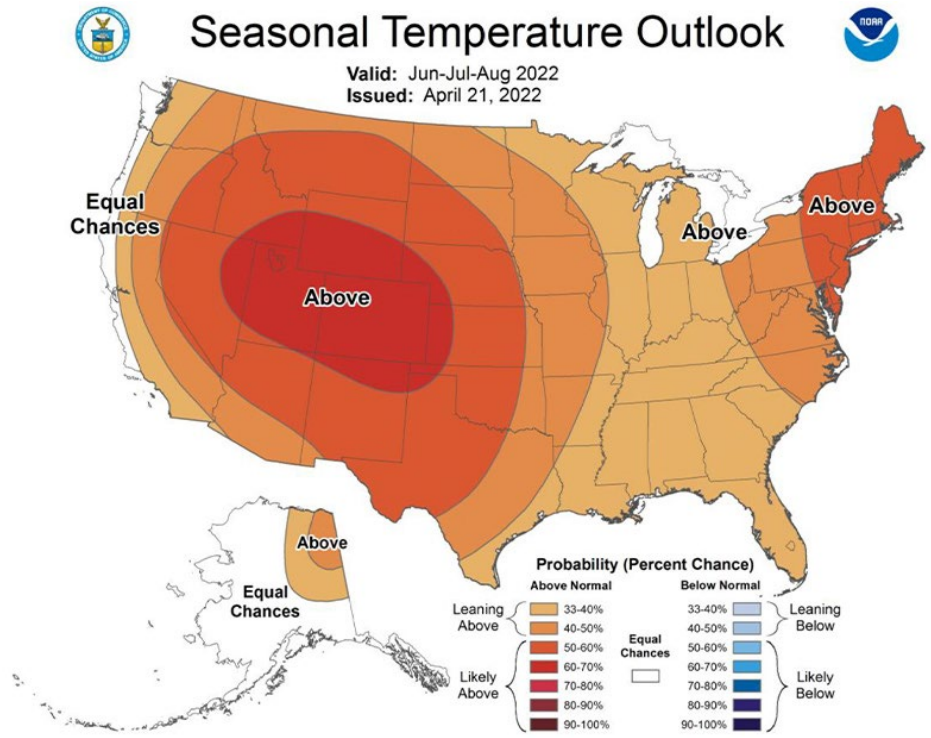
"In the past, when you interconnected a synchronous generator, you simply do a power flow analysis, a voltage stability analysis and a feasibility study," he said.

When IBR resources were a smaller contributor, "maybe we didn't need to do those [EMT] studies. But as … we're seeing more and more, these types of studies are absolutely necessary. We cannot integrate resources reliably without doing those studies."

Other Reliability Issues

NERC also identified several other concerns:

- Supply chain problems and staffing shortages are hampering efforts to complete new generation and transmission projects needed for reliability. WECC-CA/MX and WECC-SRSG "have sizeable amounts of generation capacity in development and included in their resource projections for summer," while ERCOT is rushing to complete transmission projects to address transmission constraints and maintain system stability, NERC said. It warned of transmission congestion during peak conditions and reduced ability to serve load in localized areas. It said generator and transmission owners must inform their BAs, TOPs and RCs of any delays so they can develop responses.
- Supply chain problems are also making it difficult for some coal-fired generators to obtain fuel and other supplies, with coal stockpiles "relatively low" compared to historical levels. Coal plants say their fuel supplies have been pinched by mine closures, rail shipping limitations and increased coal exports. "No specific BPS reliability impacts are currently foreseen," NERC said.
- The grid and other critical infrastructure sectors face cybersecurity threats from Russia and other potential actors, particularly because of Russia's invasion of Ukraine. The Electricity Information Sharing and Analysis Center is sharing information with its members on potential threats.
- An active late-summer wildfire season in the Western U.S. and Canada also poses threats. Above-normal wildfire risk is expected beginning in June across much of Canada, in the U.S. South Central states and in Northern California. In New Mexico, the Hermits Peak/Calf Canyon Fire has *grown* to almost 300,000 acres, making it the largest in state history. "If drought conditions persist, the fire outlook for late summer would likely extend across the Western half of North America," NERC said, noting the potential for damage to transmission lines or pre-emptive shutdowns to avoid sparking blazes. In addition, smoke from wildfires can reduce output from solar PV. ■



The National Oceanic and Atmospheric Administration forecasts above average temperatures this summer for virtually all of the lower 48 states. | *National Oceanic and Atmospheric Administration*

FERC/Federal News

Biden to Re-nominate Glick as FERC Chair

By Michael Brooks

The White House *announced* Friday that President Biden will nominate FERC Chair Richard Glick for another five-year term.

If confirmed, Glick could be on the commission well into 2027 and could remain chair as long as Biden remains president or another Democrat succeeds him after 2024. If a Republican is elected, Glick would be demoted, but the commission could retain a Democratic majority until 2026, when Commissioner Willie Phillips' term expires.

Glick was originally nominated alongside Republican Neil Chatterjee by President Donald Trump and joined FERC in November 2017, when the commission's sole member was acting Chair Cheryl LaFleur. Glick filled the seat left open by Colette Honorable's resignation and was the lone Democrat — and often voice of dissension — for more than a year, between when LaFleur resigned in August 2019 and Commissioner Allison Clements joined in December 2020.

Before joining the commission, Glick was general counsel for the Democratic members of the Senate Energy and Natural Resources (ENR) Committee.

FERC did not respond to a request for comment.

Transmission Planning, Gas Policy Highlight First Term

His tenure has so far been marked by efforts to re-examine the commission's policies on transmission planning, natural gas pipeline certificates and RTO capacity markets. Those efforts have been appreciated by renewable energy interests and environmentalists and criticized by the fossil fuel sector and the commission's Republican minority, especially Commissioner James Danly.

In February, he and his fellow Democrats received more widespread criticism for a pair of policy statements on how the commission would more closely scrutinize evidence of need for pipeline projects and evaluate the impacts of their greenhouse gas emissions in environmental analyses. The statements were released without notice for comment and would have applied retroactively to all projects already pending before the commission.

The Democratic majority was later excoriated for the move by members of the ENR Committee — mostly Republicans, but also Chair Joe Manchin (D-W.Va.), whose support may prove necessary for Glick to continue in his post. (See *Glick: No Regrets over Gas Policy Statements*.)

FERC Chairman Richard Glick speaks at CLEANPOWER 2022 in San Antonio on May 17.| © *RTO Insider LLC*

A month later, FERC walked the policy statements back, labeling them as drafts and saying any new rules would apply only to future projects. (See *FERC Backtracks on Gas Policy Updates*.)

Glick won plaudits for his outreach to state regulators in a bid to accelerate transmission development. (See *FERC-State Task Force Considers Clustering, 'Fast Track' to Clear Queues*,)

But he has come under criticism for proposing a reinstatement of federal rights of first refusal (ROFR) in the commission's April 21 Notice of Proposed Rulemaking on transmission planning and cost allocation. (See *ANALYSIS: FERC Giving up on Transmission Competition?*)

Former FERC Chair Jon Wellinghoff and Paul N. Cicio, chairman of the *Electricity Transmission Competition Coalition* and CEO of the Industrial Energy Consumers of America, called the ROFR proposal "a costly giveaway" to incumbent utilities that have circumvented FERC Order 1000's rules encouraging competition in transmission development, citing data that only 3% of all transmission projects are competitively bid.

In a May 15 *op-ed* in *The Hill*, Wellinghoff and Cicio said that transmission costs in RTO/ISO markets "increased by $74.9 billion or 78.7%, while electricity demand was flat" from 2014 to 2020.

"Competition brings out innovation, a solution to inflation and an American norm — but the power sector is different," they wrote. "Utilities make money by spending money and recover it in consumer rates with a 10 to 12% annual after-tax return on investment. The more they spend the more they earn."

Reaction

On Friday, Chatterjee — himself a former Senate adviser, on the other side of the aisle — *tweeted* that Glick "is a great person and dedicated public servant. He'll have to answer some tough questions, but if he continues to strive for bipartisan consensus on the contentious issues before FERC, he'll be in a strong position for a second term."

Responses to the news from stakeholders ranged from celebratory to tepid.

Both Advanced Energy Economy and the American Council for Renewable Energy "applauded" the announcement, with AEE Managing Director Jeff Dennis saying Glick "has provided steady leadership at FERC" and ACORE CEO Gregory Wetstone saying he has been "exceptionally effective as chair."

WATT Coalition Chair Ted Bloch-Rubin congratulated Glick, saying that "FERC has made great strides towards policy to improve the United States' transmission system planning and operation" under his leadership.

Electric Power Supply Association CEO Todd Snitchler was less enthused, saying that the organization "looks forward to a robust conversation around issues critical to the Federal Energy Regulatory Commission's jurisdiction with the re-nomination. ... [It] comes at a time when FERC's mission to ensure reliable, safe, secure and economically efficient energy for consumers has never been more important."

EPSA is challenging PJM's narrowed minimum offer price rule (MOPR) in the 3rd U.S. Circuit Court of Appeals. The group contends it threatens the competitiveness of the capacity market and that FERC failed to give adequate reasoning for allowing the rules to go into effect. (See *PJM MOPR Challenge May Set Legal Precedent on FERC Deadlocks*.)

Glick was among four other intended nominees "to serve as key leaders" in the administration that the White House announced late Friday afternoon; none of the four other posts is related to energy policy. ■

FERC/Federal News

Overheard at CLEANPOWER 2022

Despite Market Milestones, ACP Calls for Accelerated Development

By Tom Kleckner

SAN ANTONIO — American Clean Power (ACP) last week kicked off its annual CLEANPOWER conference by releasing its *2021 market report* filled with significant milestones, but also warning of obstacles that lay ahead for the clean energy industry.

According to the report, the industry installed a record 28.5 GW of utility-scale wind, solar and battery-storage projects in 2021, accounting for 81% of all new power additions. Clean energy installations surpassed the 200-GW level during the year, providing enough electricity to power over 56 million American homes.

However, transmission bottlenecks and policy uncertainty threaten to stall future developments and the administration's goal to reach a net-zero grid by 2035, ACP staff said, despite CLEANPOWER 2022's video testimonials from politicians on both sides of the aisle about the renewable industry's importance.

American Clean Power CEO Heather Zichal briefs the media on the clean energy market report for 2021. | © *RTO Insider LLC*

"Don't get me wrong, 2021 marked a record year for clean power," CEO Heather Zichal said during the second day of the May 16-18 event. "But despite this laudable progress, the rate of deployment must accelerate at a much faster pace than it did in 2021."

Zichal said the industry needs to increase its project volume by 65% over last year to reach the 2035 net-zero goal. It may be difficult to maintain the momentum of the last two years, she said, given COVID-19 challenges, inflation, supply chain constraints, trade barriers and uncertainty over the extension of tax incentives.

John Hensley, ACP's vice president of research and analytics, said renewable energy growth in 2021 was equivalent to the previous year and that only 386 miles of new transmission were built last year, down from a yearly average of 1,800 miles over the last decade and "woefully under the volumes that we need to enable the clean energy transition."

"This is critical. We need to be transitioning," Hensley said. "We need to be deploying more and more renewables every year. That's what's needed to enable the clean energy transition. That will help to push this country towards a net-zero emissions grid by 2035."

CLEANPOWER 2022 attendees listen to a presentation on the main stage. | © *RTO Insider LLC*

Optimistic Granholm Battles Headwinds

Admitting that she's "annoyingly optimistic" about the future, U.S. Department of Energy Secretary Jennifer Granholm offered some hope to the conference's 7,000 attendees during a taped interview with Zichal. She said her sunny outlook stems from the fact the industry's headwinds all have one solution: clean energy.

"It's affordable; it's diverse; it's reliable; and we can build it at home. The more clean energy we deploy, the more energy-secure and the more climate-secure we're going to be," Granholm said.

And even bigger source of her optimism is working at DOE, she said, breaking the video's "fourth wall" by frequently leaning forward from her office desk in D.C. to address those gathered before her screen.

"I feel like I have a front-row view of America's solutions department every day. I get to watch what our 17 national labs are doing … what [the agency's departments] are all cooking up," she said. "The brainpower here is unmatched; the infrastructure is unparalleled; and we're putting historic levels of resources into innovating and scaling these clean energy technologies. At the end of the day, these technologies are going to be our best tool for fixing this cascade of problems."

Granholm, with the Ukrainian flag featured prominently behind her along with the American and DOE flags, said the war in Eastern Europe has provided the U.S. an opportunity to transition away from dependence on fossil fuels.

"Clean energy gives us the means to advance all of these priorities like climate security and energy security, especially with this war. People want to see us move away from the volatility of unabated fossil fuels. They want to see us build out this clean energy future," she said. "The president and the entire administration have really been focused on this from day one, but the war gives us an opportunity to really foot-stomp it."

Pointing to clean energy development in both red and blue states, Granholm said more Americans are realizing the benefits of clean

FERC/Federal News

energy. "We hope that their leaders, all of our leaders, catch up to them," she said.

"I completely understand the worries, and frankly, I've grappled with a lot of the same concerns that you are grappling with right now," Granholm said. "But let's keep in mind this lesson from the past: the future is always unwritten. That has a way of surprising us when you're making history. Sometimes you don't see that history in the making … but I'm telling you, we're all making history right now."

Texas Penalizes Renewables in ERCOT Redesign

Texas industry insiders said the state's politicians and regulators are penalizing clean energy resources as they restructure ERCOT's market following last year's disastrous winter storm.

Michael Jewell, a principal with Jewell and Associates, said politicians continued to focus on renewables during last year's legislative session after initially blaming clean resources for the loss of generation during the storm. Subsequent studies have shown that the lack of natural gas supplies accounted for the majority of generation outages during the storm's extreme temperatures. (See *FERC, NERC Release Final Texas Storm Report*.)

Michael Jewell, Jewell & Associates | © *RTO Insider LLC*

"That was the number one problem," Jewell said of the lawmakers' emphasis on renewables' intermittency. "I would not have been working so hard during the session if that had not been the focus … and it continued through the session. It shaped a lot of what actually came out of the session."

While weatherization was a big part of the bills that passed, other pieces of legislation focused on ancillary services, their contribution to reliability and the inability of renewable resources to provide those services. As the Public Utility Commission of Texas begins to dabble in the second phase of its market redesign, it has openly discussed penalizing resources for not providing power when it is needed.

During a press conference last week in which he frequently promised no outages this summer, PUCT Chair Peter Lake highlighted the new ERCOT contingency reserve service being developed. He described it as a fast-ramping product to offset the "sun setting and dropping of solar," with the costs of procuring the service allocated under the cost-causation principle.

"That cost, the commission decided, will be assigned to the resources causing [the drop], in this case, the intermittent resources," he said, avoiding the use of solar or wind.

"If I get a tattoo at the end of my career, it'll say, 'cost causation,' because that's where we really lose a lot of sleep," said the Advanced Power Alliance's Jeff Clark, a solar advocate.

"There's a couple of key [legislative] provisions … that focus on ancillary services, which traditionally are a real sleeper of an issue," Jewell said. "But if you're about to face the potential for the cost of all of those resources to be put on your industry, which is the threat that we have faced since Winter Storm Uri, it's a huge issue that can absolutely undermine your industry."

Bird Dog Energy's Colin Meehan said the addition of several new ancillary services, some in the 10- to 20-GW range or higher, could amount up to $1 billion in costs to the market.

"I think what some of the political leadership would like to see is imposing those costs on renewable energy, and that's highly concerning," he said. "We're trying to work with the commission to say, 'Look, we're open to the idea of a cost-allocation discussion, but it has to be across the entire market. It can't be focused exclusively on one technology.' The political side is still about renewables."

"I think it's important to recognize cost causation is in the eye of the beholder in this environment, so whoever is making the decision and what biases they're bringing to the table is going to dictate what is cost causation," Jewell said. "Even with a significant growth of wind and solar on the grid, we have not seen any incremental growth of ancillary services. It's actually gone down. So, has wind and solar been causing the need for ancillary services? I would argue that need was already there and nothing should be allocated to renewables. But that's not the conversation we're going to be having because the eye of the beholder is really critical."

FERC Chairman Richard Glick discusses the commission's transmission NOPR with American Clean Power's Heather Zichal. | © *RTO Insider LLC*

FERC, DOE Address Tx Build-out

FERC Chair Richard Glick, appearing in person, addressed the commission's April rulemaking to reform transmission-planning and cost-allocation processes. (See *FERC Issues 1st Proposal out of Transmission Proceeding*.)

"Everyone in this room knows that we are blessed with the world's best renewable resources, wind, solar and other resources as well," Glick told Zichal during a Q&A session. "And everyone knows that in many cases, those resources are located in very remote regions.

FERC/Federal News

We just need to build out the transmission grid to access those resources."

Glick said FERC is focused on the two toughest issues when it comes to barriers to transmission development and doing so in an anticipatory fashion.

"We know where those resources are located, so we really need to focus on what we need to better approach the transmission cost allocation as well," he said. "I want to point out that this isn't the end of our transmission reform agenda. We are soon hopefully going to be attacking that generator interconnection [issue], which you all know is a major, major problem both in terms of addressing the speed we need to expedite the process for transmission interconnection significantly and expedite the process. But we also need to deal with some of the cost-allocation issues there too. We need a much better approach to address participant funding."

Still to come, said Glick, who was re-nominated as FERC chair on Friday, is dealing with interregional transmission planning, cost oversight and "a whole bunch of other issues … hopefully, relatively soon." (See related story *Biden to Re-nominate Glick as FERC Chair*.)

At the same time, the DOE's Grid Deployment Office has solicited comments on its Transmission Facilitation Program (TFP), a $2.5 billion fund for a once-in-a-generation grid expansion, courtesy of the Infrastructure Investment and Jobs Act. Under the TFP, DOE can offer three types of support to help build new, replacement and upgraded high-capacity transmission lines:

- capacity contracts for up to 50% of proposed transmission project's capacity;
- loans to carry out eligible projects; and
- public-private partnerships.

"There's so much that needs to happen to get this right, but one crucial part is making this collaborative and inclusive in a coordinated process," Granholm said. "We want these new transmission lines to have collaboration and communication sort of in their foundation so that they meet local needs and help communities achieve their energy needs. And of course, that helps to avoid the NIMBY problems that have plagued us in the past.

"We hope that the funding carrots that were given to us in the bipartisan infrastructure law are going to be significant and being able to make sure at least early on [that] the low-hanging fruit is addressed in some of these transmission lines," she said.

Attendees stream into CLEANPOWER 2022. | © *RTO Insider LLC*

Wanted: Resolution to Chinese Solar Probe

Several speakers lamented that the Department of Commerce probe into whether Chinese companies are circumventing U.S. trade tariffs has stalled the import of solar panels. The agency opened the investigation in March to determine whether the solar panels and related equipment are actually Chinese products shipped through four other Asian 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*.)

"We need a swift resolution from the Department of Commerce on the anti-circumvention probe," Zichal said during a press conference on ACP's 2021 market report, noting the industry finds retroactive tariffs "very disconcerting."

"There are tariff rates that can go up to 250%, though just the threat of that out there and the requirement that industry would have to carry that risk has led to a major standstill in the deployment of clean energy," Zichal said.

"Many, many decisions that companies are faced with are delaying and scrapping solar projects across the country. Instead of solar projects being deployed, we are dealing with states and utilities that are making decisions to keep coal assets generating longer.

"I think the most frustrating piece of all of this is that this is a Department of Commerce decision that is 100% discretionary. So, we've got a Biden administration that says a lot of the right things about deploying clean energy but then when you look at the policies and the substance, we're actually going in the wrong direction," she added.

Zichal later conducted a live video interview with Sen. Martin Heinrich (D-N.M.), who was among a group of *senators that participated in a conference call* May 17 with administration officials.

"The White House is now fully now aware of

FERC/Federal News

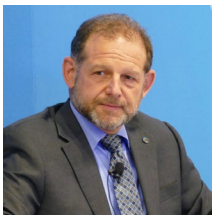
just how devastating the … current uncertainty in the industry is for jobs across the country," Heinrich said. "They're on [defensive readiness condition] five now, understanding that this has to be resolved really quickly to reinsert the level of certainty and predictability back into the market. I think they're being very careful to make sure that whatever they do complies to the absolute letter of the law, but the speed and the necessity of resolving this very quickly seems to be something that that they are fully embracing at this point."

"I completely understand that the uncertainty around trade regulations is 'interfering,' a gentle word, with the industry's ability to scale up," Granholm said during her taped interview. "Obviously, I'm extremely troubled by what that means for our climate goals. This administration is looking at every tool available to support the domestic solar energy industry. Ultimately, we do have to ramp up and build this whole supply chain at home as quickly as possible."

Gulf of Mexico's Offshore Wind Potential

A panel discussing the growing offshore wind market touted the Gulf of Mexico's potential resources in a region where the oil and gas industry has long held sway. Ironically, the fossil fuel industry's offshore expertise will play a role in the administration's target of 30 GW of installed offshore wind capacity by 2030.

Mike Celata, the Gulf's regional director for the U.S. Department of the Interior's Bureau of Ocean Energy Management, said the agency may be able to auction off leases as soon as early 2023, but not before conducting an auction for the Pacific Ocean off California. Celata's office is responsible for all leasing, regulatory oversight and resource management functions for offshore energy in the U.S. Gulf.



Mike Celata, Bureau of Ocean Energy Management | © *RTO Insider LLC*

"We're at the point where we're ready to define wind energy areas and an area ID'd where we can actually have leases defined and those leases become available … so it's an exciting time," he said. "Maybe we're a little behind, but we have a lot of lessons to learn from the other for the other areas and a lot of lessons to learn from the oil and gas industry. I think the Gulf can clearly be a leader in offshore wind in the future."

Celata credited Louisiana Gov. John Bel Edwards' request for a *task force* that is coordinating renewable energy planning activities on the Gulf's outer continental shelf and serving as a forum to discuss stakeholder issues and exchange data. The state has also approved a sweeping climate plan that includes a goal of 5 GW of offshore wind development by 2035.

ACP's Joshua Kaplowitz, the panel's moderator, recalled his time at Interior's solicitor's office, when he spent maybe 1% of his time on Gulf of Mexico issues. He asked Celata what accounts for the acceleration of offshore wind activity.

"Sometimes it takes a long time for the federal government to get things moved, but we have operational experience in the Gulf of Mexico," Celata said. "We turned our operations on our oil and gas into working on wind. In the future when we get to the cost stage and development, hopefully we can apply that experience as well to turning projects around the office."

Robert Miner with BP — which attempted to *rebrand itself as Beyond Petroleum* before the Deepwater Horizon disaster — said the Gulf will remain a "vital oil and gas center for many years to come." He also said employees' expertise in offshore development will be easily transferable to wind production.

"We're already seeing within our company as BP employees get excited about these new energy opportunities," Miner said. "We are seeing this kind of the excitement that people say, 'Look, I know how to work on the water. I know how to work with transmission. I know how to work with procurement. I know how to work with all these things that are important to those businesses and numbers.' There's just no question that while there are some similarities, there are also some specialized jobs that are going to need specific training."

"It goes back to the Gulf of Mexico being a place that businesses, energy businesses and people are comfortable with," Celata said. "We've had recreational fishermen say, 'Get the steel in the ground now,' because they want more artificial reefs where they can fish. I mean, there are great opportunities." ■

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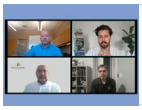

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FERC Denies Rehearing, Clarifies Order 881 on Line Ratings

By Michael Kuser

FERC on Thursday denied rehearing requests from transmission providers and others on Order 881, which requires the use of ambient-adjusted ratings (AARs) for short-term transmission requests for all lines impacted by air temperature.

The commission also clarified its rationale on several issues related to Order 881 (*RM20-16-001; Order 881-A*).

"In this order, we sustain the result of Order No. 881 and continue to find that, because transmission line ratings and the rules by which they are established are practices that directly affect the cost of ... wholesale rates, inaccurate transmission line ratings result in commission-jurisdictional rates that are unjust and unreasonable," FERC said.

The commission in December ordered transmission providers to end the use of static line ratings in evaluating near-term transmission service to improve accuracy and transparency and increase utilization of the grid. (See *FERC Orders End to Static Tx Line Ratings*.)

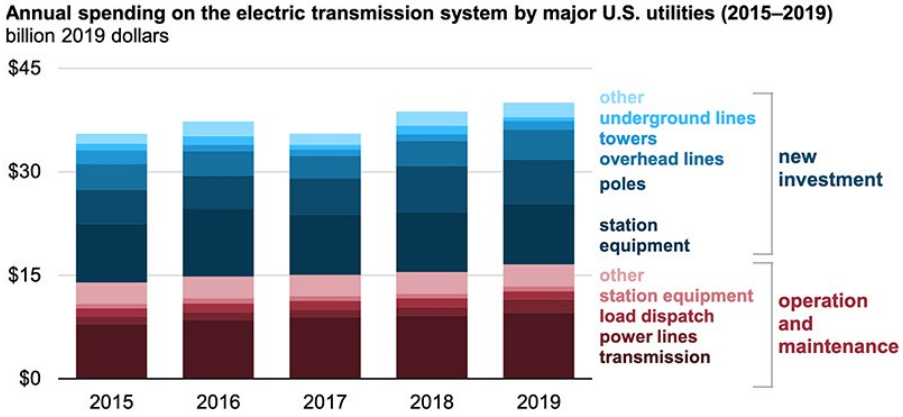
The commission said the rehearing requests could be deemed denied by operation of law, but that it was modifying the discussion in Order 881, granting clarification in part, but continuing to reach the same result and confirming the effective date of the order as March 14.

Petitioners for rehearing and/or clarification included American Transmission Co. (ATC); Edison Electric Institute (EEI); ITC Holdings; MISO Transmission Owners; and Potomac Economics, MISO's Independent Market Monitor.

AAR Requirements

In its 82-page order, the commission discussed the requirement for transmission providers to implement AARs on all transmission lines; the impact of the AAR requirements on transmission line relays; the use of AARs 10 days forward in transmission service and operations; seasonal line rating floors; the minimum AAR temperature range and AAR granularity; and solar heating in AAR calculations.

FERC said it disagreed with EEI's argument that the commission assumed, without support, that AARs will ensure that wholesale rates more accurately reflect the cost of the wholesale service being provided, and that the commission should prioritize implementation of AARs on historically congested transmission lines.



In 2019, most utility spending on transmission system O&M was on payments to transmit electricity on power lines owned by other utilities or independent transmission owners. | *EIA*

The commission countered that the "inextricable link" between transmission line ratings and wholesale rates reflects the basic economics of the transmission system and that "by design, limiting AARs to only historically congested transmission lines would not address evolving transmission congestion patterns until after potentially costly congestion occurs on previously uncongested lines."

On cost concerns, the commission referred to the example it cited in Order 881: "During certain single extreme events, the congestion cost savings of AAR implementation would have been substantial enough from that event alone to justify applying the AAR requirements to all transmission lines, instead of just to historically congested transmission lines. For example, in the February 2021 cold weather event, MISO ... accrued $773 million in congestion charges in just a few days, significantly in congestion patterns that were neither predicted nor typical in MISO."

Implementation of AARs also will lower transmission line ratings during extremely high temperatures, reducing the likelihood of inadvertently overloading a transmission line, the commission said.

FERC clarified two aspects of the AAR requirements related to transmission providers' transmission protection relay settings. "First, if a transmission provider establishes higher transmission line ratings, it will have to evaluate or reevaluate its applicable protection systems for that facility. Second, we clarify that in a majority of situations the relay setting should exceed AAR values," the order said.

The commission disagreed with MISO TOs' arguments that requiring use of AARs for a 10-day forward period could adversely impact reliability, countering that transmission providers must implement forecast margins and adjust them regularly for accuracy.

The commission denied MISO TOs and ITC their requested clarification and rehearing on the use of a transmission line rating "floor" whereby no AAR would fall below the lowest seasonal line rating.

"The transmission line ratings resulting from a seasonal line rating floor would be inaccurate and thus would not reflect true system limitations and could create reliability concerns," the commission said.

The commission rebutted every argument that the plus-or-minus 10-degree range and five-degree maximum increment AAR requirements will force TOs to develop or maintain millions of data points and transmission line ratings across their systems.

"The commission balanced the evidence of the benefits of this granularity in AAR calculations with the burdens imposed by increasing precision. Specifically ... that AAR implementation will likely be primarily automated and that implementation costs will primarily be one-time expenses," FERC said.

EEI asserted that the scope of benefits that flow from incorporating solar heating into AARs by implementing separate AARs for daytime and nighttime periods is unclear, while ITC contended that FERC failed to demonstrate that any potential market efficiencies

FERC/Federal News

that flow from this and other requirements outweigh the burden on transmission owners.

The commission said implementation of daytime/nighttime ratings would enhance the accuracy of transmission line ratings and that "none of the arguments contained in the requests for rehearing persuade us to alter that view."

Transparency, Compliance

The commission also clarified its stance on the annual recalculation of seasonal line ratings, which ITC asserted had no technical or market-driven justification.

To the extent that a transmission provider continues to implement seasonal line ratings for years without reviewing and updating those ratings, transmission system conditions are likely to have changed to such a degree as to render the ratings inaccurate and associated wholesale rates unjust and unreasonable, the commission said.

"Nevertheless, we clarify that the commission did not prescribe the procedure for recalculating seasonal line ratings, including determining which inputs have changed in a year. For instance, a transmission provider could comply with the annual update requirement for seasonal line ratings by recalculating its seasonal line ratings annually to adjust seasonable temperature assumptions, but then also perform a more detailed recalculation every few years using multi-year temperature data to consider temperature patterns that are harder to identify with only a single year of new temperature data," the commission said.

The commission further clarified that the requirement to engage in an annual recalculation does not require TOs to undertake unnecessary change from year to year. To the extent that relevant inputs have not changed from one year to the next, the annual recalculation may simply result in continuing to use a transmission owner's existing facility ratings.

On the transparency requirements adopted in Order 881, including the data-sharing burden, the commission continued to find that the benefits outweigh the burdens: "making transmission line ratings and methodologies available to a broader range of stakeholders will amplify the expected benefits ... further facilitate more accurate transmission line ratings, and facilitate more cost-effective decisions by market participants and state agencies."

In response to ITC's comments that the total number of transmission line ratings required to be stored would "quickly become astronomical," the commission found "the implementation and operation of a database of this type to be well within the normal business scope of a data-intensive entity like a transmission provider. For example, the 3.4 million transmission line rating records that ITC explains it would have to calculate and store every hour would total only about 1.8 terabytes over the entire five-year line rating retention period required in Order No. 881, although the overall storage requirements would be several times that, considering memory for back-ups and data management."

On OASIS access, the commission clarified that Order 881 requires transmission providers to post transmission line ratings and methodologies-related data to a password-protected section of their OASIS site or another password-protected website.

"We note, however, that the data posted to either a transmission provider's website or OASIS must be maintained such that users can view, download, and query data in standard formats, using standard protocols. If the transmission provider chooses to post the data to its own website instead of OASIS, we clarify that users must be able to access the data in a manner that is comparable to if it were posted to OASIS and subject to OASIS access requirements," the commission said.

On the role of independent market monitors, the commission granted EEI's request for clarification in part and denied in part.

"We clarify that nothing in Order No. 881 changes or expands the role or authority of market monitors or the auditing responsibilities of any entity. However, we deny EEI's request for clarification on other matters. We expect that market monitors may use the transmission line rating information available to them in furtherance of their existing responsibilities, which are set forth in the commission's regulations and the relevant tariffs of each RTO/ISO," the commission said.

Lastly, the commission said it was neither persuaded to adopt an earlier implementation, as requested by Potomac Economics, nor a delayed one, as requested by EEI, but to stick with the staggered three-year plan as outlined.

"We expect that the implementation burden is predominantly a one-time investment and that the burden of applying AARs to additional transmission lines is minimal. ... Moreover, as a matter of policy, there are administrative efficiencies to requiring implementation of all the requirements adopted in Order No. 881 on the same timeline. Specifically, by maintaining a single implementation timeline, the implementation burdens are lessened in that all transmission line rating recalculations must only be done once," the commission said. ■

Southeast

Energy Storage 'Just Scratching the Surface' Despite Supply Challenges

By Rich Heidorn Jr.

ATLANTA — Despite current supply chain problems, energy storage is just beginning to capture its potential, developers told the RE+ Southeast conference, sponsored by the Solar Energy Industries Association (SEIA) and Smart Electric Power Alliance (SEPA), earlier this month.

Raafe Khan, director of energy storage for Pine Gate Renewables, said supply chain problems have "definitely put a dent in many developers' plans" but predicted the problem will ease because of "all these giga factories coming online in the next six to 12 months."

Speakers expressed optimism over the resource's future in supplying capacity and reducing demand charges and offered varying projections on the need for storage of longer than four hours.

Raafe Khan, Pine Gate Renewables | © RTO Insider LLC

Sizes Needed

Dmitri Moundous, senior manager of storage business development for Cypress Creek Renewables, said most peaking capacity needs in the near term can be served by two- to four-hour storage, with six- and eight-hour plus storage not widely needed until the 2030s. "Once you get into those scenarios of 90-plus percent renewables, that's when you start seeing multiday and seasonal needs start showing up."

Edward May, managing partner of Energy Intelligence Partners Consulting, said the need for longer-term storage may be coming faster than anticipated.

"We have been surprised. We have seen a couple of big, integrated utilities whose draft IRPs are reflecting some level of long-duration storage relatively soon," he said. "There seems to be plenty of room for two- and four-hour duration for the foreseeable future, but we are seeing some of the big utilities who are running their internal models and coming back and saying, 'Actually, our models are telling us that … there is some value from long-duration storage in certain spots, on seams, things like that.'"

Edward May, Energy Intelligence Partners Consulting | © RTO Insider LLC

Dmitri Moundous, Cypress Creek Renewables | © RTO Insider LLC

Reducing Demand Charges

May said he also sees increasing use of storage to reduce demand charges: "Co-ops, which are effectively just big C&I [commercial and industrial] customers, are subject to the same demand charges that a big manufacturing plant [has]. Some are going through the court systems to be allowed … to find ways to get batteries to be used as an asset that they can utilize."

In February, FERC ordered Duke Energy Progress and the North Carolina Eastern Municipal Power Agency (NCEMPA) to negotiate over how their supply contract should be changed to reflect the NCEMPA's use of batteries to shave its demand charges (*ER22-682*). (See *FERC Orders Negotiations in Duke-Muni Contract Dispute*.)

Reducing usage during the time periods when demand charges are assessed "can save 50% off your bill," he said. "So it's pretty big number."

"There are some co-ops in the Southeast that prior to energy storage … employed a person to sit at the desk and watch the weather," he added. "And basically, when temperatures are going to spike, they put on all their demand response and turn on diesel gensets at their largest customers."

Storage as Capacity

Moundous said he wants to see storage grow beyond a grid following role to provide inertia support in areas like the Texas panhandle. "And we're gonna see more and more of that on higher renewable penetration systems," he said. "We have not scratched the surface of how much energy storage can provide capacity, in both regulated and deregulated markets, and how much you can displace uneconomic coal plants. So let's get that done first and deploy in gigawatt scale." ■

Southeast

FERC Refuses Challenge to SEEM Transparency Changes

Opponents Sought Rehearing Request on January Order

By Holden Mann

FERC dealt critics of the Southeast Energy Exchange Market (SEEM) yet another setback on Thursday, rejecting their request for a rehearing of the commission's acceptance of proposed changes by the market's founders (*ER22-476*).

SEEM's opponents, two unconnected collections of activist organizations calling themselves the Clean Energy Coalition (CEC) and the Public Interest Organizations (PIOs), have filed several challenges to the SEEM agreement both before and after it took effect by force of law last October. (See *SEEM to Move Ahead, Minus FERC Approval*.)

So far, the commission has refused to entertain any of their rehearing requests. For example, in March FERC rejected an attempt to overturn its acceptance of key tariff changes needed to deliver the market's energy transactions. (See *FERC Again Rejects Efforts to Overturn SEEM*.)

The opponents' latest attack on SEEM stems from a set of changes that the commission accepted in January. (See *FERC Accepts SEEM Revisions on Transparency*.) The changes are aimed at closing a gap that FERC identified last year in a *deficiency letter* expressing concerns about market power and seeking assurances about the transparency of the planned market, but that the commission was unable to address because of how the agreement took effect.

| *SEEM*

At the time FERC only had four members, who split 2-2 on whether to accept the proposal. Under Section 205 of the Federal Power Act the agreement therefore became effective by default.

Opponents Cite Batavia Order, FERC Precedent

CEC and the PIOs claimed in their rehearing request that the commission had "improperly evaluated the proposed revisions in isolation," counter to a decision by the D.C. Circuit Court of Appeals (*Cities of Batavia v. FERC*) that requires FERC to review a revised rate "completely to assure that its parts … ensure a 'just and reasonable' result." In this case, the filers claimed that rather than reviewing only the proposed changes, FERC should have reviewed the entire agreement to consider the interactions between the changed and unchanged portions.

The opponents also charged that FERC had failed to properly consider whether the proposal to have most SEEM rules fall under the "just and reasonable standard" rather than the lower *Mobile-Sierra* public interest standard was lawful. CEC and the PIOs said that "the commission was obligated to determine whether [*Mobile-Sierra*] is appropriate for the … provisions to which [it] will continue to apply," and that "a proper review [would] have rejected the proposed revisions … based on precedent where the commission did not" apply *Mobile-Sierra* in similar cases.

However, FERC concluded that the decision in its January order was appropriate on both counts. Regarding the opponents' first argument, the commission observed that since the *Batavia* decision, the D.C. Circuit has clarified the application of its requirement to review a revised rate completely. FERC said that the "justness and reasonableness of the [provisions] to which the members do not propose revisions … is not pending."

Moreover, the PIOs and CEC neglected to explain how the proposed revisions will interact with the agreement's other provisions to create unjust and unreasonable results. Because FERC could not find any such interactions either, it determined that further review would be unproductive.

The commission also rejected the standard of review argument, stating that the opponents "improperly [focused] on the form of the revisions rather than their substance." Specifically, FERC said that while the proposed changes list "the provisions of the SEEM agreement for which changes will be subject to" *Mobile-Sierra*, the revisions do not actually change the standard of review for those provisions; they merely provide an explicit statement of their coverage where none was available before.

Unlike the last time FERC rejected a rehearing request on SEEM, no commissioners filed a dissent. SEEM's supporters are aiming to launch the market in the fourth quarter, and recently held the first of three planned introductory webinars to introduce existing and prospective participants to the details of its expected functionality. (See *SEEM Members Launch Engagement Series for Participants*.) ■

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CAISO/West News

OSW Advocates Urge California to Think Bigger

Goal of 10-15 GW of Offshore Wind by 2045 is Too Modest, They Say

By Hudson Sangree

California's proposed offshore wind targets are too conservative and need to be increased to help the state meet its 100% clean energy goal by 2045, wind developers and academics told a panel of state energy officials Wednesday.

"You have to be bold at the outset to get the momentum to move forward and to achieve the economies and the synergies that we're going to need," Kelly Boyd, business development lead with wind developer Equinor USA, said. The state's proposed goal of 3 GW of offshore wind by 2030 "is a modest initial goal, especially if we want to get to 20 GW or higher at some point."

Boyd and others commented at a workshop hosted by the California Energy Commission to consider the recommendations of a draft report on the "maximum feasible capacity and megawatt planning goals" for wind off the California coast through 2045. CEC commissioners shared the dais with members of the California Public Utilities Commission, the State Lands Commission, the state Ocean Protection Council and the governor's Office of Planning and Research.

The *draft report* recommends that the CEC adopt goals of building 3 GW of offshore wind by 2030 and 10 to 15 GW by 2045. Commissioners are scheduled to vote on targets today. (See *Calif. Sees OSW Target of 10-15 GW by 2045*.)

The report stems from last year's *Assembly Bill 525*, which required the CEC, by June 1, to "evaluate and quantify the maximum feasible capacity of offshore wind … [and to] establish megawatt offshore wind planning goals for 2030 and 2045." The effort contributes to the state's goal under Senate Bill 100 to supply all retail customers with 100% clean energy by 2045.

CEC project manager Rhetta deMesa, one of the report's four authors, said its recommendations were based on the commission's prior definition of feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors," all of which are expected to provide significant challenges.

'Significantly Higher' Potential

Advocates, however, said a goal of 10-15 GW is short-sighted.

In written *comments* to the CEC, University of California, Berkeley, scientists recommended the state set a goal of 50 GW by 2045, based on the National Renewable Energy Laboratory's (NREL) estimate that California coastal waters have a "technical potential" for 200 GW or more of offshore wind.

Technical potential is the amount of offshore wind capacity that could be developed "while taking into account exclusion factors related to water depth, mean wind speed, industry uses, and environmental conflicts," NREL said in an October 2020 *report*. "By contrast, gross potential is the capacity without these exclusions." NREL estimated the state's gross potential at nearly 1,700 GW.

"Our view is that the maximum OSW capacity is significantly higher than the reference potential [of 21.8 GW] considered by the CEC, and that CEC should consider higher 2045 planning goals that reflect the updated technical-potential finding of 200 GW," the scientists wrote. "We suggest a 50 GW planning goal for 2045 … [because it] would reflect full consideration of the immense benefits to the grid of offshore wind."

One of the researchers, Nikit Abhyankar, a senior scientist at the UC Berkeley's Goldman School of Public Policy, spoke at Wednesday's workshop.

The CEC's wind estimates were limited to five study areas but should have been broader, Abhyankar said.

In addition, the commission's SB 100 analysis "doesn't really consider full economy-wide net-zero emissions by 2045," Abhyankar said. "If you consider that, then the electricity demand would be about 100 to 120 terawatt-hours higher than what has been observed in the current SB 100 analysis."

Meeting that demand would involve 80 to 100 GW of additional solar energy, increasing the risk of relying too much one source of renewable energy, he said.

"That's why the role of offshore wind becomes even more critical in an economy-wide net-zero emission world," he said.

Molly Croll, with wind developer Avangrid Renewables, said her company agrees with the CEC's proposed 3 GW goal by 2030 but recommended setting the 2045 goal higher at 18-20 GW.

California's floating wind farms will resemble the Kincardine Offshore Wind Farm near Scotland. | *Principle Power*

Doing that would send an important market signal to "developers and others across the supply chain, who are looking to what you're doing today in determining how and how much they're going to invest in the state," Croll said. It would also help the state meet its renewable energy goals, she said.

Future technical advancements could lower the cost and increase the speed at which offshore wind farms could be built, she said.

"This is a big state," Croll said. "We have huge demand. We have a huge coastline. The potential for offshore wind is huge, and 2045 is a long way out."

With the CEC scheduled to vote on the draft report in less than a week, commissioners did not indicate whether they might want staff to reevaluate the wind goals for 2030 or 2045.

Meantime, the federal Bureau of Ocean Energy Management is planning to hold the first West Coast lease auctions this fall for two areas off the California coast: the Morro Bay Wind Energy Area off central California and the Humboldt Bay Wind Energy Area off Northern California. Together, the two call areas are expected to support about 4.6 GW of wind. ■

CAISO/West News

Big Renewable Projects Take Shape in Central Wash.

By John Stang

A new solar farm has been proposed for Benton County, Wash., while another massive renewable project in the county has passed one state hurdle.

On May 17, Innergex Renewable Energy briefed the Washington State Energy Facility Site Evaluation Council (EFSEC) on its proposal to build a 470-MW solar farm in northwestern Benton County, just west of the environmentally sensitive Rattlesnake Mountain. Meanwhile, the council unanimously voted that a proposed wind-and-solar complex in the middle of Benton County meets the county's land-use plan.

Benton County, in southwestern Washington, is home to the highly contaminated Hanford nuclear reservation, which is surrounded by an environmentally pristine buffer zone that includes Rattlesnake Mountain.

The county is already home to 63 wind turbines operated by Richland-based Energy Northwest, which owns and operates the Columbia Generating Station nuclear plant in southern Hanford. The company's Nine Canyon Wind Project covers about 8 square miles and has a nameplate capacity of 96 MW.

Innergex wants to build its solar farm on 3,000 acres of flat farmland just west of Hanford's buffer zone. The project would include batteries capable of storing power for four hours. The site is next to a major transmission line and is 30 to 40 miles from the nearest towns and cities. Laura O'Neill, Innergex senior environmental coordinator, said farm owners in the area are interested in the project and that the proposed site avoids environmentally sensitive lands.

The site's fence would include openings for large animals to pass through. Western Hanford and the area west of the reservation are home to hundreds of elk.

Innergex is proposing to build a solar farm on agricultural land near Rattlesnake Mountain (in distance) in Benton County, Wash. | *Williamborg, public domain, via Wikimedia Commons*

O'Neill said Innergex plans to hold meetings with community members in July. Construction is tentatively scheduled to begin in early 2024 and is supposed to be finished by the fall of 2025.

Founded 1990 in Longueuil, Québec, Innergex develops hydropower, wind and solar projects, and has interests in roughly 80 facilities generating about 3,800 MW.

Scout Project Advances

Also on May 17, EFSEC decided that a proposed wind-and-solar project south of Kennewick meets the land-use and zoning regulations for its site.

Scout Clean Energy of Boulder, Colo., has proposed building up to 224 wind turbines — about 500 feet tall — on 112 square miles of mostly private land in the Horse Heaven Hills. About 294 acres of that land would also hold solar panels. The entire project is expected to be capable of producing 1,150 MW at peak output, roughly the same capacity as Columbia Generating Station.

While the Energy Northwest and Scout projects are both in the Horse Heaven Hills area, the former's wind turbines are deep inside the hills and not visible from the Tri-Cities area that includes Richland, Kennewick and Pasco. The Scout project would be visible from Kennewick, prompting significant public outcry against the turbines cluttering up residents' views of the landscape.

The Benton County government, which opposes the Scout project, had found the wind-and-solar farm incompatible with the agriculturally zoned area. However, EFESC concluded differently.

The conflict complicates matters for Scout. In Washington, a renewable energy developer can choose to go through EFSEC or the county government for land-use and zoning approval. Because Benton County's government opposes the project, Scout is going through EFSEC. Going through the county government would require receiving a conditional use permit from county commissioners.

EFSEC's decision does not translate into approval for Scout's project, EFSEC Chair Kathleen Drew said. Under state law, as EFSEC continues its deliberations, the agency is required to get input from Benton County on the project, specifically on what the county would include in a conditional use permit. ■

CAISO/West News

PNNL Breaks Ground on Energy Storage Lab

By John Stang

A new federal lab designed to speed up research into grid storage technologies should be up and running by the fall of 2023 — as long as supply chain problems don't crop up.

In April, the Pacific Northwest National Laboratory (PNNL) began construction of its Grid Storage Launchpad in Richland, Wash. The project is being funded by $75 million in U.S. Department of Energy money and $35 million from non-federal sources, including the state of Washington and nonprofit science research organization Battelle.

"The Launchpad will help us make America's grid more reliable and resilient, lead the world in inventing and exporting clean energy products, and accelerate the transition to a cleaner energy system," Sen. Maria Cantwell (D-Wash.) said at the April groundbreaking. "PNNL has my continued support as it strives to make the Launchpad the world's premier energy storage research center."

The two-story building will contain 86,000 square feet of lab space with 35 lab stations to host roughly 100 researchers. Many of those researchers are currently scattered around PNNL's campus.

As grids across the country integrate more renewable resources such as wind and solar, demands on the nation's power grids go up and down, which makes storing electricity more difficult, Vince Sprenkle, PNNL's senior technical adviser for energy storage, told *RTO Insider*.

Sprenkle said a weakness related to wind and solar is the limited amount of time that their surplus generation can be stored in batteries for future deployment, unlike the fuel for gas-fired plants, which can be kept in tanks, or the water for hydropower, which can be stored in reservoirs. The Grid Storage Launchpad will seek ways to improve batteries to hold energy longer, he said.

Overall, the PNNL lab will develop and test new grid storage technologies, ranging from researching basic materials, improving components and testing prototypes. The lab's testing equipment will be able handle storage projects of up to 100 kW.

A significant problem in developing power storage technology is that it usually takes at least 10 years to develop a concept from an idea to a working real-world piece of equipment. "We can't afford that kind of development timeline," Sprenkle said.

The Launchpad is supposed to accelerate the timeline by looking at final uses as soon as an initial idea is proposed, as opposed traditional path of looking for final uses partly through the development process. Sprenkle speculated the laboratory could possibly trim development times to five years.

PNNL expects to receive high-level grid storage goals from the federal government, with the national laboratory designing a plan of attack for DOE feedback. "Our job is to de-risk it for the United States," Sprenkle said.

The Launchpad will "probably be ready in the fall of 2023, barring any supply chain problems," he said. ■

Rendering of PNNL's future Grid Storage Launchpad facility in Richland, Wash., which is expected to be completed in 2023. | *PNNL*

CAISO/West News

PacifiCorp Wins Preliminary Permits for Ore. Pumped Storage

Permits Allow Utility to Explore Development, Secure First Dibs on Projects

By Elaine Goodman

FERC on Thursday issued PacifiCorp preliminary permits to study the feasibility of developing two pumped hydro storage projects in Southern Oregon, strategically located near a major intertie with California.

The preliminary permits (*P-15239*, *P-15246*) are for the proposed Winter Ridge and Crooked Creek pumped storage projects. Both would be built in Lake County, Ore., within the Fremont-Winema National Forest. Each of the closed-loop systems would generate an estimated 1,460 GWh per year.

The purpose of a preliminary permit is to allow study of a project's potential impacts before a license application is submitted. The permit gives the permit holder first priority in applying for a license for the project.

But the preliminary permit doesn't allow its holder to access or disturb lands. Additional authorizations would be needed for those activities, FERC said in its orders issuing the permits.

PacifiCorp applied for the preliminary permits in October.

The proposed Crooked Creek project would include a 4,200-foot long, 100-foot-high embankment dam and a 4,300-foot-long, 130-foot-high dam to create upper and lower reservoirs of 52 and 50 acres, respectively.

The proposed Winter Ridge project would include a 4,700-foot-long, 120-foot-high embankment dam, and a 5,320-foot-long, 80-foot-high dam, creating upper and lower reservoirs with a surface area of 85 and 44 acres, respectively.

PacifiCorp is also looking at an alternative for Winter Ridge in which a 4,100-foot-long, 170-foot-high dam would create a 50-acre lower reservoir.

The Winter Ridge and Crooked Creek projects would both divert water from the Chewaucan River via an underground pipeline for initial and maintenance fills.

Each project would use a concrete powerhouse/pump station with three 167-MW generating/pumping units and a 500-kV transmission line to connect to substations that provide access to the Pacific AC Intertie, a major link between the Pacific Northwest and California.

Fast-ramping hydroelectric resources are becoming especially valuable for firming up the variable renewable resources that are coming to dominate the grid in California and elsewhere in the West.

WaterWatch, a conservation group focused on Oregon's rivers and streams, filed comments opposing the projects. The group said the projects aren't feasible because of the arid environment, severe water shortages and critical ecological resources associated with the Chewaucan River and Lake Abert, a nearby salt lake that receives much of its water from the river. The lake is a major stopover for migratory shore birds.

"WaterWatch asserts that prior efforts to site a pumped storage project in this area failed and that the Commission should reject the permit rather than cause the utility, regulatory agencies and interested parties to expend time and resources on this proposal," FERC said in both orders.

However, FERC doesn't make public interest findings until a license application is submitted for a project, and so WaterWatch's arguments are "premature," the commission said.

Other groups expressing concerns about the proposed projects include the Desert Association, Oregon Wild and the Great Old Broads for Wilderness.

Some commenters who are worried about the projects' impacts on the Chewaucan River noted that the river is being considered for a federal Wild and Scenic River designation. FERC said the Wild and Scenic Rivers Act doesn't prohibit issuing a preliminary permit for a project, and the Chewaucan River is not yet a designated river.

The Oregon Water Resources Department said PacifiCorp should be required to monitor water flow near the point of diversion for each project for a minimum of three years before applying for a license.

FERC said it would consider impacts on water use during licensing proceedings.

"Accordingly, it might be prudent for the permittee to consider and study during the term of the permit whether there is enough water physically available to make the proposed project feasible," the commission said. ■

PacifiCorp's proposed pumped storage facilities would divert water from the Chewaucan River in Southern Oregon. | *Travel Southern Oregon*

CAISO/West News

FERC Orders More Refunds from 2020 Western Heat Wave

Sales Exceeded Soaring Prices at Trading Hubs

By Hudson Sangree

FERC on Thursday continued to tell utilities to refund premiums they earned on top of extraordinarily high prices in August 2020 during a heat wave that strained the Western grid and caused blackouts in California.

The commission ordered Uniper Global Commodities North America, Tri-State Generation and Transmission Association, and Brookfield Renewable Trading and Marketing to refund premiums earned above the average index prices at the Palo Verde hub in Arizona and other market hubs on Aug. 18-19 (*ER21-62*, *ER21-65* and *ER21-59*).

The average index prices at Palo Verde of $1,400.50 on Aug. 18 and $1,639.60 on Aug. 19 resulted from scarcity conditions. Premiums above the index prices were unjustified, even though buyers offered the premiums as an inducement to sell to them, FERC said.

Tri-State, for example, sold 150 MW of electricity to Arizona's Salt River Project for $1,500/MWh on Aug. 18 and for $1,700/MWh on Aug. 19, more than the average prices at Palo Verde.

In contrast, the average price at Palo Verde from June to August 2020, excluding the high prices of Aug. 18-19, was $52/MWh, Southern California Edison and Pacific Gas and Electric said in protests to FERC.

"Tri-State's rationale for its sales above the index price is that Tri-State was a price-taker, the sales were consistent with published market index prices, and the prices reflected emergency conditions due to record high temperatures in the Southwest," FERC wrote. "However, the Palo Verde price index already reflects scarcity conditions, evident based on a comparison of the index prices on the days of Tri-State's sales to the index prices for other days in August 2020."

Sellers in the Western Interconnection, excluding CAISO's footprint, are required to justify prices above WECC's $1,000/MWh soft price cap, including premiums.

Wholesale prices for electricity in the desert Southwest and California soared in the extreme heat event of August 2020. | *Shutterstock*

FERC said Macquarie Energy had failed to justify premiums above hub index prices and in some cases had failed to justify sales above the WECC soft price cap (*ER21-64*).

The commission denied motions by Macquarie and other sellers to raise WECC's soft price cap to $2,000/MWh, the same as CAISO's soft cap, saying the question was outside the scope of the proceedings.

It ordered all four sellers to make appropriate refunds within 30 days of the orders.

Thursday's decisions followed seven similar orders in April for utilities to refund premiums for sales into CAISO on Aug. 18-19 as the ISO struggled to keep the lights on following rolling blackouts on Aug. 14-15. (See *FERC Tells PacifiCorp to Refund Premiums* and *Sellers Urgse FERC to Raise WECC Soft Price Cap*.) In those cases, FERC also denied motions to raise WECC's soft price cap.

Commissioner James Danly dissented both in the April cases and in the latest batch, contending that FERC does not have the authority to "abrogate a contract to sell electricity pursuant to market-based rate authority when the contract price is above a commission-imposed 'soft' price cap, absent a finding that the public interest so demands," Danly wrote in each case.

In all four cases decided Thursday, "buyers willingly purchased power during a reliability crisis at a modest premium above prevailing market index prices … [and] there is no showing in the record that these prevailing market prices seriously harmed the public interest," he said. "Any such argument appears absurd on its face, particularly when internal CAISO prices are capped at levels much higher than the … contract price[s]" in the August 2020 heat wave. ■

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CAISO/West News

FERC Approves CAISO Intertie Penalty Price Revisions

By Robert Mullin

FERC on Thursday approved CAISO tariff revisions that will increase the penalty prices associated with the relaxation of intertie transmission constraints in the ISO's market processes (*ER22-1246*).

In its March 10 filing requesting approval for the changes, CAISO explained that the tariff amendments would affect two of its market processes: the residual unit commitment (RUC) process, which occurs in the day-ahead market, and the hour-ahead scheduling process (HASP), which takes place in the real-time market.

CAISO said that the amendments fix a defect in those processes, preventing the ISO's market optimization software from inaccurately representing the supply available to meet demand and reducing the reliability risk of overscheduling on the interties during tight supply conditions.

In the filing, CAISO explained that the ISO's market optimization software schedules and prices resources in two successive runs in both the day-ahead and real-time markets. The first is the scheduling run, which produces resource schedules and "involves clearing bids, enforcing the priorities of self-schedules, and potentially relaxing constraints." Following that, the pricing run produces the locational marginal prices used in settlements.

CAISO said the software its employs to optimize its day-ahead and real-time markets uses "configurable market scheduling and pricing parameters to reach a feasible solution and set appropriate prices for the market in instances where effective economic bids and self-schedules are insufficient to reach a feasible solution."

To accommodate those situations, the market parameters used in both the day-ahead and real-time include administratively determined "penalty" prices that apply when constraints enforced by the CAISO market are relaxed or violated. When the ISO relaxes a constraint, its market software calculates scheduling run LMPs based on penalty prices, although the penalty prices — and their associated LMPs — at issue in the filing are only used in the scheduling runs of the RUC and HASP to ensure constraints and not used in market settlements.

CAISO's market software clears economic bids and self-schedules for imports at interties based on a supply curve. If the LMP in the scheduling run is lower than the LMP for an economic import bid, that import bid will not clear the market. The same condition applies to import self-schedules at an intertie: it will be cut if the LMP is lower than an applicable penalty price used for adjusting the import self-schedule, "and because penalty prices for import self-schedules are negative, the LMP must be more negative than the import penalty prices for the import self-schedule not to clear," FERC noted.

Over the past two years, CAISO has learned that when faced with having to relax both the power balance constraint (which ensures that supply is balanced with demand) and an intertie transmission constraint to reach a feasible market solution, the resulting LMPs for imports at the intertie can be too high relative to penalty prices to avoid the overscheduling of imports on that intertie.

The ISO said it observed the issue in the RUC at the Malin and Nevada-Oregon Border interties on Aug. 19, 2020, and again in the HASP at those same interties on July 9, 2021. In both instances, the region was dealing with extreme weather-related events.

"CAISO explains that overscheduling creates issues for both reliability and market efficiency because when the market software clears intertie schedules that exceed the intertie scheduling limit, CAISO operators must then manually curtail those excess intertie schedules after the market clears," FERC noted in its order. "CAISO asserts that overscheduling poses an especially large reliability risk during tight supply conditions and when overscheduling occurs, the market clearing process accounts for import supply that is not actually available, resulting in inaccurate market signals and an inefficient market solution."

Flexible Parameters

To prevent the problem from recurring, CAISO proposed to increase the scheduling parameter values for intertie transmission constraint relaxation in both the RUC and the HASP at a level high enough that "even when the power balance constraint and the intertie transmission constraint are relaxed at the same time, they will produce an LMP that reflects the scarcity of available intertie capacity," the commission said.

The ISO's proposal includes:

- increasing the scheduling parameter for intertie transmission constraint relaxation in the RUC from $1,250/MWh to $3,200/MWh when the soft energy bid cap of $1,000/MWh is in effect;
- increasing the scheduling parameter in the RUC from $1,250/MWh to $6,400/MWh when the hard energy bid cap of $2,000/MWh is in effect;
- increasing the scheduling parameter for intertie constraint relaxation in the real-time market from $1,500/MWh to $2,900/MWh when the soft bid cap is in effect and from $3,000/MWh to $5,800/MWh when the hard cap is in effect.

"CAISO has performed counterfactual simulations showing that, if the tariff revisions had been in place when the overscheduling at the Malin and NOB interties occurred in the summers of 2020 and 2021, no overscheduling would have occurred," the ISO said in its filing.

In approving the changes, the commission agreed with CAISO that previous FERC rulings stated that the scheduling parameters were "flexible" parameters that the ISO could propose to revise as needed. The commission also agreed that the revised parameters should help prevent overscheduling at the interties and boost reliability and market efficiency, especially in the face of tight supplies.

"As CAISO explains, preventing overscheduling when both the power balance constraint and intertie transmission constraints are relaxed will prevent the need for manual operator intervention to curtail excess intertie schedules under these conditions," the commission concluded.

In a separate concurrence, Commissioner James Danly urged his fellow commissioners to initiate a Section 206 investigation "to fulfill our statutory duty to ensure just and reasonable rates," reiterating his previously stated concerns about the California electricity market.

"The CAISO market has been in a perpetual state of emergency since it experienced rolling blackouts in August 2020, largely because of insufficient generation resources, distorted prices and an over-reliance on less reliable renewable resources combined with out-of-market subsidies in support of the same," Danly said. ■

CAISO/West News

Heat, Fire and Supply Chain Woes Threaten Calif. Reliability

State Could Face up to a 10-GW Shortfall by 2025, CEC-CPUC Panel Said

By Hudson Sangree

Extreme weather, wildfires and supply-chain problems could continue to make CAISO vulnerable to energy shortfalls and outages starting this summer, despite ongoing efforts to increase reliability, speakers said Friday at a *workshop* hosted by the California Energy Commission (CEC) and the California Public Utilities Commission.

The CPUC has ordered nearly 15 GW of new supply to come online through 2026, but delayed battery production and stalled shipments of solar panels from Southeast Asia could undermine those efforts, speakers said.

At the same time, CAISO faces the challenge of trying to interconnect an unprecedented number of renewable resources in a relatively short time, as the state transitions from fossil fuels to clean energy.

"With a tremendous amount of new resources needed to be brought online in California, and some of the headwinds confronting us on supply chain issues and other significant risk variables, it is essential that our processes for onboarding new resources be up to the task," CAISO COO Mark Rothleder said, reading from a written statement by CEO Elliot Mainzer, who could not attend the workshop.

The ISO added 3,698 MW of installed capacity to its grid in 2021 and is on track to add 3,062 MW more by July 1, much of it as battery storage, Neil Millar, vice president of infrastructure and operations planning, said.

CAISO has begun connecting resources, such as solar and storage, in geographically grouped superclusters of dozens of units, and is currently involved in a stakeholder initiative to streamline and triage its "overheated" interconnection queue of nearly 246,000 applicants, Millar said.

Adding to those challenges, CEC planners said a combination of heat, drought, fire and supply chain disruptions could result in California's energy supply falling far short of demand over the next four summers.

Previous examples include a California heat wave last July that coincided with a major wildfire in southern Oregon. The Bootleg Fire nearly shut down the Pacific AC and DC interties, the main transmission links between the Pacific Northwest and California. As hydropower stopped flowing to California, CAISO declared energy emergencies but did not need to order rolling blackouts, as it did in August 2020, when a severe Western heat wave shrank imports into California.

Western wildfires that derate transmission lines could undermine reliability in CAISO. | *Washington State Department of Transportation*

In even more extreme scenarios, cumulative disruptions from weather and fire could leave the state 7,000 MW short this summer and up to 10,000 MW short by 2025, David Erne, manager of CEC's Supply Analysis Office, said.

The gap could be as little 1,700 MW this summer and 1,800 MW in 2025, without cumulative crises, he said.

The state is adopting measures to make up the differences including temporary generation, delayed plant retirements, increased generator efficiency and expanded demand response programs, but all those efforts could be insufficient, Erne said.

Solar, Battery Delays

Gov. Gavin Newsom's budget proposal, updated earlier this month, proposes a $5.2 billion, 5,000-MW "strategic electric reliability reserve" to meet the challenges of extreme heat, wildfires, drought and the West's changing resource mix. (See *Calif. Governor Proposes $5B 'Reliability Reserve'*.)

Newsom said that greater dangers from wildfires, heat and drought prompted the need, which could be met with new generation and storage, backup generation and other methods. Record-low reservoir levels in California and the Southwest are expected to severely limit hydropower production this summer.

The governor has floated the idea of keeping the state's last nuclear generator, PG&E's Diablo Canyon Power Plant, operating beyond its planned retirement in 2024-25. Advocates for keeping Diablo Canyon open have argued the plant's retirement will exacerbate resource deficiencies.

As in the past two summers, the main reliability challenge in CAISO will continue to be the 7-9 p.m. summer net peak, when solar ramps down but demand remains high because of high heat and air conditioning use, analysts said.

CAISO has interconnected 4,000 MW of four-hour lithium-ion battery storage since the August 2020 outages to help cover the net peak, but future storage additions could be hampered by pandemic lockdowns in China and rising lithium costs, Molly Sterkel, program manager at the CPUC's Energy Division, said.

"While these shutdowns appear to be resolved at the present moment, developers are now furiously calculating their revised delivery dates for batteries and the impact that has on their construction schedule," Sterkel said.

The U.S. Commerce Department is investigating allegations that Southeast Asian solar panel manufacturers are using Chinese components but circumventing U.S. tariffs on Chinese goods.

"This has led to the severe disruption on the supply of solar panels into the U.S. market," Sterkel said. "Some of the solar projects that were expected for 2022 are far enough along that they have not been directly impacted by this petition" but future projects could be delayed, she said. ■

ERCOT News

ERCOT, PUC Say Texas Ready for Summer

Jones, Lake Meet with Media After Another Grid Scare

By Tom Kleckner

Texas grid leaders met with reporters in Austin last week to once again allay concerns about ERCOT's management of the state's electric supply.

"We're ready [for the summer]. Our reforms are working. Our transition from a crisis-based business model to a reliability-based business model is showing results," said Public Utility Commission Chair Peter Lake, referring to ERCOT's conservative operations practice that has the ISO bringing on more reserves and doing so sooner.

"I want Texas to know that we will continue to operate with a margin of safety …. that will bring more generators online sooner rather than later," he said.

Echoing Texas Gov. Greg Abbott, Lake said, "This grid is more reliable than it has ever been before."

ERCOT's Brad Jones details the grid operator's response during tight conditions this week. | *Admin Monitor*

"We feel very confident about the summer," ERCOT interim CEO Brad Jones said, pointing to a capacity planning reserve margin that has steadily increased from less than 10% in 2019 to 22.8% this year. That figure accounts for forecasted customer demand, emergency demand-reduction programs and "typical" unplanned outages and renewable energy production.

"As always, we have to be careful about those times where it's both dark and still," Jones said. "We have to make sure that we have the dispatchable generation to balance our fleet when wind and solar are not available, but we're very happy to have that wind and solar development we've had over the past two years. It's making our grid stronger."

As Jones and Lake spoke May 17, 12.6 GW of thermal generation was offline, an improvement over the previous day's 20% outage number. Wind and solar helped pick up the slack, as they have during recent days, by combining for about 29 GW of energy.

Demand peaked at just a bit more than 70 GW shortly before 4 p.m. CT on May 17, the second straight day it has cracked the 70 GW mark.

'Exactly as Intended'

But while May's heat has set records, the state's weather will only get hotter. ERCOT is expecting a record peak demand of 77.3 GW, according to its summer *seasonal assessment of resource adequacy (SARA)* released May 16. That would shatter the current all-time mark of 74.8 GW set in August 2019.

ERCOT expects to have 91.4 GW of resource capacity available to meet that demand during the summer, which extends into September. The SARA report includes seven risk scenarios that reflect different assumptions for peak demand, unplanned thermal outages and renewable generation output.

The ISO included the installed capacity ratings of individual generating units in the SARA for the first time as well as reporting the aggregate installed capacities of resource categories. Installed capacity ratings are based on the maximum power a generating unit can produce during normal sustained operating conditions.

Jones and Lake addressed ERCOT's call for conservation May 13 when six gas-fired generators went offline for various reasons. Jones termed the call a "request" and noted ERCOT saw 300 to 400 MW of capacity freed up after the ISO issued an advisory. (See *ERCOT Continues to Feel the Heat*.)

"We were very surprised when several generators failed right before the peak," Jones said. "Absent that, there would not have been a conservation appeal. It would have been a normal Friday. It wasn't a conservation appeal. It was just a request to Texas to help us out over this weekend. It wasn't that we're in a dangerous situation at all; it was to make sure that we're doing everything possible to keep the grid reliable."

Lake was asked how he was so confident the lights would stay on given the heat yet to come and the possibility of further thermal outages.

"I know the lights are going to stay on because of all the reforms we put in place and because when we do encounter challenges like we saw last weekend, the multiple reforms are complementary and build off of each other to create even greater reliability," he responded. "That's how we know we can keep the lights on."

The doubters remain. KUT Radio's Mose Buchele was quick to paraphrase the press conference.

"Calling for statewide energy conservation out of the blue on Friday means the system is working well and exactly as intended," he *tweeted*.

The grid operator on May 16 also released its twice-yearly *capacity, demand and reserves (CDR) report*, a 10-year forecast of planning reserve margins (PRM) for the summer and winter peak load seasons through 2032. ERCOT defines the PRM as the percentage of resource capacity greater than firm electricity demand — which accounts for potential load reductions available through interruptible load programs — available to cover uncertainty in future demand, generator availability and new resources.

The CDR projects peak demand of 79.6 GW next summer that would erase this year's expected peak. It forecasts a 36.2% PRM in 2023, 3.2 percentage points lower than the previous 39.4% margin reported in December's CDR report. The decrease is due mainly to delays of planned projects that were previously expected to be in service by July 1, 2023.

ERCOT expects to add 13.1 GW of generation for the summer peak, with solar resources accounting for 11.7 GW available on an average basis during peak demand hours. Battery storage developers are expected to add 4.8 GW of capacity for summer 2023. The ISO currently assumes storage will provide ancillary services rather than support customer demand.

The reserve margin peaks at 46.2% for summer 2024.

The CDR expects summer peak demand to crack 90 GW in 2028, but projects energy efficiency programs to reduce that by 5.3 GW. Summer demand would peak at 95.7 GW in 2032, with energy efficiency reducing that by 7 GW, according to the report.

Winter demand would reach 74.7 GW during 2032-33, with the same assumed energy efficiency reduction. The CDR assumes only minimal increases in gas capacity by then, with no new contributions from coal or nuclear. Solar is projected to provide more than 31 GW, with an 81% capacity factor. ■

ERCOT News

Ex-ERCOT CEO Hopes Focus Stays on Reliability

Kahn, Now with Power Muni, Addresses Texas RE Board, Leadership

By Tom Kleckner

Bob Kahn, TMPA | *Texas RE*

Former ERCOT CEO Bob Kahn on Wednesday said he hopes Texas regulators and lawmakers continue to focus on reliability as they move ahead with changes to the state's power market.

Addressing the Texas Reliability Entity Board of Directors' quarterly meeting, Kahn said the market is working well and that suggestions for a capacity market — a verboten concept in Texas — or even a capacity-light market would do little to help reliability.

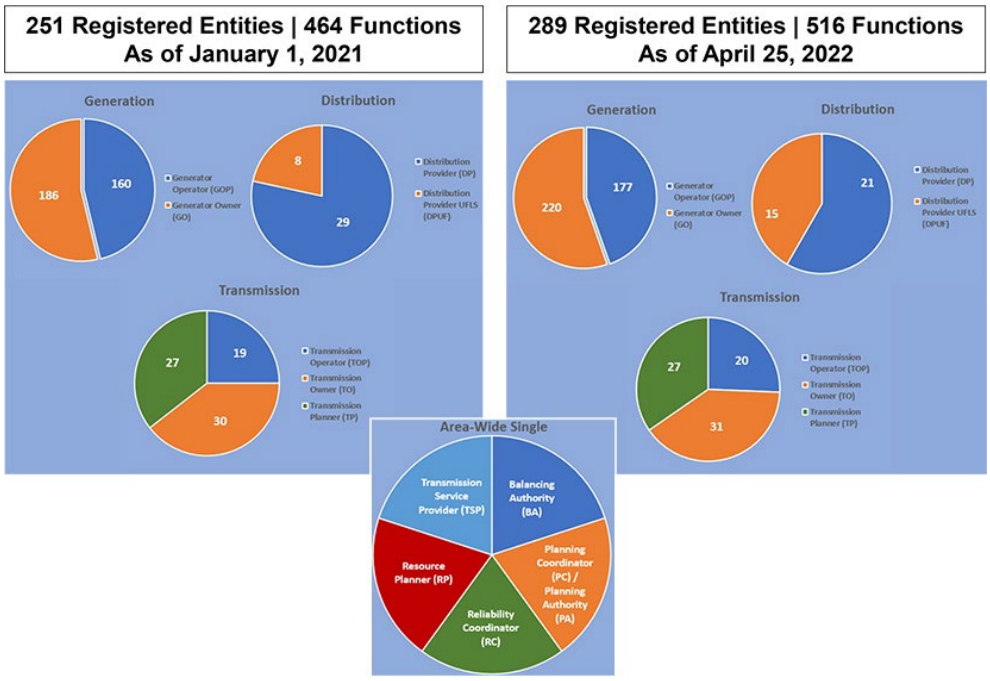
"I don't know how much it might increase reliability, but I think it would increase costs for ratepayers," he said. "That's a big concern for the commission and all of us who want to keep rates as low as possible. We just need to make sure there's enough money out there for the generators."

Kahn noted that ERCOT's energy-only market is dependent on high prices during scarcity periods, the theory being that those prices will compensate generators that are running and incent more to be build. However, the Public Utility Commission last year dropped the $9,000/MWh cap to $5,000/MWh when prices stayed at their limit for more than four days during the winter storm. ERCOT's conservative operations approach, in which it procures more reserves than it previously had, has also reduced scarcity.

"The more reserves you have, the more it impacts scarcity. Generators are counting on those few hours a year," Kahn said. He also argued that operating reserves are suppressing market prices, an opinion shared by others in the market.

Kahn, who served as ERCOT's CEO for almost two and a half years (2007-2009) and was a director on the grid operator's early Board of Directors (2002-2006), was involved in the energy-only market's construct from the very beginning. He recalled a market-design meeting in the 1990s that was crashed by Texas Lt. Gov. Bob Bullock.

"He said five words: 'This is all about money.' He was right." said Kahn, now general manager of Texas Municipal Power Agency, a nonprofit owned by its four-member cities of Bryan, Denton, Garland and Greenville.



Texas RE's registered entities by function. | *Texas RE*

Staff in 'Shields-up' Posture

Texas RE CEO Jim Albright said the organization is maintaining a "shields up" philosophy against cyber threats, and he encouraged the industry to do the same.

"Given what's going on overseas and the uptick in ransomware across the world, as tensions get high, we should be on high alert," he said. "The major alerts coming out this year are from Russian state sponsored cyber threats. So obviously, given what's happening overseas, there's been an uptick."

Albright said the federal Cybersecurity and Infrastructure Security Agency's cyber alerts this year are on pace to pass last year's. Seven of those have come out of Russia, he said.

"There's a lot of ransomware and a lot of malware. … They're exploiting basically vulnerabilities," Albright said. "Some of the big ransomware, the big players, if you will … started back in 2017, and we're still seeing these type of things in the United States."

Registered Entities up to 289

Staff told the directors that Texas RE has added 38 registered entities since 2020. It now has 289 registered entities in 516 functions. (Entities can register in any of six functions.)

The board approved its 2023 business plan and budget and a clean audit of its financial statements. The budget, up 3.3% to $17.7 million from 2022's $17.2 million budget, will be sent to FERC and NERC in June. Texas RE's statutory assessment in 2023 will be $17.2 million, a 14.3% increase from the 2022 assessment of $15 million.

The RE's 2022 workplan has five focus areas:

- expand a risk-based focus in standards, compliance monitoring and enforcement programs;
- assess and accelerate steps to mitigate known and emerging risk to reliability and security;
- build a strong Electricity Information Sharing and Analysis Center-based security capability;
- strengthen engagement across North America's reliability and security ecosystem; and
- promote effectiveness, efficiency and continuous improvement. ■

ISO-NE News

BOEM Details Gulf of Maine OSW Lease Timeline, Next Steps

By Jennifer Delony

The Bureau of Ocean Energy Management expects to issue a *request for interest* (RFI) by October to restart an engagement process for offshore wind in the Gulf of Maine that began in 2019.

An RFI is an optional initial step that BOEM will take as it develops wind lease areas in the Gulf of Maine for its planned lease sale in 2024, Zachary Jylkka, renewable energy program specialist at BOEM, said Thursday during the agency's Gulf of Maine Intergovernmental Renewable Energy *Task Force* meeting.

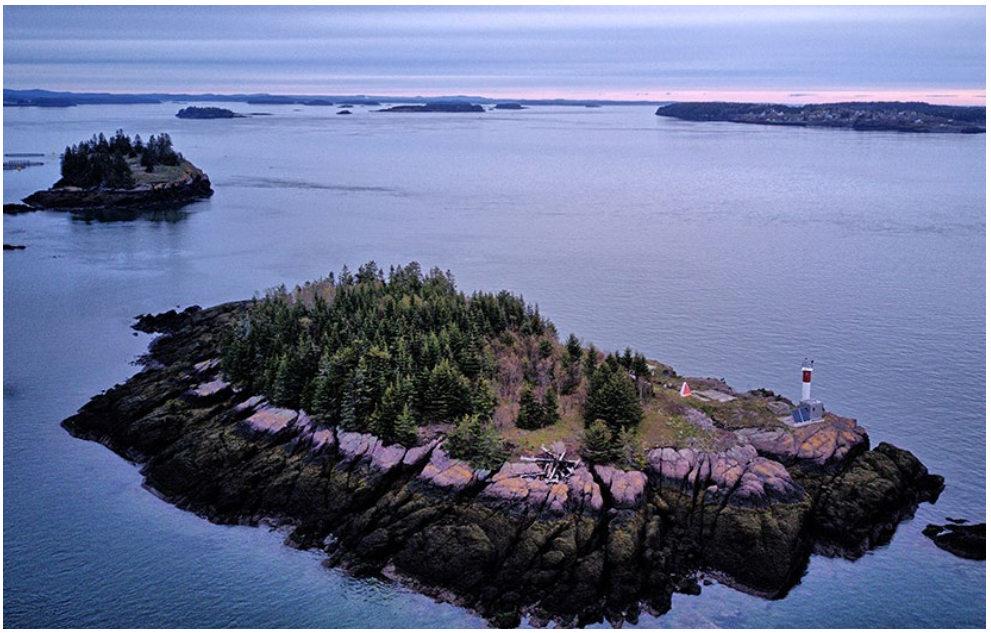
BOEM took comments from task force members during the meeting on the agency's RFI development framework in advance of issuing the final request.

The RFI will help BOEM gather information from stakeholders and gauge commercial interest as it prepares calls for information and nominations, which is the first step regulations require the agency to take in the lease development process. Once BOEM issues the RFI, it will hold a 45-day comment period, and Jylkka said the agency anticipates issuing the calls by April 2023.

BOEM has identified a draft RFI planning area that it will finalize based on stakeholder comments before issuing the RFI and refine further for the call.

"The planning area is roughly bounded on the west, north and east by BOEM's jurisdiction for renewable energy activities on the Outer Continental Shelf, which is three nautical miles from shore to the exclusive economic zone," Jylkka said. The southern boundary is based on physiographic and oceanographic features, he said

In identifying a final RFI area of interest, BOEM will remove spaces from the planning area that are incompatible with OSW development. Those exclusions include the location Maine identified in its unsolicited lease area application to BOEM in October 2021 for the state's planned floating offshore wind research array.



BOEM held a Gulf of Maine task force meeting to share information about how it will identify offshore wind lease areas in the Gulf for auction in 2024. | *Shutterstock*

That application is for a 15-square-mile lease area for 12 floating turbines with a potential nameplate capacity of 144 MW.

As part of the review process for the research application, BOEM must issue a request for competitive interest (RFCI) to determine if any entity, beyond the state of Maine, wants to develop a commercial project in the proposed lease area. BOEM expects to issue the RFCI early this summer, followed by a 30-day comment period, Jylkka said.

If BOEM determines that there is competitive interest, the research lease application will move to a competitive planning and leasing process that could overlap with BOEM's broader lease area development. And if no one expresses a competitive interest, BOEM will negotiate a research lease agreement with the state of Maine, Jylkka said.

BOEM's plan for achieving a lease auction by October 2024 includes designating wind energy areas by October 2023 and issuing a proposed lease sale notice by the end of next year and a final sale notice by June 2024.

The Gulf of Maine task force, which is comprised of about 80 federal officials and elected officers of state, local and tribal governments from Maine, New Hampshire and Massachusetts, will continue to meet at "important milestones" in the lease development process, Jylkka said.

BOEM expects to share upcoming engagement opportunities, including draft call area information, this summer. ■

Northeast news from our other channels

Vt. to Adopt More Robust Regs for Heavy-duty ZEVs NetZero Insider

RI Advocates: Fund State Transit Master Plan to Reduce VMTs NetZero Insider

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

ISO-NE News

ISO-NE's Order 2222 Filing Earns FERC Deficiency Letter

By Sam Mintz

FERC issued a broad *deficiency letter* Wednesday in response to ISO-NE's Order 2222 compliance filing, asking the grid operator for more information on a myriad of topics.

The order requiring RTOs to implement rules letting aggregations of distributed energy resources take part in organized electricity markets has stirred debate in New England — as in every region of the country. DER advocates have challenged ISO-NE's filing, saying it doesn't do enough to pave the way for DERs. (See *'Beautiful Symphony' or Bust on Order 2222, Advocates Say*.)

The feds want to know more about ISO-NE's plans for Order 2222 compliance. | © *RTO Insider LLC*

Order 2222 requires grid operators not to accept market bids from DER aggregators that aggregate customers of small utilities (distributing 4 million MWh or less annually) unless the relevant electric retail regulatory authority (RERRA) of the utility allows those customers the choice to "opt in" as part of aggregation.

In its letter Wednesday, FERC asked why ISO-NE's filing proposes that a DER aggregator "'not be located in the *metering domain* of a [small] host utility,' (emphasis added) when Order No. 2222 requires that RTOs/ISOs not accept bids from a distributed energy resource aggregator if its aggregation includes distributed energy resources that are customers of small utilities."

FERC also asked the RTO why its rules give the opt-in power to host utilities rather than RERRAs.

Interconnection

In Order 2222, FERC declined to exercise its jurisdiction over the interconnection of DERs to distribution systems for the purpose of participating in RTO/ISO markets as part of a DER aggregation (DERA).

ISO-NE addressed this by adding to its tariff a category of interconnection not subject to its normal small generator interconnection procedures (SGIP): "a Distributed Energy Resource that will be participating in the wholesale market exclusively through a [DERA]."

FERC asked in its letter whether this would exempt from the SGIP all interconnections of resources participating in the ISO-NE markets exclusively through an aggregation.

The agency also asked how ISO-NE is planning to review service requests for DERs and evaluate their abilities to provide capacity.

And FERC wants to know how certain DERs are able to make use of a provision allowing them to participate in the markets before the full DERA rules come into effect in 2026.

Participation Models

The participation models put forward by ISO-NE, five existing and two new, are central to its filing.

FERC asked in particular about the distinction between two: Demand Response Distributed Energy Resource Aggregation (DRDERA) and Demand Response Resource (DRR).

"Must homogeneous aggregations of demand response resources participate under the DRR model, or may they alternatively participate under the DRDERA model?" the letter says.

The letter also digs deeper into the DRDERA model, asking about possible barriers to its use in the ISO-NE filing.

Other questions on the filing include the RTO's proposal to prevent double counting in multiple markets, the minimum size requirements for DERAs, locational requirements, and metering and telemetry requirements.

FERC also asked ISO-NE about its implementation timeline, and whether resources would be able take part in FCA 18, scheduled for 2024. ■

ISO-NE News

ISO-NE Elects Melvin Williams Jr. to Board

ISO-NE has elected former Department of Energy official Melvin Williams Jr. as a board member, the grid operator *announced* on Thursday.

Board Chair Cheryl LaFleur was also re-elected to a second term on the board.

Williams and LaFleur will start their new terms on Oct. 1, as Directors Barney Rush and Vickie VanZandt retire. The board is going back to 10 members after it was temporarily expanded to 11 in 2021 to "capitalize on a trio of highly qualified candidates," ISO-NE said.

Williams served in the Navy as a submarine and fleet commander, ultimately ending his military career as a vice admiral. During the Obama administration, he was appointed associate deputy secretary of energy. Since leaving government, he has been working in academia at institutions including University of California Davis, George Washington University and most recently Catholic University, where he is associate dean of engineering.

LaFleur, a former FERC commissioner and chair, has been on ISO-NE's board since 2019 and its chair since 2021.

"The election of Mel and re-election of Cheryl will continue the region on its transition to a clean energy future," ISO-NE CEO Gordon van Welie said in a statement. "Their breadth of experience in energy, government, academia and beyond will serve all New Englanders well."

Cheryl LaFleur and Melvin Williams were elected to the ISO-NE board. | *ISO-NE*

ISO-NE board members are chosen by the existing board and approved by the NEPOOL Participants Committee, in a process which has been criticized for its opacity. (See *ISO-NE, States Seek to Build on 'Alignment' Efforts*.) ■

— Sam Mintz

ISO-NE Networks Briefly Knocked Down by Hardware Malfunction

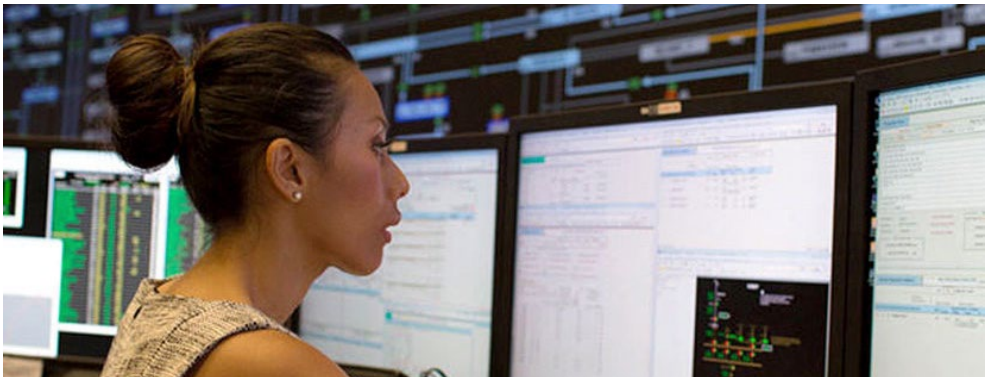
A hardware malfunction took down a number of ISO-NE systems for six hours on Wednesday, the grid operator said.

Starting around 2 p.m. the malfunction hampered systems including email, internet access, ISO-NE's public website and market software applications, the RTO said.

The grid operator's IT staff were able to bring networks back online by about 8 p.m., and the reliability of New England's power system was not affected, ISO-NE said in a *statement*.

"The ISO will be conducting a thorough review of the outage to determine its cause, and taking necessary steps to prevent similar disruptions in the future," the statement said.

ISO-NE spokesperson Matt Kakley declined to provide any additional details to *RTO Insider*.



ISO-NE's networks were out for six hours on Wednesday after a hardware malfunction. | *ISO-NE*

"Sound cybersecurity policy precludes us from discussing the details of our networks and systems in a public forum," Kakley said. ■

— Sam Mintz

ISO-NE News

State Regulators Weigh in on New England Pathways Study

By Sam Mintz

State utility regulators in New England are cautiously optimistic about the path forward to fixing the region's energy markets.

Several utility commission leaders on Wednesday addressed the preliminary results of ISO-NE's draft Pathways Study, which compares region-wide options to incentivize clean energy, including carbon pricing and a forward clean energy market (FCEM).

"We've said yes to the ISO to go on a date with them to fix the markets, but we still have to go on the date," said Matthew Nelson, chair of the Massachusetts Department of Public Utilities. "It's not over yet, so that's where we are."

Nelson and other regulators spoke on a panel at the New England Energy Conference and Exposition hosted by the Northeast Energy and Commerce Association and the Connecticut Power and Energy Society.

The study draft, commissioned by ISO-NE and written by the consulting firm Analysis Group, was released in March. It did not make any formative conclusions about the four policy approaches it weighs, aside from their theoretical ability to achieve "substantial" levels of decarbonization, but it offered insight into the tradeoffs that would come with each. (See *Draft Study Weighs Tradeoffs of CO2 Pricing, FCEM for ISO-NE*).

The New England States Committee on Energy put out a *measured statement* in which it reserved judgment on the study, saying the committee looks forward to working with the RTO and others to pick a pathway.

The states are interested in continuing to look at the development of a centralized FCEM, NESCOE said.

Maine Public Utilities Commission Chairman Philip Bartlett echoed NESCOE's statement on Wednesday.

"I think there is broad agreement around the region about the potential benefits of a FCEM," he said. "I think we all recognize if we continue to contract this aggressively, we're going to effectively destroy the regional markets."

As one of the other options under consideration for the region, a carbon tax is "economically attractive," Bartlett said, but the policy carries with it challenges for garnering political support.

"I urge folks not to get ahead of where most of our states are politically, which is that a carbon fee of any kind is going to be extraordinarily hard to add into this market politically," Bartlett said.

The panel addressed the need to develop a more cohesive system for attracting new clean energy resources than state power purchase agreements.

"Massachusetts needs a lot of clean energy to meet our growing load," Nelson said. "And I think that is something that we say, 'OK, we're siting 20-year PPAs now, but is there a better way to do that?"

Policy makers like contracting, Bartlett said.

"It's something where you can pass legislation, set clear parameters and then be able to point to or take credit for the generation that comes out of that," he said. "The real work will be convincing policy makers to step back from contracting and let [markets] work."

More discussion of the pathways study and next steps is expected at the New England Conference of Public Utilities Commissioners Symposium in Massachusetts this week. ■

From left: Maine PUC Chair Philip Bartlett, Massachusetts DPU Chair Matthew Nelson, New Hampshire PUC Commissioner Carleton Simpson and Rhode Island PUC Commissioner Abigail Anthony | *© RTO Insider LLC*

MISO News

MISO Exec, IMM Debate Capacity Auction's Shortfall Before ICC

By Amanda Durish Cook

A month after its capacity auction indicated a Midwestern supply scarcity, MISO's Independent Market Monitor and a MISO vice president debated the path forward in front of Illinois regulators.

During a special policy *session* of the Illinois Commerce Commission (ICC) on May 13 focused on MISO's resource adequacy, ICC Chair Carrie Zalewski said the commission wanted "to gain a fuller understanding" of the 2022-23 planning resource auction (PRA) clearing at the cost-of-new-generation entry and to discuss steps to preserve reliability and affordability as the RTO's resource mix transitions.

Zalewski said the $236.66/MW-day clearing price in MISO Midwest is a significant increase over the $5/MW-day clearing price during the 2021-22 capacity auction. The grid operator has told stakeholders to prepare for the possibility of temporary, controlled load sheds during the summer months because of a 1.2-GW capacity shortfall in the Midwest. (See *MISO's 2022/23 Capacity Auction Lays Bare Shortfalls in Midwest*.)

Melissa Seymour, MISO's vice president of external affairs for its Central Region, said members must build more capacity quickly. The IMM's David Patton said the RTO is duty-bound to design an auction that results in higher clearing prices to prevent its existing thermal fleet from hemorrhaging more units.

Seymour said accredited capacity in MISO Midwest sank about 3.2 GW since the 2021-22 auction, primarily because of coal plant retirements. She said that though MISO continues to add more installed capacity year-over-year, retiring thermal generation has higher accredited capacity values than the accredited value of new renewable generation.

"Wind and solar do not get the same capacity credit as a traditional thermal unit," Seymour told the ICC. MISO's wind generation receives about a 15.5% capacity credit, while solar receives an approximately 50% capacity credit during summer peak times.

"We believe that unless more capacity is built over the next year, we'll continue to see what we saw in this auction continue in the future," she said. "We will do everything we can to make sure the overall grid stays reliable and dependable, and that the system won't be compromised. But we do have less than a one-day-in-10 [year] loss-of-load probability because of the auction not meeting the requirements, so there is a chance that we might have to take actions to prevent blackout situations or rolling brownout situations."

MISO Vice President Melissa Seymour addresses the ICC as MISO's head of stakeholder relations Bob Kuzman looks on. | *ICC*

Seymour said MISO will likely take steps to increase visibility into the supply and demand picture ahead of capacity auctions.

She also said she thought that some market participants had more capacity that they could have offered, namely demand response resources. No market participants violated MISO's 50-MW withholding threshold in the 2022-23 auction.

Seymour predicted high clearing prices will continue until MISO's members bring more capacity online. But she also said the RTO's proposed seasonal auction design — waiting on FERC approval — and new capacity accreditation calculations based on actual generation availability should help alleviate future shortages. (See *MISO's Seasonal Capacity Proposal Opposed at FERC*.)

But Seymour also reminded commissioners that MISO's capacity auction is a residual auction that functions like a "balancing market," and that it isn't meant for market participants to procure all resources to meet demand.

IMM: Capacity Auction Design the Culprit

Patton laid the shortfall's blame squarely on "poor market signals" in the capacity auction.

"It's not hard to understand how we got here," Patton said. He told the ICC that the "unfortunate truth" is that MISO's capacity market isn't designed to signal when to stave off generation retirements or make investments. He said the vertical demand curve isn't "aligned" with the reliability value of capacity and clearing prices have been "grossly understated" for years.

Patton said about 4 GW of MISO's merchant capacity has retired over the past four years because of economic reasons. He said some of that generation would have remained online had clearing prices more closely reflected a unit's going-forward costs of about $110-$175/MW-day. He said an efficient capacity price might even cover some of the units' capital costs for new emissions controls to comply with environmental regulations.

MISO News

"If we're going to learn anything from this, we ought to learn that market signals really do matter, and we ought to fix this market so that it will help the region maintain enough capacity to maintain reliability," Patton said.

He urged the commissioners to support a sloped demand curve in MISO's auction.

"That's the only thing in the long term that's going to solve this problem," Patton said. "And I think the only reason MISO doesn't have it is because the states have opposed it. And now, one-by-one, the states are starting to either be interested or support it. And I think the more states that voice their support for it, the more momentum there will be to come to a consensus."

Illinois, as a retail choice state, should weigh in on the demand curve and persuade the Organization of MISO States to move the issue forward, Patton said.

He also pushed back on the argument that lower-accredited renewable energy is ousting higher-accredited thermal units.

"It's not as if participants say, 'I'm going to retire a 100-MW gas plant and replace it with 100 MW of wind,' imagining in their minds that that's a one-for-one tradeoff. The reality is the investment in renewables is happening independent of the decision to retire resources," Patton said. "So, it's true that they're coming in at lower accredited values, but the real problem is that a number of the resources that retired really should not have retired, regardless of what was going on in the renewables side of the equation. It's just that we didn't give them the economic incentive to stick around."

Seymour countered that MISO's capacity auction is not designed to incentivize resources or bring new capacity online because states oversee their own resource adequacy planning.

She agreed that a sloped demand curve in previous auctions may have led to higher auction prices and driven some generation construction and prevented some generation from retiring. She also said MISO's pending request at FERC to employ a minimum capacity obligation rule, where load-serving entities must procure 50% of their load obligation ahead of the auction, may assuage capacity deficiencies.

Patton said he didn't see how a minimum capacity rule would increase supply. He said the rule would only have load-serving entities bilaterally contracting for the same stock of surplus.

"It's hard to imagine that it's going to increase the amount of physical supply that exists. It just moves some of the settlements from the PRA into the bilateral market," he said. "Until you fix the price in the PRA, you're not creating an incentive for anybody to build anything that would help you get out of the shortage."

MISO expects about 11 GW of generation to retire over the next year, Seymour said.

"Excess is going away in most instances. We're seeing people come more in balance or a little bit short of their total requirement, mostly because people are deciding to retire their older units … and not replacing [with] a one-for-one … whether it be thermal or wind and solar," Seymour said.

She said federal environmental regulations and utilities' own green goals are creating a "gap" between resource retirements and resource additions. MISO expects to be in a "mind-the-gap" situation in the 2023-2025 timeframe, Seymour said.

In a majority-renewable future, the RTO is probably going to have resources that don't run very often to provide inertia, frequency response and voltage support, she said.

ICC Commissioner Maria Bocanegra said one of her biggest fears is repeating a blackout situation similar to ERCOT's prolonged blackouts during the February 2021 severe winter storm.

Seymour said that unlike ERCOT, MISO is not an island and can import considerable amounts of power.

"That is one of the biggest things that we have going for us that ERCOT didn't," she said. "They had minimal access to anything outside of the ERCOT footprint to be able to import to serve their need."

Seymour reminded commissioners that during the same winter storm, MISO was able to import supply from PJM and in turn, export power to SPP.

Patton Says Real Threat Begins Next Summer

Patton told commissioners that he doesn't expect blackouts in MISO this summer.

"I think load shed in MISO is extremely unlikely this summer, because some of the resources that didn't sell in the capacity auction are actually still going to be around during the summer," he said. "They're retiring after the summer. So, I don't think the threat of load shed is very high for MISO for this planning year. I'm a little more worried about after some of these retirements that are in process disappear … and they won't be there next summer."

MISO IMM David Patton speaks to the Illinois Commerce Commission | *ICC*

The IMM allows retiring generators an exemption from offering into the PRA when they plan to retire and won't be available for the entire planning year.

Late-spring heat paired with seasonal maintenance outages has already forced MISO to issue two emergency advisories before the June 1 start of the 2022-23 planning year.

MISO declared a maximum generation emergency *alert* May 13 for its Central region. The grid operator said it was experiencing forced generation outages, above-normal temperatures and higher-than-forecasted load. On May 17, the RTO declared conservative operations for its South region through May 20.

The Industrial Energy Consumers of America (IECA) sent a *letter* to FERC Chair Richard Glick, urging the commission to issue a notice of proposed rulemaking to overturn the state opt-out for demand response.

IECA CEO Paul N. Cicio said it is "of immediate importance" that FERC reverse the opt-out, which allows states within a regional grid to block distributed resources from participating in wholesale energy markets.

"This action will reduce inflation, electricity costs and improve reliability," the IECA wrote. "We believe that your action will impact the next PRA in MISO and help to drive down prices of which all consumers will benefit. This could ensure that our factories continue to operate and maintain jobs at a time when our economy desperately needs the assistance."

IECA argued a continuation of the rule has contributed to MISO's capacity crisis. ■

MISO News

MISO, SPP Hold 1st Common Seams Initiatives Meeting

By Amanda Durish Cook

MISO and SPP staff and stakeholders discussed transmission reconfigurations and the search for smaller interregional transmission projects May 17 during their inaugural Common Seams Initiatives (CSI) meeting.

The RTOs announced the biannual meetings last month as a means to better inform stakeholders on how they're improving seams coordination. (See *MISO and SPP Announce New Interregional Stakeholder Meetings*.)

Staff said the meetings make sense because both RTOs list seams work as strategic priorities. They will replace the grid operators' joint operating agreement meetings and no votes will be held.

SPP Senior Interregional Coordinator Clint Savoy said the virtual, informational meetings will span the RTOs' planning, operations, markets and regulatory activity and serve as an "all-encompassing 'here's what we're working on.'"

RTO staffs said they're working to create web pages for CSI meetings. Savoy said the grid operators are open to hearing stakeholder-led presentations and that some meetings may be held in-person.

On May 17, staff focused on five recommendations state regulators handed down to MISO and SPP in early 2021. The Organization of MISO States and SPP's Regional State Committee's Seams Liaison Committee (SLC) have advised the RTOs to consider creating targeted market efficiency projects (TMEPs), improve their respective generator interconnection queue processes, track and address rate pancaking at the seams, keep state regulators apprised of long-range planning efforts and devise coordinated transaction scheduling and market-to-market (M2M) interface pricing. (See *MISO, SPP Regulators Call for Pancaking Fix, Smaller Projects*.)

In February, the grid operators announced plans to conduct a TMEP study this year that will search for smaller, congestion-relieving cross-border transmission projects. (See *MISO, SPP Take on 2nd Interregional Planning Effort*.)

Savoy said MISO and SPP are aiming for an "easily repeatable" process that could be conducted every year, if necessary. He said the RTOs are compiling two years' worth of seams congestion data to identify potential projects and will negotiate a cost-allocation design in 2023.

The two have also participated in the SLC's Rate Pancaking Working Group to inventory instances of rate pancaking and develop solutions.

Debate on MISO Tx Reconfiguration

Savoy said SPP is conducting a constraint management analysis of its day-ahead handling of MISO market-to-market constraints "to see if anything needs to change." The results will eventually be shared with MISO and stakeholders. (See *SPP Reviewing its M2M Processes After MISO Monitor's Comments*.)

Meanwhile, MISO has formed the nonpublic Reconfiguration for Congestion Cost Task Team (RCCTT), which focuses on plans to reroute transmission flows during times of heavy congestion costs. Tony Rowan, senior manager of north reliability coordination, said MISO's increasing transmission congestion caused some of its northern market participants and third-party vendors to suggest reconfiguration options. Rowan said the requests were unusual and that transmission owners rejected most of the recommendations over reliability concerns.

The RCCTT is maintaining a monthly list of MISO's top congested constraints, including M2M flowgates. SPP staff said they have been meeting with RCCTT leadership to share their information on flowgate congestion.

EDF Renewables' Arash Ghodsian pointed out that much of the RTOs' work to address seams congestion is being done behind closed doors.

"We talk about urgency. Obviously near-term congestion is happening," Ghodsian said. He asked for future educational sessions on staffs' work on seams congestion.

Minnesota Public Utilities Commission staffer Hwikwom Ham asked the grid operators to research Iowa's Interstate Power and Light's recent transmission reconfiguration, which he said has lowered ratepayer bills.

"Southwest Minnesota is a total mess at this point," Ham said of the need for reconfiguration. "We are leaving tons of money on the table given the level of congestion in Southwest Minnesota and Iowa."

American Electric Power's Jim Jacoby said he is concerned that MISO's reconfiguration work might harm system reliability.

"I would think you'd want to fix a problem before reconfiguring the system," he said.

Clint Savoy, SPP | © *RTO Insider LLC*

Rowan said some the congestion may already have led to transmission projects. He said RCCTT members are working to avoid simply "masking" congestion problems and keeping them open for project opportunities.

"That is very much at the forefront of discussions in the RCCTT," Rowan said.

WPPI Energy's Steve Leovy said the reconfiguration work is focused on congestion caused by temporary, unusual conditions.

"We need to both improve the system and squeeze more out of the system if we can to operate the system as efficiently as we can. … I see room for both," Leovy said.

Before closing the meeting, MISO's Jack Dannis said the RTOs are monitoring a possible minimum transmission transfer capacity, as suggested by FERC's Joint Federal-State Task Force on Electric Transmission.

Dannis said the November CSI meeting will focus on a possible transfer requirement between the regions.

Savoy said SPP intends to include a minimum transfer capacity with MISO in its five-year strategic plan. "This is something we should be discussing and determining how it will look," he said.

American Clean Power Association's Daniel Hall thanked the RTOs for teeing up the topic.

"I certainly think the tea leaves are such that FERC will do something in this arena. I think it behooves all of us for MISO and SPP to look into this," he said. ■

MISO News

FERC OKs MISO's Bifurcated Cost-allocation Tx Design

By Amanda Durish Cook

FERC last week approved MISO's separate-but-equal postage stamp rate divided between its Midwest and South footprints for some of its major transmission buildout. The Thursday order gives MISO a clear-cut cost allocation for its long-range transmission plan's (LRTP) first two cycles of projects (*ER22-995*).

The 100% postage stamp-to-load rate will be used to divide costs on MISO's $10 billion long-range transmission package, the first of four portfolios the RTO plans to recommend. (See *MISO Updates Stakeholders on $10B Long-range Tx Package*.)

MISO will limit cost sharing on the first half of its LRTP projects to MISO Midwest, where the projects will be physically located, thus shielding its southern states from the transmission costs. The grid operator has said the allocation design is temporary and that it will seek approval for a new cost-allocation design when it begins studying transmission needs in MISO South and increasing its Midwest-to-North transfer constraint in a few years. (See *MISO Seeking New Tx Cost Allocation for Major Buildout*.)

FERC said that MISO's proposal to limit regional cost assignments is fair because it follows the commission's cost-causation principles that benefits be roughly commensurate with allocation. The agency cited a Brattle Group analysis commissioned by MISO that showed the benefits of Midwestern transmission projects would be overwhelmingly confined to the Midwest unless the RTO secures more transfer capability between the subregions. (See *MISO Finalizes Long-range Tx Cost Sharing Plan*.)

The design "appropriately reflects the transfer limits between the Midwest subregion and the South subregion," the commission said.

FERC also noted that MISO replicated its established cost allocation from its 2011 Multi-Value Projects to divvy up long-range transmission costs.

MISO's clean energy organizations called the allocation design a "prudent interim solution to the transfer limits." However, industrial customers argued that the RTO didn't present enough evidence that it will allocate costs commensurate with benefits. They also derided MISO's method of analyzing the first cycle of transmission projects as a portfolio instead of individually and said applying a uniform postage-stamp-to-load rate is clumsy because project benefits fluctuate over time.

The Mississippi Public Service Commission agreed with separating the Midwest from the South but asked that FERC not consider the postage stamp rate as the default method when MISO begins prescribing projects for its South region. The PSC said it would protest the rate as not specific enough if it were applied to Southern projects.

FERC disagreed and said the postage stamp is an appropriate allocation tool. The commission quoted itself from Order 1000 and reminded industrial customers and the PSC that a postage stamp method is "appropriate where all customers within a specified transmission planning region are found to benefit from the use or availability of a transmission facility or class or group of transmission facilities, especially if the distribution of benefits associated [therewith] is likely to vary considerably over the long depreciation life of the transmission facilities amid changing power flows, fuel prices, population patterns and local economic considerations."

The commission also reminded Mississippi that the postage stamp rate is already the default allocation style under MISO's past Multi-Value Projects, even though that portfolio predated MISO South's integration and none of those project costs were ever assigned to the South. FERC said it considered the PSC's ask a collateral attack on its past rulings.

FERC pointed out that the U.S. Seventh Circuit Court of Appeals has held that FERC "need not 'calculate benefits to the last penny, or for that matter to the last million or ten million or perhaps hundred million dollars,' but rather must have 'an articulable and plausible reason to believe that the benefits are at least roughly commensurate with' the allocation of the costs."

The commission also blessed MISO's portfolio approach to the LRTP and again referenced itself, this time quoting from its acceptance of the RTO's portfolio style for its 2011 Multi-Value Projects.

"The portfolio approach will help [MISO] to prioritize its transmission expansion projects in such a way as to ensure global benefits from the projects afforded regional cost sharing and maximize the number of system users who will share in those benefits," the commission said.

MISO News

FERC also dismissed as premature some stakeholders' concerns that MISO would design a different and more favorable cost allocation for the South, thus violating FERC's cost allocation principle that inconsistent allocations must not be applied to the same class of projects. The commission said that was speculation because MISO has yet to develop the cost allocation it plans to apply for projects concerning MISO South.

Christie's Cautious Concurrence

Commissioner Mark Christie wrote separately to concur with the order, hinting that MISO may not be doing enough to ensure thorough cost allocation.

"In a large, geographically sprawling transmission entity — MISO stretches from the Gulf of Mexico to Canada — it simply makes sense to allow for more granular cost allocation arrangements that may be subregional rather than imposing an identical cost allocation framework across the entirety of MISO," Christie wrote.

However, he expressed misgivings with the "pure socialization" of the postage stamp rate and said he hoped MISO and stakeholders could arrive at a more granular allocation for the second half of the long-range transmission effort.

"While MISO's case for postage stamp cost allocation is weak, I do not believe there has been a showing that this method is unjust and unreasonable," he said, adding that he was ultimately swayed by the Organization of MISO States' support of the allocation's design.

Christie said he is concerned that Brattle's benefits spread analysis rested on MISO's internal benefit evaluation of its Multi-Value Project portfolio, and not an outsider's view of the projects' benefits. The Brattle Group's Johannes Pfeifenberger "apparently accept[ed] the benefit-cost ratios in MISO's 2017 report as self-proving," Christie said.

He added that the Brattle Group should not accept MISO's benefit claims "on faith," especially when billions of dollars are at stake.

"There is nothing in the record to indicate whether MISO's 2017 analysis was ever introduced into evidence in a rate case or other formal proceeding; whether discovery by other parties ever took place to glean information about the methods, bases and benefit calculations of the 2017 analysis; whether it was ever sponsored by a witness who had to take the stand and be cross-examined on the report by lawyers who knew how to conduct cross; or whether other parties had the opportunity to put their own expert witnesses, friendly and hostile, on the stand who could testify about the MISO analysis," Christie wrote. "Indeed, ideally, a third-party report without a witness who can authenticate it and be cross-examined on it would not even be admitted as evidence in any serious evidentiary proceeding … the evidence in support of assigning billions of dollars in new costs to consumers should certainly get the same scrutiny as in a routine rate case involving far lower amounts of costs."

Christie urged "state regulators and all affected stakeholders throughout MISO, especially those representing both residential and industrial consumers, to scrutinize very closely the planning criteria and cost allocation for future [long-range portfolio cycles] as well as claims of projected benefits used to justify regional cost allocation proposals because billions of dollars of consumer costs will be allocated here." ■

MISO News

SPP, MISO Propose Scrapping Affected System Studies

RTOs Will Focus on More JTIQ Planning at Seams

By Amanda Durish Cook

MISO and SPP said Friday they plan to ditch their current affected systems study process for more interregional transmission analyses like their joint targeted interconnection queue (JTIQ) transmission effort.

The RTOs announced the transition to more transmission planning at the seams to allow generation interconnections during a conference call Friday.

"Essentially, we're proposing a framework … whereby we believe the JTIQ and subsequent studies could serve as a replacement for the affected system studies," SPP Director of Seams and Tariff Services David Kelley told stakeholders.

Kelley said for the current $1.65 billion JTIQ portfolio and other transmission studies to replace affected system studies, the new studies should occur at least every two years. He also said the grid operators' proposal is proactive when considering FERC's advanced notice of proposed rulemaking to improve transmission planning, cost allocation and generator interconnections (*RM21-17*). (See *FERC Issues 1st Proposal out of Transmission Proceeding*.)

"We've been listening to stakeholders over the last several months," Kelley said. "MISO and SPP have reflected on these comments and concerns. … The affected system study process (AFS) is problematic, even from our perspective of administering these studies."

Kelley said MISO and SPP have come to regard the AFS process as "a separate layer of inefficiency."

"We need to design a more optimized transmission system around these seams," he said.

While conducting the JTIQ study, Kelley said, MISO and SPP have noticed several similarities to the AFS: they detect the same constraints, seek to bring more generation online through transmission construction and dole out cost assignments for system upgrades to interconnecting generation.

The RTOs are attempting to distribute JTIQ portfolio costs based on the projects' beneficiaries, including their respective loads, and a share to interconnection customers on either side of the seam whose generation will flow between the footprints. They have also said they might assign costs based on added benefits like increased flows or more economic dispatch. (See *Now, the Hard Part: MISO, SPP Tackle JTIQ Cost Allocation*.)

The grid operators have kicked around using a per-megawatt charge to allocate costs based on the interconnecting generation distribution factor's effect on the JTIQ portfolio.

MISO and SPP intend to replace the AFS' upgrade costs with the predetermined cost per megawatt

Kelley said, "more generation can afford to interconnect" under the new flat fee because it "eliminates unknown cost exposure from other RTOs."

SPP's Neil Robertson said the RTOs will determine the per megawatt charge for new generation based on the first JTIQ portfolio and refresh the amount in subsequent interregional transmission planning cycles.

"I just don't want to see a situation where the charge escalates until load ends up holding the bag," Adam McKinnie, chief regulatory economist for the Missouri Public Service Commission, said of the fluctuating charge.

Stakeholders appeared to approve replacing the AFS, even though the RTO staffs admitted they still must work through several details.

"At a high level, I think this is a good step … and needs to happen to produce higher levels of certainty early on at the beginning of the process instead of the end," Advanced Power Alliance's Steve Gaw said.

"It's a creative proposal, and I think it has the potential to introduce more timing certainty and cost certainty," Clean Grid Alliance's Natalie McIntire said.

But multiple stakeholders pointed out that the JTIQ study and cost-allocation design remains untested and unproven.

JTIQ proposed portfolio | *MISO, SPP*

MISO News

EDF Renewables' Arash Ghodsian said he is worried that MISO and SPP might not be able to adhere to a biennial schedule.

"It is concerning that MISO and SPP spent two years evaluating this portfolio," Ghodsian said.

Robertson said the RTOs envision the JTIQ becoming "a more enduring process" that's conducted on a regular basis.

Under the proposal, the grid operators said they will likely create a "JTIQ affected system zone," where they identify new transmission facilities near their seams that are likely to be impacted by their neighbor's generation-interconnection requests. Nearby interconnecting generators will be assigned the per-megawatt charge based on their zonal impact. Staff said the zonal charge will be adjusted prospectively based on successive JTIQ studies.

Gaw said assigning costs to generators based on their zone seems like "rough justice."

Kelley said the zonal method would eliminate individual developers depending on other higher-queued interconnection customers' upgrades to get their own projects online.

Rafik Halim of National Grid Renewables asked how the RTOs will transition existing projects working their way through the respective queues to the new JTIQ charge. He said he was particularly concerned about the projects cycles that entered the MISO queue in 2018 and 2019 and have yet to receive AFS results from SPP.

"We have projects that are effectively being held hostage by an affected system study process," he said.

Kelley said MISO and SPP have yet to work through a transition plan, but he said they will continue processing their queues until the new system can take effect.

"What MISO and SPP can't afford to do is to put on hold any of our current study processes," Kelley said.

The RTOs promised more meetings on the proposal beginning next month.

MISO Director of Resource Utilization Andy Witmeier asked stakeholders to provide their input on the proposal

"We want to really see if this new avenue is worthwhile," he said. ■

MISO News

FERC Clears GridLiance Offload of Missouri Tx Assets

By Amanda Durish Cook

FERC last week approved GridLiance High Plains' sale of controversial Missouri transmission assets to the nonprofit Missouri Joint Municipal Electric Utility Commission (MJMEUC) (*EC22-24*).

The commission ruled Thursday that GridLiance's deal for a 4-mile, 161-kV line, four small 69-kV lines and terminal equipment is in the public interest. The transaction marks MJMEUC's first foray into transmission ownership; it already owns generation in MISO and SPP.

GridLiance purchased the transmission facilities from the city of Nixa, Mo., in 2018 and placed them under SPP's control. The transmission-only utility has been involved in an unresolved dispute with the RTO and some of its members over the facilities' inclusion into one of SPP's transmission pricing zones. GridLiance's annual transmission revenue requirement for the facilities has raised costs for the zone's other transmission customers. (See *FERC Remands GridLiance ATRR Settlement*.)

FERC considered ongoing disagreement as out of scope, sticking to narrow, predefined criteria to approve the sale. It said the sale will not adversely affect transmission rates, though MJMEUC said it will recover the assets' net book value through its ATRR. The commission noted that ownership is changing hands from a for-profit business to a not-for-profit utility, which comes with a different capital structure, tax obligation and return on equity.

GridLiance estimated that MJMEUC's ATRR is about 32% lower than its own because of the latter's nonprofit status. The TO said the commission has lower administrative expenses and does not pay property or income taxes, thus enjoying a lower cost of debt.

FERC said the transaction won't disturb competition, state or federal regulation, or wholesale power rates because the sale does not involve the transfer of generation facilities.

Nearby city utilities in Missouri and Arkansas involved in the SPP transmission pricing dispute — Paragould Light Water & Cable, Paragould Light Commission, Poplar Bluff Municipal Utilities, Kennett Board of Public Works, City of Piggott Municipal Light Water and Sewer, and the City of Malden — asked FERC not to presuppose that the transmission facilities will continue to be included in the zonal cost allocation.

The commission declined to address the request, explaining its order focused on the transaction and not the facilities' rate treatment. ■

Nixa, Mo. | *City of Nixa*

NYISO News

Overheard at IPPNY 2022 Spring Conference

By Michael Kuser

Chris LaRoe, Brookfield Renewable | © *RTO Insider LLC*

Achieving New York's climate goals should not come at the cost of "cannibalizing" existing renewable resources, said Chris LaRoe, senior director of regulatory affairs at Brookfield Renewable and chair of the Independent Power Producers of New York (IPPNY).

"We also need to make sure the transmission system is up to the challenge and that we are not bottling public policy resources," LaRoe said Wednesday at IPPNY's 36th annual spring conference.

Legislative, Regulatory Update

During the conference, New York Sen. Kevin Parker (D), chair of the Energy and Telecommunications Committee, drew a line from the May 14 mass shooting of Black people in Buffalo to the issue of making energy affordable for all people in the state.

"In this moment you have everyone feeling like they cannot make, not just unrepresented groups, but working class and poor whites across the country, particularly in our great state, feel like there's no chance for them," Parker said.

With gas prices headed toward $6/gallon, he added, it's critical that the energy market "create the kind of economic opportunities such that people are not thinking that they have to murder other folks in order to make their way in this state."

The pandemic disrupted both lives and livelihoods and created a dynamic in which the state put moratoriums on service cutoffs for overdue utility bills, and now utility arrears total nearly $4 billion in New York just as energy prices are spiking, he said.

Parker said he has to remind his constituents that net-zero emissions means net and that bakeries and restaurants will still be able to use gas-fired ovens for their work.

The benefits of the competitive wholesale electricity market are important, and principally they shield energy consumers from unwarranted risk, said Assemblymember Michael Cusick (D), chair of the Energy Committee.

IPPNY held its 36th Annual Spring Conference in Albany on May 17-18. | © *RTO Insider LLC*

"Competitive procurement is also an important pathway in meeting the state energy goals and the benefit of this approach is evidenced by the energy storage law (*S8384*) I created in the legislature along with my good friend and colleague Senator Parker," Cusick said.

NYPSC Chair Rory Christian | © *RTO Insider LLC*

The electric system won't be powered entirely by renewable resources and numerous reports highlight that various capabilities are needed to support a grid with significant levels of power generated by intermittent resources, said New York Public Service Commission Chair Rory Christian.

Generation assets are only effective if the transmission line is available to move power, which is why the PSC established a coordinated planning process between utilities and NYISO to align processes and procedures (*20-E-0197*), he said. (See *NY Looks to Improve Tx Headroom Assessments*.)

"Working collectively, we can set up a full spectrum of transmission needs, both bulk and local. ... In the past, project needs were mainly driven by reliability, whereas today many of these projects will be needed to meet public policy and climate goals," Christian said.

The commission has so far approved just under 200 local transmission projects, which will allow moving up to 15 GW of renewable energy, but it has approved only two large-scale transmission projects, Christian said. He noted that the PSC last September established a public policy category for transmission and distribution investments to help achieve the state's environmental goals. (See *New York Adopts Groundbreaking Tx Investment Rules*.)

Fast Transition

Lawmakers, regulators and agency administrators — together with power producers — are transforming the state in a significant way over what many would say is not an extended period, said New York State Energy Research and Development Authority CEO Doreen Harris, who moderated a panel on offshore wind and energy storage.

"For many people this feels very quick, and certainly how we got here was anything but quick as to the system that we have built together," Harris said.

IPPNY President and CEO Gavin Donohue

NYISO News

IPPNY CEO Gavin Donohue | © *RTO Insider LLC*

said siting was the main challenge for both storage and renewables.

"We have developed 12,800 new megawatts over the last 20 years; we have 6,500 MW of renewable capacity installed in the state; and we've closed over 10,500 MW of less efficient facilities," Donohue said. "Coal has been eliminated in New York state. It's safe to say that upstate New York is a carbon-free area based on our electricity mix."

The grid was not designed with points of interconnection on the coast, and because transmission is a long-term planning process, industry and policymakers must keep working on the issue, said Fred Zalcman, executive director of the New York Offshore Wind Alliance.

"First and foremost, we see that in order to achieve the [Climate Leadership and Community Protection Act's] expectation that we have 70% renewable energy by 2030, we really need to stay laser-focused on the buildup of infrastructure, be that transmission, be that resources," NYISO Executive Vice President Emilie Nelson said. "This will be critically important. A lot of times the focus is on some of the intangibles, some of the unknowns."

Emilie Nelson, NYISO | © *RTO Insider LLC*

Nelson said that the PSC proceeding on integrating 3,000 MW of OSW into Long Island and increasing the transfer capability from Long Island to New York City will help ensure that the buildout can meet the needs of customers in load centers (*18-E-0071*).

New York has distinct advantages in managing resource adequacy in that NYISO has sole authority, while in California the responsibility is distributed over more entities, CAISO President and CEO Elliot Mainzer told *RTO Insider*.

Regarding public policy transmission needs, the ISO is between the viability and sufficiency assessment and evaluation, Nelson said.

"We've had 19 projects that have submitted proposals into this process and recently had to identify if they will move on, for the 16 projects that are still included, if they'll continue into the evaluation phase," she said. "From there we will be evaluating the projects across a set of metrics to identify the more cost-effective and efficient solution."

The most efficient place to build OSW projects is closer to shore, and as the wind resource is very strong in the northeastern part of the U.S., farther south becomes less economic, especially as you get farther south from New Jersey, said Shane Ogren, vice president for investment banking at Macquarie Capital.

Despite a burgeoning OSW industry in the U.S., "I expect you to see cost declines that will continue to make the investment look better and better over the years," Ogren said.

Significant global demand for OSW is making the supply chain "very strained," said Beth Treseder, head of U.S. renewables development for Equinor. "When we talk about domestic investment supply chain, it's not purely to generate jobs; it's fundamentally because we need the supply chain to develop the industry effectively in this country." ■

From left: NYSERDA CEO Doreen Harris; Fred Zalcman, NYOWA; Beth Treseder, Equinor; Emilie Nelson, NYISO; Shane Ogren, Macquarie Capital; and IPPNY CEO Gavin Donohue. | © *RTO Insider LLC*

NYISO News

NYISO Business Issues Committee Briefs

Ancillary Services Manual Updates

The NYISO Business Issues Committee on Thursday approved *revisions* to the Ancillary Services Manual to increase participation in the ISO's Demand-Side Ancillary Services Program (DSASP) by allowing resources to establish communications directly with the ISO, rather than through the resource's transmission owner.

In order to maintain grid reliability, NYISO established a 200-MW limit on DSASP resources in the New York Control Area communicating directly with the ISO; that limit has been met.

The changes allow for the establishment of an alternative communications pathway between a DSASP resource and the applicable TOs under Interim Control Operations (ICO). Absent such alternative communications, during ICO, the TO would be unable to dispatch a DSASP resource that directly communicates with NYISO, but "now that the TO has a communication pathway with the resource, they would be able to ultimately dispatch them if the ICO conditions would ever be enacted," said Mitchell Braun, associate engineer of distributed resources operations.

Resources participating under such alternative communication procedures with the TO will no longer be included in the 200-MW limit.

Because one or more TOs may not be able to establish appropriate communication infrastructure with DSASP resources by the time the model is deployed, NYISO will seek to align the period for existing DSASP resources to transition with the time it takes to establish the TO communications connection.

The ISO will begin quarterly posting of the magnitude of DSASP resources utilizing direct communications to its website around June 30.

ICAP Manual Updates

The BIC also approved *revisions* to the Installed Capacity Manual to reflect faster turnaround time for the processing of dependable maximum net capability (DMNC) testing because of software automation.

DMNC is the sustained maximum net output of a generator, as demonstrated by the performance of a test or from actual operation. DMNC values must be determined each season to establish a generator's capability for the capacity market, and generators cannot offer capacity without a valid DMNC.

Under the current rules, data submitted beyond the applicable 60-day deadline are rejected per the ICAP Manual, so generators without a valid in-period DMNC test are required to conduct an out-of-period test. The out-of-period window opens just two months before the applicable season, and testing out-of-period introduces additional risk, as the windows occur in shoulder seasons and can coincide with maintenance schedules, said Dylan Zhang, manager for ICAP market operations.

New submittal deadlines of Feb. 1 for summer test data and Aug. 1 for winter test data will be reflected in the automated market system event calendar. The new submittal deadlines will apply for winter 2021-2022 in-period DMNC tests.

Mitigation Review Update

Director of Market Design Michael DeSocio led a *discussion* on the implications of FERC's May 10 approval of NYISO excluding from its buyer-side market power mitigation (BSM) rules any new capacity resources required to satisfy the state's environmental mandates. (See *FERC OKs NYISO Capacity Market Changes Stemming from NY Climate Law*.)

"The very favorable order from FERC provides a huge win for New York and takes away a lot of risk that had been described from stakeholders for a long period of time," DeSocio said.

Effective May 11, the change automatically eliminates offer floors for wind, solar, storage, hydroelectric, geothermal, fuel cells that do not use fossil fuel, demand response and other qualifying resources under the Climate Leadership and Community Protection Act (*ER22-772-001*).

"We do have an active class year: There's currently 13 energy storage projects and three solar projects that are looking to locate in mitigated capacity zones, and they are now excluded from BSM," DeSocio said.

NYISO will also discontinue evaluations for any new special-case resources (SCRs) within mitigated capacity zones that come into the market and immediately remove all existing offer floors for existing SCRs, he said.

The ISO is reviewing and ultimately will be recommending the technique for calculating capacity accreditation factors, DeSocio said.

April LBMPs Steady but up Year over Year

NYISO locational-based marginal prices averaged $56.46/MWh in April, down from $56.78/MWh the previous month and more than double the $22.79/MWh average in April 2021, driven by higher fuel prices, Rana Mukerji, senior vice president for market structures, said in delivering the monthly operations *report*.

Day-ahead LBMPs came in higher and real-time load-weighted LBMPs were lower compared to March. Year-to-date monthly energy costs averaged $91.92/MWh, a 117% increase from $42.41/MWh in the same period a year ago.

April's average sendout was 359 GWh/day, down from 390 GWh/day in March and higher than 354 GWh/day a year earlier. Transco Z6 hub natural gas prices averaged $6.13/MMBtu for the month, up from $4.47/MMBtu in March and up 187.8% year-over-year. ■

— Michael Kuser

Demand Response program capabilities and potential impacts are expanded by new technologies such as sensors that can perceive peak load problems and utilize automatic switching to divert or reduce power in strategic places. | *DOE*

PJM News

Solar Developers: NJ's Aging Grid Can't Accept New Projects

Legislation Would Levy Connection Fee to Fund Upgrades

By Hugh R. Morley

Parts of New Jersey's electricity grid are so old and its capacity so limited that new solar projects can't be connected in certain areas of the state, a weakness that is stifling solar energy expansion, developers told legislators May 16.

During a Senate Energy and Environment Committee hearing for a bill that would levy a fee to generate millions of dollars to modernize the grid, developers said they wait for months, even years, to get projects connected, and sometimes the connection never happens. The problem is worst in South Jersey, where Atlantic City Electric (ACE) is the utility, but parts of the state served by Public Service Electric and Gas and Jersey Central Power & Light also have problems, they said.

"We've got to modernize the grid," said Fred DeSanti, executive director of the New Jersey Solar Energy Coalition. "The grid is 100 years old. It was designed for a completely different purpose. We need a system of highways; we need a system of byways. This has got to be equal access, where you can put power in any place and take it out anyplace. The only way to get there is to fund it.

"If we don't start getting on that road right now, I can tell you that the industry is going to start to really close down," he said.

The developers spoke in support of *S431*, which would establish a fixed "grid modernization" fee structure to pay for the cost of upgrading the grid, with the owners or developers of renewable energy systems paying the fee to electric utilities who would carry out the upgrades. The bill would require the New Jersey Board of Public Utilities (BPU) to create different "tiers" for the modernization fees depending on the size of the project, capping the fee for a residential net-metered system of 10 kW or less for the first three years at $50/kW.

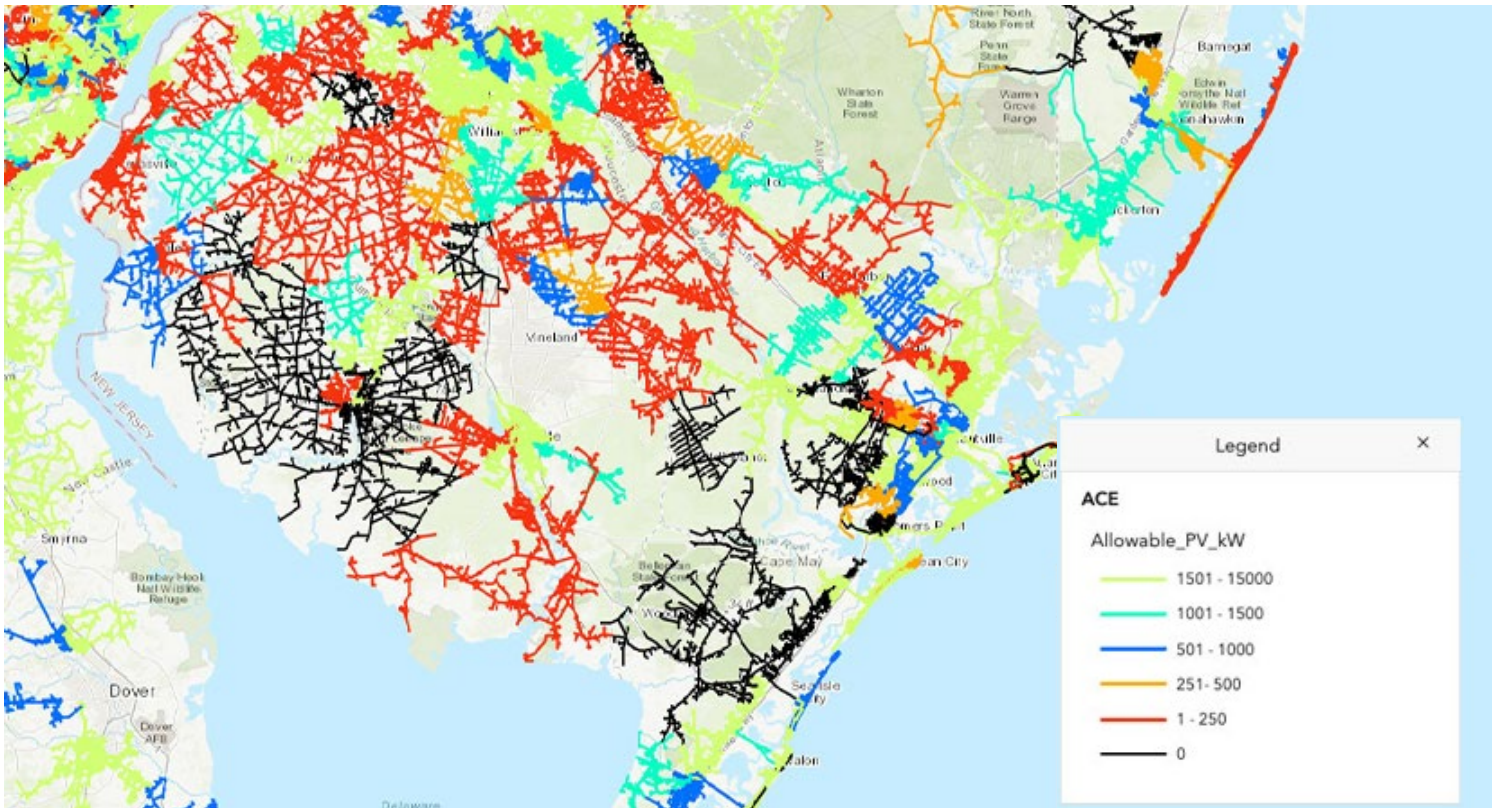
The fee would defray the costs of interconnection, including administrative tasks or studies conducted by the utility, and infrastructure upgrades necessary for the safe operation of the renewable energy system, according to the bill. Electric utilities could charge their customers additional fees to recover interconnection costs that are not covered by the modernization fees.

In addition, the legislation would direct the BPU within 18 months of the bill's enactment to adopt rules and regulations that would create a model procedure that conforms to those of the Interstate Renewable Energy Council (IREC).

The committee solicited public input but did not vote on the bill. A similar bill did not advance in the last legislative period, which ended in January.

Utilities said they recognize, and are taking steps to resolve, the problem.

ACE is "working to create new opportunities for solar in areas where the grid no longer has the available capacity to accommodate more solar installations," spokesman Francis Tedesco said in an email.



This map of circuits operated by Atlantic City Electric in South Jersey was displayed by the New Jersey Solar Energy Coalition at a state Senate Energy and Environment Committee hearing to show the difficulty of connecting solar projects. Black circuits will not accept solar connections, and red circuits can accept no more than 250 kW. | *Pepco Holdings*

PJM News

"We continue to invest in and adopt new grid modeling tools and grid automation technologies as they become available," he said, adding that such technology "allows us to optimize the system and make us better able to accommodate increasing amounts of solar."

"As a result of our efforts, we have been able to expand interconnection opportunities for solar and continue to notify interested customers of these opportunities as they occur," he said. "However, even with more sophisticated technologies and tools, physical upgrades to increase the capacity of the local energy grid will be required to accommodate the significant growth of solar we expect to see in the coming years."

To help meet the challenge, the company is "working with interested stakeholders to identify the most efficient and fair path forward to expand capacity on the local energy grid to create new opportunities for solar," he said.

PSE&G did not respond to request for comment.

A spokesperson for JCP&L, a subsidiary of FirstEnergy, said the hearing on S431 "provided a valuable opportunity for FirstEnergy representatives to hear the assessments from developers and better understand additional perspectives on interconnection."

"We look forward to working with the sponsor and other stakeholders to provide future testimony and gather additional comments as this bill continues to evolve," they said.

Closed Circuits

More than half a dozen solar developers — as well as representatives of the Mid-Atlantic Solar & Storage Industries Association (MSSIA) and the Solar Energy Industries Association — spoke in support of the legislation, outlining a scenario that is urgent and already hurting the industry.

Joshua Lewin, president of Somerville-based Helios Solar Energy, said the company has three customers with projects ranging from 120 kW to 1 MW that have been unable to connect a solar project to the grid. One is a data center; another is a furniture store owner that is trying to convert to clean energy with electric vehicles and heat pumps at his stores and distribution centers; and a third is a union contractor that is looking to convert its vehicle fleet to clean energy.

"Atlantic City Electric has denied us again and again," he said. "We've tried multiple different ways to overcome these issues, and everything unfortunately fell through."

DeSanti said there are now 50 circuits closed to new solar projects in the ACE area and showed the committee a map of the grid in South Jersey, in which some areas were colored black and a larger area was colored red. The grid in the black areas are "completely closed down" to new solar connections, and the area in red can accommodate no more than 250 kW of extra power, or about 25 homes, DeSanti said.

"So that means you can't host community solar there; you can't do grid supply there; you can't host anything but a couple of residential [projects], maybe a small retail or warehouse facility," he said. "But essentially, that's pretty close to being closed as well." He said that the legislation would create a fund to fund to invest in resolving that problem "on the backs of the development community," who would pay the fee.

In a May 13 letter to the committee, the New Jersey Division of Rate Counsel urged members not to advance the bill, fearing that ratepayers would face unfair charges.

Rate Counsel Director Brian O. Lipman argued that a system to fund grid upgrades through set fees on developers supplemented with contributions from ratepayers would undermine the "beneficiary pays principle." Under that principle, developers pay for grid upgrades as long as they consider that the risk is worth it and the expense allows the project to be financially viable. By placing the risk of cost overruns on the ratepayers, developers will not be as fiscally responsible in their decisions, the Rate Counsel argued.

Traditionally, the developer will pay if it considers the risk worth the reward, and that without that connection — if the developer just pays a fee and ratepayers cover the remainder — "avoidable and expensive electric system upgrades will be foisted onto captive ratepayers," the letter said. In addition, by setting the fees every three years, they will lag the actual costs of projects, "possibly for significant periods of time," and ratepayers may end up paying for upgrades for projects that never get built, the counsel wrote.

Clean Energy Growth

The legislative effort follows a series of hearings launched by the BPU in October that have focused on how to modernize the grid to handle the extra stress of rapidly growing solar and offshore wind generation in the state. The agency expects to release a draft report on the issue on June 27 and a final report later this year. (See *NJ Launches Modernization Study*.)

The state's *Energy Masterplan* describes grid modernization as the "backbone on which all other efforts to transition to a clean energy economy will rely." The plan sets a goal of 32 GW of solar-generated electricity, 11 GW of offshore wind and 9 GW of storage by 2050.

To reach that goal, the state — which had 3.89 GW of solar capacity in March — will need to deploy 950 MW of solar a year, according to the masterplan. But the state has averaged only 365 MW a year since 2016, according to BPU figures. And that installation rate could decline if developers struggle to get their projects connected to the grid. (See *NJ Solar Pipeline Surges While Installations Drop*.)

Supporting S431, Doug O'Malley, director of Environment New Jersey, said the grid connection problems potentially could "strangle clean energy projects before they can get onto the grid" and are already doing so.

"The critical thing to remind ourselves is that we have an electric grid that does not work for clean energy projects in a vast amount of the state," he said. "Right now, we're seeing essentially a *de facto* solar moratorium in place for certain parts of the state."

Spreading Upgrade Costs

Similar concerns were raised by solar developers.

MSSIA President Lyle Rawlings said the grid problems in New Jersey is the "No. 1 issue that we need to address this year."

"Many members are saying they're abandoning Atlantic City electric territory altogether," he said. "We are shutting down this industry, and businesses are leaving the state entirely, because they don't see a future."

He said New Jersey needs a statewide solution that would "socialize" the costs, or spread them across all users, replacing the current system, which is unfair, he said. At present, new solar developments connected when the circuit is open can early on be added for little cost but when it can handle no more, "the last one in has to pay for upgrades for the whole circuit, after a large number of projects got a free ride," Rawlings said.

Kyle Wallace, director of public policy for Sunrun, said that if the modernization fee had been in place in some of the state's busiest solar installation years — from 2016 to 2018 — it would have raised $3 million a year for grid upgrades. That would have been sufficient to improve the grid enough that those circuits now closed to new projects would still be open, he said. ■

PJM News

Dominion's Virginia Offshore Wind Project Gets Some Love in Hearings

Concerns Over Costs Linger

By Martin Berman-Gorvine

Dominion Energy's proposed offshore wind project won support from labor and political leaders in four days of hearings before the Virginia State Corporation Commission (SCC) last week, while commission staff called for ratepayer protections and local residents sought changes to transmission routing (*PUR-2021-00142*).

"There are many challenges facing mega-projects such as this," observed Senior Assistant Attorney General C. Meade Browder Jr. of the Division of Consumer Counsel in remarks on the second day of the hearings May 16-19.

Hearings are scheduled to resume today. The SCC is expected to reach a decision by August.

Virginia Beach Mayor Bobby Dyer (R) testified in support of the 2.6-GW Coastal Virginia Offshore Wind (CVOW) project, saying Dominion "has kept the city well-informed every step of the way."

In addition to the obvious benefit of generating an anticipated 9,500 GWh of carbon-free energy per year, the jobs and economic impact that go along with this project are a critical part of a game-changing environment for us," Dyers said in written testimony. "According to Dominion, the CVOW project will bring over 1,000 jobs to our area at all skill levels [and] over $10 million annually in local and state tax revenue is expected."

In written comments, state Del. Shelly Simonds (D) expressed "strong support" for the project, citing "the urgent need for bold action to address climate change."

Jason Parker, of the Virginia State Building and Construction Trades Council, said the council believes "that it's going to bring lots of good jobs to the Tidewater area and to Virginia. We believe that it's smart economics to diversify our energy source portfolio."

Transmission Line Routing Questioned

Residents of a neighborhood where Dominion is proposing to build transmission lines for CVOW were less excited. Although not opposing the entire project, Virginia Beach resident Jacob Gotliboski testified May 16 that when he and his wife bought their home a year ago, they checked with the city and were told there was no project pending behind their home. He requested that the power lines be placed underground instead of becoming "an eyesore in our backyard."

Dominion Energy's 2.6-GW Coastal Virginia Offshore Wind would be located in a 112,800-acre lease area just east of its two-turbine pilot project, 27 miles off the coast of Virginia Beach. | *Dominion Energy*

Ian Brown, president of the Mayberry Homeowners' Association in Virginia Beach, who said he was also speaking on behalf of three neighboring homeowners' associations, testified May 17 that he was there to "plead with the SCC to require Dominion Energy to use one of their alternate routes" instead of siting the transmission lines nearby.

Protecting Ratepayers

Probably the biggest question still hanging over CVOW, however, concerns its rising cost, and how much of it ratepayers will have to absorb. In November, Dominion announced that the projected cost had increased by more than 20% to $9.8 billion, citing "commodity and general cost pressures." (See *Dominion's OSW Project to Cost $9.8B, up from $8B*.) Testifying May 17, Joshua Bennett, vice president for offshore wind at Dominion, revised that figure to $9.65 billion, a reduction of 1.5%.

In testimony filed with the SCC, commission staff and the state attorney general's Division of Consumer Counsel questioned the cost of the project and called for a performance guarantee on the project's capacity factor. (*See Va. AG, SCC Staff Question Costs on Dominion's OSW Project*.)

Browder testified May 17 that there is a need to "avoid problems like they had in South Carolina and Georgia, where ratepayers were left holding the bag." He was referring to two nuclear projects — Santee Cooper's V.C. Summer, which was cancelled, and Georgia Power's Vogtle, which is still under construction — both of which had major budget overruns.

SCC staffer Katya Kuleshova said the record "may or may not support" granting the project a presumption of reasonableness and prudence because staff identified "certain scenarios" in which it could exceed the 1.4 levelized cost of energy (LCOE) metric, or $12.4 billion in costs incurred prior to the commercial operations date.

If the commission does approve the project, staff said it should require a performance guarantee to mitigate the risks to ratepayers. It suggested protections similar to those imposed by the commission over the construction of the 610-MW coal-fired *Virginia City Hybrid Energy Center*, in which it said Dominion would be *required* to prove the prudence of any cost overruns above $1.8 billion (*PUE-2007-00066*).

In comments filed May 16, John Warren, director of the Commonwealth's Department of Energy, noted that the public interest declaration in state law "requires that the projected levelized cost of energy of the project does not exceed 1.4 times the comparable cost of a conventional simple cycle combustion turbine generating facility." He said the company should be required to guarantee the 42% capacity factor it used in computing the project's LCOE. ■

PJM News

Asthana Celebrates Stakeholder Process at PJM Annual Meeting

RTO Holds First In-person Meeting in 2 Years

By Michael Yoder

Manu Asthana, PJM CEO | *© RTO Insider LLC*

VALLEY FORGE, Pa. — PJM and its stakeholder body were not perfect in solving complex issues in 2021, but the difficult debates led a long list of accomplishments CEO Manu Asthana said May 17 at the keynote address of the Annual Meeting of Members.

The event at the PJM campus marked the first time in more than two years that stakeholders joined for an in-person discussion after the COVID-19 pandemic forced the RTO into remote meetings. It also was the first in-person Annual Meeting since 2019 in Cambridge, Md.

Asthana said the accomplishments of PJM and its members in a remote setting over the last year showed that they are committed to the three-prong strategic pillars laid out in December in the RTO's paper, "*Energy Transition in PJM: Frameworks for Analysis*": the facilitation of decarbonization policies in a cost-effective way through competitive markets while still maintaining reliability; doing the necessary work to "herald" the grid of the future; and creating an environment of innovation. (See *PJM Energy Transition Study Released*.)

"I think the stakeholder body works together well when we can show up with respect to each other's expertise; when we can show up and assume positive intent from each other and from PJM," Asthana said. "I think we have the power to solve really complex problems."

2021 in Review

Asthana called 2021 a "busy year" for the RTO, stakeholders and the energy industry in general.

"Reliability is our No. 1 priority, and I feel great about how collectively we have performed against that priority over the last year," Asthana said.

He harkened back to the February 2021 winter storm and its impacts on his home state of Texas.

"It was a sobering reminder of the importance of what we do, the importance of keeping the lights on for the 65 million people who we serve, which is our No. 1 purpose," Asthana said. "I felt the weight since I took this job of that responsibility; after [Winter Storm] Uri, I have felt it even more."

Stakeholders returned Tuesday for the first in-person meeting at PJM in more than two years for the Annual Meeting of Members. | *© RTO Insider LLC*

PJM and its members have seen an "immense amount of work" over the last year, Asthana said, with the workload continuing to "accelerate" because of the energy transition to renewable resources and the growing number of them in the interconnection queue.

Asthana highlighted changes to the minimum offer price rule, updated effective load-carrying capability rules, and the work started at the Resource Adequacy Senior Task Force to attempt to design a clean energy or state policy procurement market.

The first-ever use of the State Agreement Approach (SAA) with New Jersey on developing offshore wind plans and becoming the first RTO to publish marginal emissions data on a nodal basis were also highlights. Asthana said the SAA is serving as a model for RTOs and ISOs around the country.

For 2022, Asthana said, PJM and stakeholders need to continue the successes of the last year by making sure the work of the RASTF is done correctly.

"I think it's really important to get the word of the RASTF right because we're asking things of our market that we didn't used to ask," Asthana said. "And we're asking them to facilitate the policies of 13 different states and D.C. And those policies are starting to diverge."

Asthana finished his remarks by acknowledging PJM's two major anniversaries for 2022: 95 years as an organization, and 25 years since it FERC designated it an ISO. (It became an RTO in 2002.)

"This 95 years, this 25 years, belongs as much to all of you as it belongs to the people that work at PJM. I want to say thank you for supporting the RTO and for supporting our important mission and helping us get better over the last 95 years."

PJM also announced that three of its Board of Managers were re-elected to their positions.

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

Terry Blackwell, O.H. Dean Oskvig and Mark Takahashi will serve additional three-year terms. Takahashi joined the board in 2016 and currently serves as chair. Blackwell joined in 2015, and Oskvig joined in 2016. ■

PJM News

PJM MRC Preview: May 25, 2022

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

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

Markets and Reliability Committee

Consent Agenda (9:05-9:10)

B. Stakeholders will be asked to *endorse* proposed revisions to *Manual 3: Transmission Operations* resulting from a periodic review. The changes include updating stability limitation process language in accordance with FERC docket ER21-1802 and aligning language with the current TO/TOP matrix language.

C. The committee will be asked to *endorse* proposed revisions to *Manual 11: Energy & Ancillary Services Market Operations*, *Manual 12: Balancing Operations* and *Manual 28: Operating Agreement Accounting* addressing conforming changes for stability limits in markets and operations. FERC ruled in February that PJM has the right to refuse lost opportunity cost payments to generators that are temporarily required to limit output to prevent loss of synchronization and additional strain on the system during transmission outages. (See *FERC: PJM Right to Block Gen Stability Limit Payments*.)

D. Members will be asked to *endorse* proposed revisions to *Manual 21A: Determination of Accredited UCAP Using Effective Load Carrying Capability Analysis* addressing an effective load-carrying capability model run timing update. PJM rules allow voluntary submission of unit-specific wind and solar parameters for development of backcasts for newer resources, but current manual language has an expiration date of March 1 for voluntary submissions. The quick fix would remove the March 1 expiration date.

E. Stakeholders will be asked to *endorse* proposed revisions to *Manual 36: System Restoration* resulting from a periodic review. The minor changes include replacing System Restoration Coordinators Subcommittee with System Operations Subcommittee and updating the under-frequency load shed table with new data.

Endorsements (9:10-10:20)

1. Start-up Cost Offer Development (9:10-9:30)

The committee will be asked to *endorse* a revised PJM/Independent Market Monitor proposal addressing start-up cost offer development worked on through the Cost Development Subcommittee, including revisions to the *tariff*, *Operating Agreement* and *Manual 15: Cost Development Guidelines*. Stakeholders endorsed the proposal at the Market Implementation Committee's meeting April 13. (See "Start-up Cost Offer Development Endorsed," *PJM MIC Briefs: April 13, 2022*.)

2. Dynamic Line Ratings (9:30-9:50)

Members will be asked to *endorse* a proposal — and corresponding revisions to *Manual 1: Control Center and Data Exchange Requirements*, *Manual 3: Transmission Operations* and *Manual 3A: Energy Management System Model Update and Quality Assurance* — to address interim measures for the integration of dynamic line ratings (DLRs) into PJM operations. PPL is tentatively scheduled to go live in June with a DLR system on some of its transmission lines, and PJM wants to have operational implementation in place pending submission of the RTO's FERC Order 881 compliance filing.

3. Application of Designated Entity Agreement (9:50-10:20)

Stakeholders will be asked to *endorse* a proposed solution and corresponding *OA* revisions addressing the application of the designated entity agreement. FERC rejected a filing in February by PJM in its Order 1000 compliance docket that would have updated the definition of "designated entity," agreeing with a coalition of stakeholders that it infringed on their due process rights. (See *FERC Rejects PJM Redefinition of 'Designated Entity' Under Order 1000*.) ■

— Michael Yoder

PJM News

FirstEnergy Shareholders Approve Smaller Board of Directors

Activist Proposal to Enable Shareholders Owning 10% of Shares to Call Meetings Fails

By John Funk

Shareholders at FirstEnergy's virtual annual meeting May 17 approved a smaller board of directors, as agreed to by the company earlier this year to *resolve* shareholder lawsuits stemming from the company's bribery of a top Ohio lawmaker for a financial bailout for two nuclear power plants.

Six long-time directors agreed not to stand for re-election, according to the agreement in the court *stipulation*. All had been named as defendants in the lawsuits.

At 12 directors, the board returns to its traditional size. Among the 12 are two directors first appointed in 2021 who are employees of Icahn Enterprises. (See *FERC Authorizes Icahn Employees for FE Board*.) Icahn owned 3.32% of the company's outstanding shares as of March 3, FirstEnergy institutional investment *records* show.

A third new director is connected with Blackstone, which *invested* $1 billion in FirstEnergy stock at the end of last year and asked for a seat on the board. Blackstone owned 5.05% of outstanding shares as of Dec. 31, 2021, according to FirstEnergy.

John W. Somerhalder II, vice chairman and executive director of the board since last year, was elected chair of the board. He previously served as interim director and CEO of CenterPoint Energy.

Shareholders also rejected two proposals by activist shareholders. One from California-based John Chevedden would have amended the company's shareholder rights policy to give shareholders with a combined 10% of outstanding shares the right to call special shareholder meetings.

The board recommended shareholders reject the proposal — which has appeared periodically in annual meetings since 2011 — and added that it plans to set the combined ownership threshold for such special meetings at 20% in 2023.

A second proposal, offered by Steven J. Milloy of Potomac, Md., would have required the company to investigate whether child workers were involved in mining cobalt in the Congo before creating electric vehicle charging stations.

Shareholders rejected both proposals, according to unofficial results, which the company must still file with the Securities and Exchange Commission.

Following the vote, Donald Misheff, outgoing chairman and one of the six veteran board members who did not seek re-election, said it had been "a great privilege to serve on your board. Under the leadership and guidance of our 2022 director nominees and our management team, I'm confident FirstEnergy will continue to move forward as a stronger, customer-focused organization."

In brief, previously recorded remarks following Misheff, CEO Steven Strah said the changes enacted by the board and his management team over the last two years have put the company in a position to recover its reputation as well as its profitability.

"In 2021, we embraced pivotal changes — changes which advanced a culture that prioritizes integrity and accountability. We also embraced transformation and innovation to reimagine our company and reshape it into a more forward-thinking, premier utility.

"In the last year, we've implemented substantial actions to resolve the challenges we've been working through since 2020. These actions include strengthening the leadership team, building a best-in-class compliance program and substantially modifying our approach to political engagement," Strah said.

The proxy statement outlining the issues taken up at the annual meeting can be found *here*. ■

FirstEnergy's Akron, Ohio, headquarters | *DangApricot, CC BY-SA-3.0, via Wikimedia*

PJM News

NJ Rate Counsel Adds to OSW Easement Opposition

Ørsted Cable Proposal Under Scrutiny

By Hugh R. Morley

The New Jersey Division of Rate Counsel added its voice Thursday to community opposition facing Ørsted's proposal to run cables bringing electricity from its Ocean Wind offshore wind project through the tourist town of Ocean City to an inland substation.

During a hearing on the plan, Deputy Rate Counsel T. David Wand told the Board of Public Utilities that his agency has "some concerns" about the route that the Danish developer is proposing to run the cable, which would take it across several land parcels upgraded with funding from the state's *Green Acres program*.

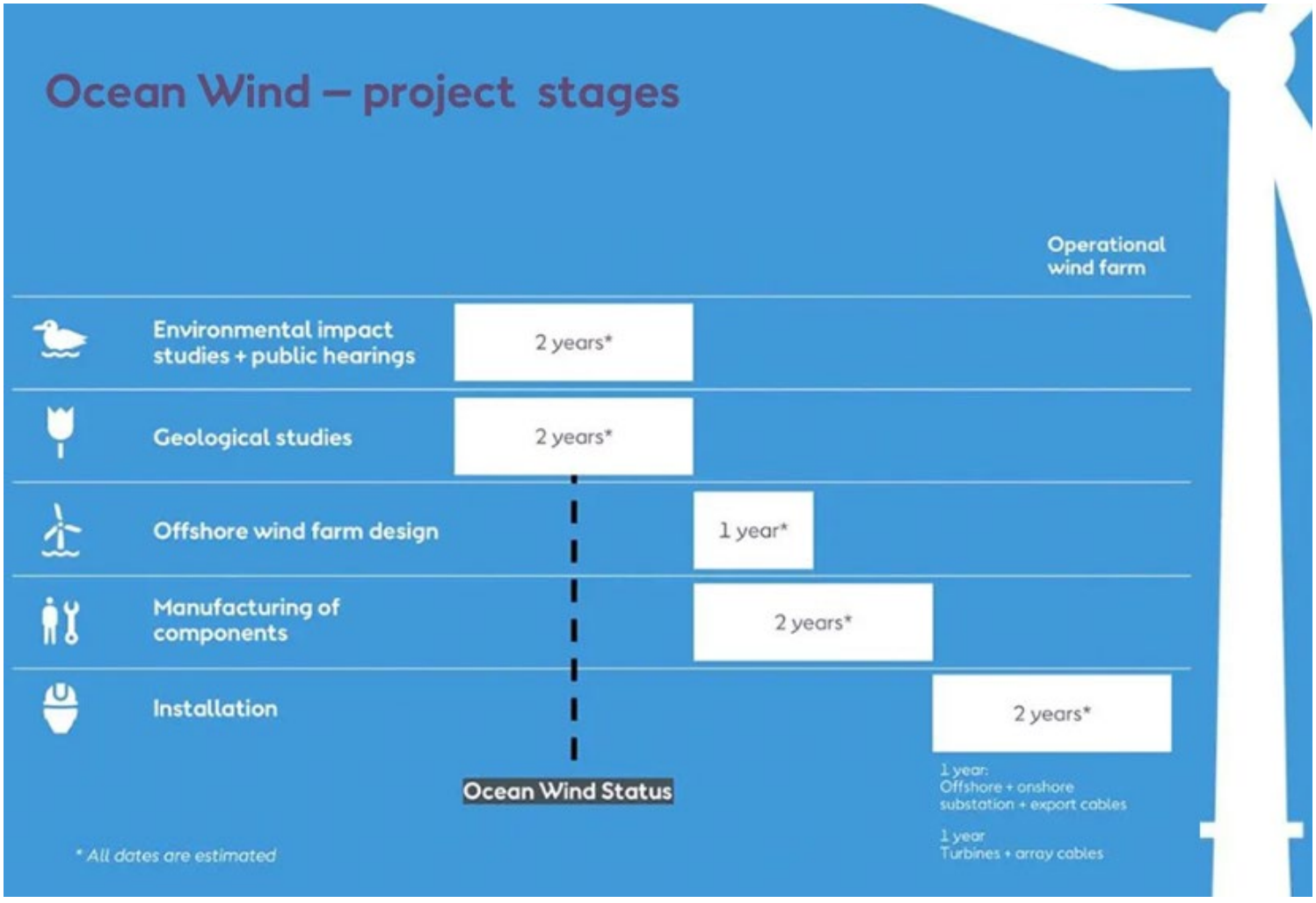
The project is the first test of a new law approved in July that allows offshore wind developers to override local officials for the siting, construction and operation of "wires, conduits, lines and associated infrastructure" on public land if it's needed to connect an offshore wind project to the grid. To get BPU backing for the easement, the developer must show that it is "reasonably necessary" for the project's construction.

Ørsted is seeking a 30-foot-wide easement running the length of the city's main island, which is about 8 miles long, for a 275-kV cable that will connect Ocean Wind's turbines, about 15 miles offshore, to the PJM grid at a substation, sited on a closed coal-fired power plant in neighboring Upper Township.

Wand said that Ørsted has testified in the past that it had identified an alternative route to the one that would run over the Green Acres land, along an abandoned railroad right of way. The route, "although longer in distance, may result in fewer disturbances," Wand said.

Ørsted, which discarded this route as a possibility, has declined to provide its cost nor that of any of the routes it has analyzed, Wand said. He recommended that the BPU require the developer provide that information.

"Although the company maintains that it bears the risk of the preferred route's cost, Rate Counsel believes the board should have the opportunity to review ongoing project costs," he said. That would "ensure that the board-approved offshore renewable energy certificate price, which was established to incentivize development of offshore wind, was not set at an unreasonably high or low rate."



| *Ørsted*

PJM News

Wand added that the route chosen could affect the cost of upgrading the grid to accommodate the power from Ocean Wind, so the developer also should be required "to demonstrate its preferred route is also the least-cost plan when including the transmission upgrade costs to minimize cost impact repairs."

The Rate Counsel also said it has concerns about the BPU's "procedural approach" to soliciting public input and noted that the board has "allowed for discovery, testimony, and public and evidentiary hearings" to illuminate other, similar, land-use questions, which has not happened in the easement case.

BPU President Joseph L. Fiordaliso rebutted what he called Wand's "insinuations" and said "none of this has been done in secret. … This board is committed to transparency."

Negotiations

Among the dozen or so speakers at the hearing were Ocean City residents who complained that the hearing had not been widely publicized — which Fiordaliso denied — and opposed not only the easement but the project as a whole.

Yet the opposition was more muted than a March 7 hearing on the easement held by Ørsted, at which more than 35 people spoke, many of them opposed to the project. (See *Ørsted NJ Wind Project Faces Local Opposition*.)

Madeline Urbish — head of government affairs and policy for Ørsted, who represented the developer at the meeting — said that it had been in "extensive outreach" with Ocean City since 2019 about "property right and consents" for the project and to acquire the easement. Those talks continued into early 2022, she said.

"However, Ocean City has not been willing to reach the necessary agreements to allow the process to proceed with the acquisition of the easements or for the New Jersey [Department of Environmental Protection] permit and accompanying environmental review," Urbish said. As a result, Ørsted filed the petition seeking BPU approval to move ahead anyway under the new law.

The developer "remains ready and willing to come to a voluntary agreement with Ocean City," she said. But she added that "time is of the essence if the project is going to meet its commitments to New Jersey."

Asked after the hearing if Ørsted wanted to respond to the Rate Counsel's comments, or any others voiced at the hearing, Urbish did not respond directly, saying: "These public hearings are an essential part of the petition process, as outlined by the state to provide regulatory oversight and encourage public participation, and we are committed to adhering to this important process."

Local Construction Impact

Residents said they are concerned about the disruption, health issues and the negative impact of the project on the ocean view, marine life and tourism, the last of which the town relies heavily on.

"We know that these cables are going to emit EMFs [electromagnetic fields], which have been linked to brain cancers, bone cancers, blood cancers, birth defects," said Suzanne Hornick, an Ocean City resident and environmental activist. "We don't want this here. And if the BPU approves this, you're going to have serious resistance, including people laying across the beach."

Mike DeVlieger, a former Ocean City councilman, said that "overwhelmingly our community is against this, and it's not even close."

"They're against this line coming up through our beaches; they are against it being run through our Green Acres land; they're against it being run past our playgrounds and our ball fields and just through our streets," he said. "This presents medical concerns; it can present environmental concerns."

DeVlieger suggested that Ørsted consider an alternative route. "They have an alternative viable way of doing this. And they are doing what they want to do, not what they can do. And that's wrong."

But Frank Worrell, an Ocean City resident, said the impact of climate change around the country is too great to ignore.

"I believe in climate change. I believe we need these wind turbines and [to] build them as economically and as safe — and I underline safe — as you can," he said. "If you're going to go through 35th Street and make it safe, then I am all for it. I think climate change is of major concern, and I wish people would open up their eyes and get on board."

Three environmental groups — Environment New Jersey, Sierra Club and New Jersey League of Conservation Voters — emphasized the threat of climate change and highlighted the job creation and economic benefits of offshore wind projects.

Richard Isaac, chairman of the Sierra Club's New Jersey chapter, said the organization takes Green Acres diversions very seriously but is not concerned about the Ørsted project.

"In this case, here in Ocean City, the deep horizontal drilling will still leave every last inch of the beach available to the public [and] will not only help address climate change but, in doing so, will also help slow down sea level rise and maintain local businesses," he said. "This proposal is clearly a win-win. From everything we've seen, we don't have concerns regarding the health or potential hazards."

Norah Langweiler, a resident of Egg Harbor Township, about 10 miles from Ocean City, said the "threats of climate change really feel more present than ever."

"I totally understand that folks have concerns about the transmission lines coming onshore," she said. "But any new infrastructure project brings some level of construction, and offshore wind turbines also bring jobs, energy security and resilience for the future by doing our part to mitigate climate change." ■

PJM News

PJM Releases Phase 2 of Energy Transition Study

By Michael Yoder

VALLEY FORGE, Pa. — PJM highlighted the release of the second phase of its multiyear study to examine the grid's transition to more renewable energy during last week's Annual Meeting of Members.

Emanuel Bernabeu, senior director in PJM's applied innovation and analytics department, *presented* the report, "*Energy Transition in PJM: Emerging Characteristics of a Decarbonizing Grid*." The report expands on the paper released by the RTO in December. (See *PJM Energy Transition Study Released*.)

Bernabeu said PJM wanted the studies to specifically look at the impacts on the RTO's grid while also examining comparisons to other territories.

"Even though we're in the same business, it's amazing how different the system behaves," Bernabeu said. "We're not California; we're not Texas. And it's important to translate what it means for us."

The results of Phase 2 suggested several areas for PJM and its stakeholders to focus on.

Bernabeu said it revealed that electrification will shift the seasonal resource adequacy risk from summer to winter. Traditionally resource adequacy risk in PJM has been concentrated in the summer season; in an accelerated transition scenario in the study, 95% of the load-loss risk is experienced in the summer and the remaining 5% in winter.

But electrification has an "asymmetrical impact," Bernabeu said, with demand growth in winter of 15% more than doubling summer totals of 7%, driven by winter heating. The switch creates a "pronounced shift in both the seasonal and hourly risk profiles," including a new seasonal split of load-loss risk of 20% in summer and 80% in winter.

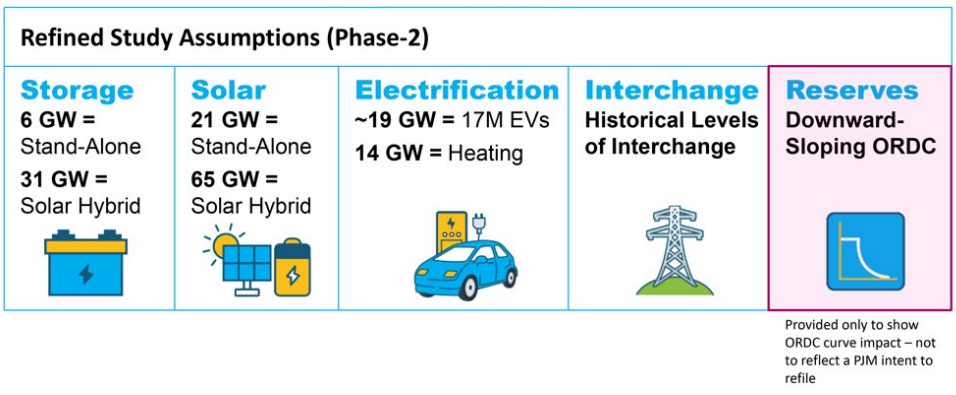
Bernabeu said about 60% of the load-loss risk in winter is concentrated during the last four hours of the day, creating a "slightly higher, but substantially wider," peak demand compared to summer.

Another focus area of the study indicated market changes are needed to incentivize flexibility and "mitigate uncertainty," Bernabeu said, to accurately reflect the flexibility needs on the system. He said the current reserve market construct uses a two-step operating reserve demand curve (ORDC), which "fails to capture the uncertainty" of the rising number of renewable resources.

Study simulation results found the two-step ORDC procures less than one-third of needed reserves on the system, and with an average clearing price of 2 cents/MWh, it also "fails to send long-term market signals to incentivize flexibility," Bernabeu said.

The integration of renewable resources is also increasing the need for balancing resources to meet forecasted ramping requirements. In the accelerated scenario of the study, the driver for the ramping requirements is split, with 50% coming from existing load ramping and 50% from the variability of renewable resources.

Simulation results showed a "drastic increase" in the net-load ramping requirement, Bernabeu said, with a 90th percentile slope of 10 GW/hour and a maximum slope exceeding 20 GW/hour, calling it a "very severe run today." He said on certain extreme days, the total climb from the beginning to the end of the ramping period was 73 GW, which is more than peak summer loads in NYISO and ISO-NE combined.



Study assumptions in Phase 2 of PJM's energy transition study. | *PJM*

Emanuel Bernabeu, PJM | © *RTO Insider LLC*

Thermal resources performed a "critical role in maintaining reliability" in the study, Bernabeu said, supplying 50% of the ramping needs, with 42% coming from gas generation and 8% from coal. Hydro resources, including pumped-hydro storage, delivered up to 15% of the ramping needs.

The study also looked at how energy storage enhances flexibility; at the same time, seasonal capacity and energy constraints will require transmission expansion, long-term storage and other emerging technologies for reliability. Renewable integration scenarios included up to 6 GW of standalone storage and 30 GW of storage connected to 35 GW of solar hybrid resources.

Storage had a "profound impact" in the ancillary services market, Bernabeu said, providing up to 80% of synchronous reserves. But transmission congestion patterns changed "drastically," he said, with overall congestion increasing by 60%.

"As you increase the penetration of renewables, you are going to need a broader set of solutions," Bernabeu said.

The next phase of the study will include more sensitivities, including the growing number of coal and gas generation retirements, and federal and state renewable energy policies.

"We're not proposing solutions here," Bernabeu said. "All we want to do is to share the conversation, identify gaps and opportunities, and potentially highlight what things may need to change." ■

SPP News

SPP Reviewing its M2M Processes After MISO Monitor's Comments

New SAG Members Welcomed

By Tom Kleckner

SPP staff May 13 said they are conducting internal discussions on how they manage MISO constraints in their RTO's day-ahead market as part of their market-to-market (M2M) process.

Clint Savoy, SPP senior interregional coordinator, told the Seam Advisory Group that the MISO Independent Market Monitor's recent comments on SPP's M2M management has caused staff to review their processes.

"We're doing an assessment on the impacts of changing our process and evaluating the impacts on price convergence of market-to-market settlements … the impact on uplifts and virtual payments," he said. "We want to understand the impact of the changes before we make those changes."

Savoy said members should expect more detailed presentations on the issue coming to the group and SPP's Market Working Group.

MISO Monitor David Patton said last month 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 has said 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 (FFE) values.

The discussion came as SPP accrued another $24.1 million in M2M settlements from MISO during February, its second-highest monthly total since the process began in March 2015. That pushed the amount MISO owes its neighbor for congestion to $279.1 million.

Temporary flowgates accounted for $18.4 million in settlements during the month, binding for 2,064 hours. The two grid operators exchange settlements for redispatch based on the non-monitoring RTO's market flow in relation to FFEs.

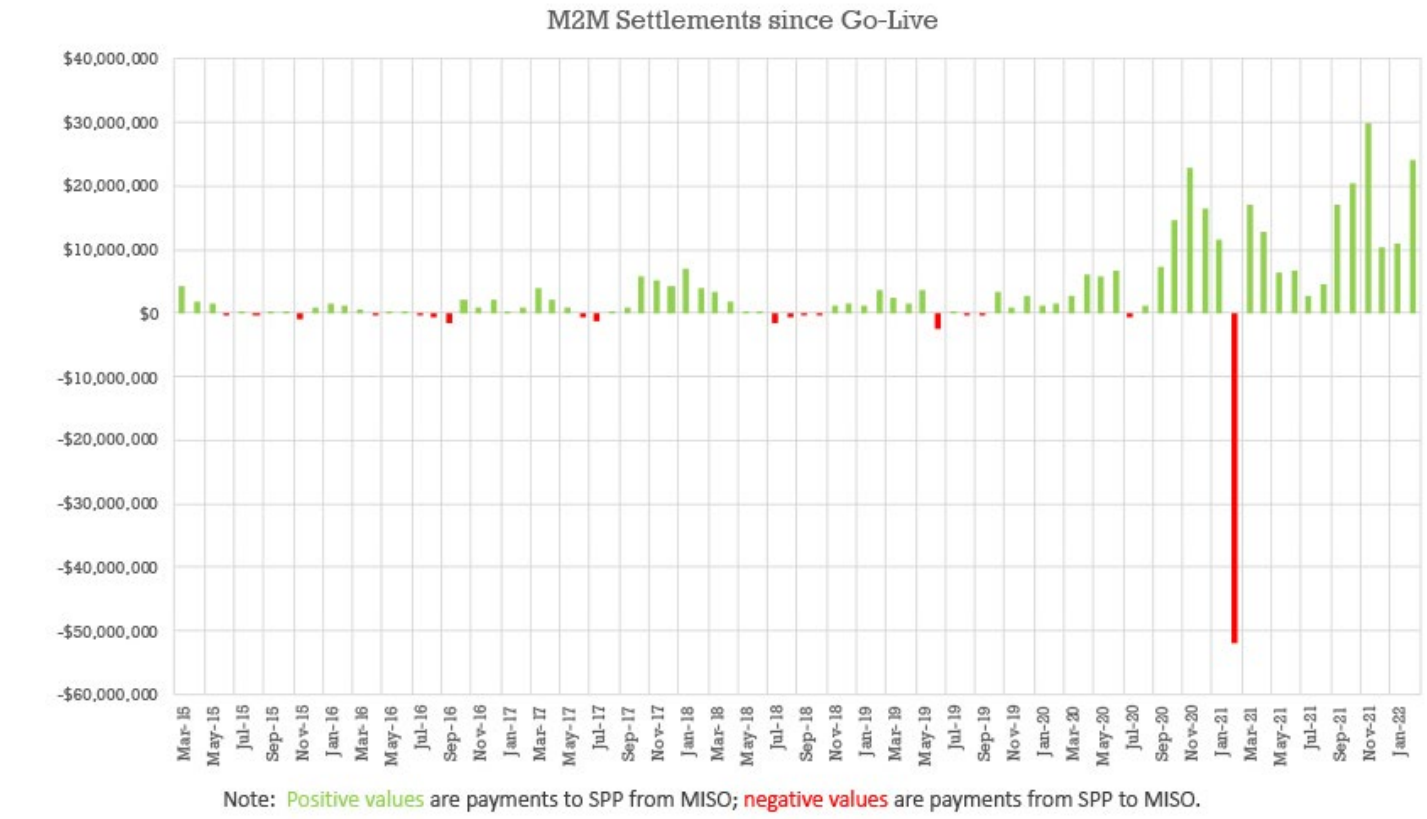
It was the 12th straight month M2M settlements have accrued in SPP's favor and the 27th time in the last 29 months. SPP has piled up nearly $180 million in settlements since September 2020, despite more than $50 million in settlements to MISO during the severe winter storm in February 2021.

New Members Welcomed

The SAG welcomed three new members: ITC Holdings' Raju Brahmandhabheri, Arkansas Electric Cooperative Corp.'s Rick Running and the American Clean Power Association's Daniel Hall, a former member of the Missouri Public Service Commission.

American Electric Power's Jim Jacoby, the group's chair, welcomed the diversity the new members bring in representing their companies' differing interests.

"I think it brings a different perspective to some of the issues that we're dealing with," he said, "So, thank you for putting your name into the hat and being part of the team." ■



Market-to-market settlements continue to accrue in SPP's favor. | *SPP*

SPP News

FERC Orders Show-cause Proceedings for SPP Utilities' Tx Rate Protocols

By Michael Yoder

FERC on Thursday ordered show-cause proceedings on the transmission formula rate protocols of four utilities in SPP, saying they do not appear to provide customers and regulators the ability to challenge the resulting rates.

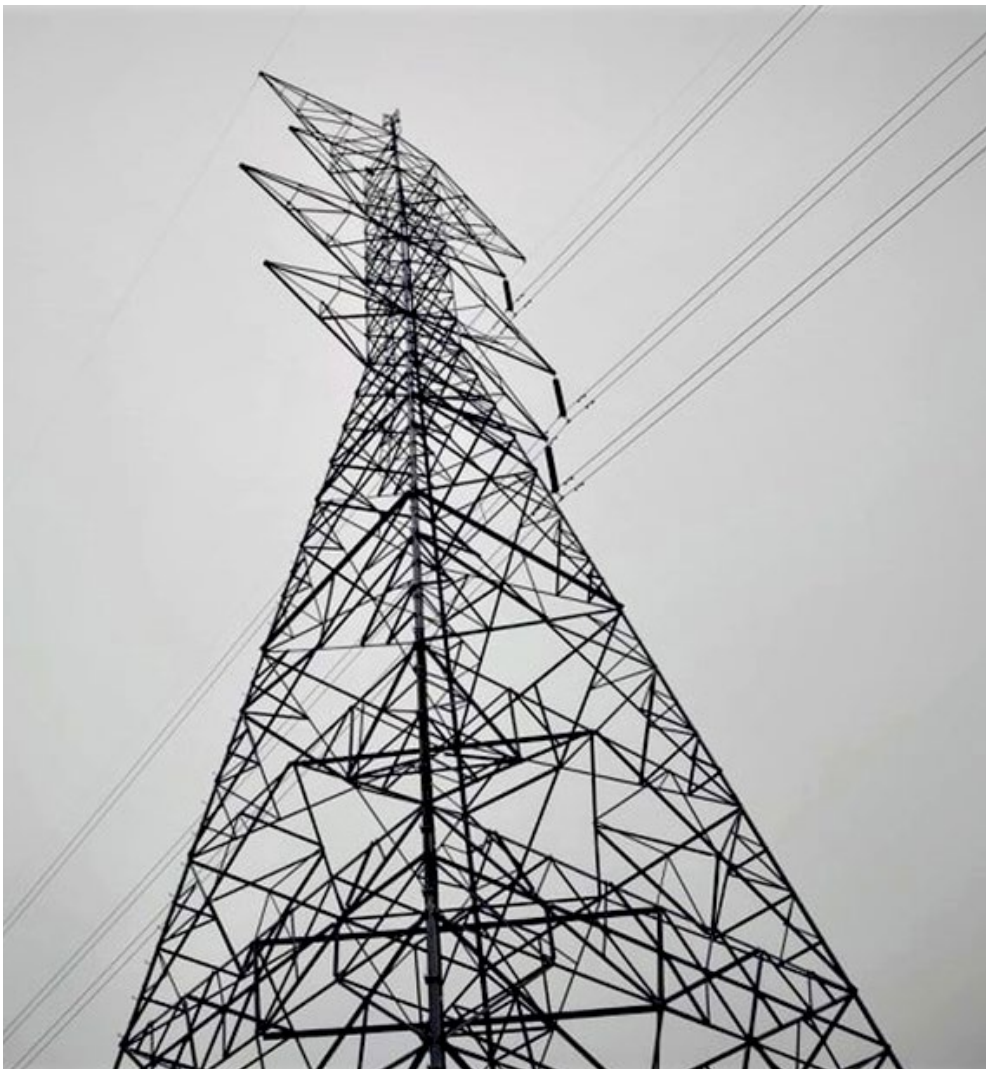
The commission ordered Grand River Dam Authority (*EL22-44*), Lincoln Electric System (*EL22-45*), Nebraska Public Power District (*EL22-46*) and Omaha Public Power District (*EL22-47*) to either show why their protocols remain just and reasonable, or explain what changes they could make to address FERC's concerns.

FERC said the protocols did not meet the standards it has required since a 2012 order regarding MISO's transmission owners. Under formula rates, the commission does not require TOs to make FPA Section 205 filings to update their annual transmission revenue requirements. Instead, the utilities update the input data in the formulas.

"Safeguards need to be in place to ensure that the input data is correct; that calculations are performed consistent with the formula; that the costs to be recovered in the formula rate are reasonable and were prudently incurred; and that the resulting rates are just and reasonable," the commission said in each of the orders.

FERC found that each of the four utilities' protocols fell short on one or more of the following:

- "the scope of participation (i.e., who can participate in the information exchange);
- the transparency of the information exchange (i.e., what information is exchanged); and
- the ability of customers to challenge transmission owners' implementation of the formula rate as a result of the information exchange (i.e., how the parties may resolve their potential disputes)."



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In the 2012 order, the commission ruled that MISO's protocols inappropriately limited who could participate in the review processes and directed the RTO and its TOs to revise them to include all interested parties, including customers under the MISO tariff, state utility regulatory commissions, consumer advocacy agencies and state attorneys general.

The commission ordered each of the SPP utilities to respond within 60 days. ■

Midwest news from our other channels

Mich. Adding EV Chargers to State Parks — NetZero Insider

MRO Annual Reliability Conference Spotlights Need for Generation and Tx — ERO Insider

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

Company Briefs

Adrian Rodriguez to Lead Xcel Energy Southwest

Adrian Rodriguez, senior vice president of regulatory and strategy at Puget Sound Energy, will assume the role of president of Xcel Energy Southwest, effective June 1.

Rodriguez will succeed David Hudson, who is retiring after 38 years with the company.

More: *Xcel Energy*

Ameren Illinois President to Retire

Ameren Illinois President Richard Mark last week announced that he will retire on Aug. 1.

Mark was promoted to president in 2012 after serving as an executive with the utility for 10 years. He has been recognized by the magazines *Black Enterprise* and *Savoy* as one of the top 100 most influential Black businessmen in the U.S., Ameren said.

The company has yet to announce a replacement.

More: *Belleville News-Democrat*

Delia Patterson Elected President of EBA

Energy Bar Association members elected Delia D. Patterson as president of its 2022-2023 board of directors at its annual meeting in D.C. on May 11.

The membership also elected David Martin Connelly of Balch & Bingham, as president-elect; Conor Ward of WEC Energy Group, as vice president; Floyd Self of Berger Singerman, as secretary; Traci Bone of the California Public Utilities Commission, as assistant secretary; Nicholas Pascale of the National Rural Electric Cooperative Association as treasurer; and Daniel Frank of Eversheds Sutherland, as assistant treasurer.

More: *EBA*

Ford Sells Another 7 Million Shares of Rivian for $188.2M

Ford unloaded another 7 million shares of electric vehicle startup Rivian Automotive stock earlier this month for about $188.2 million.

The sale follows Ford selling 8 million shares earlier in the week for another $214 million. Ford's stake in Rivian now sits just below 10%. At the time of Rivian's initial public offering in November, Ford had a 12% stake in the company.

"We think it's prudent at this point to monetize a small portion of the investment," Ford spokesman Ian Thibodeau said in a statement.

More: *The Detroit News*

SaskPower Hoping to Expand Capacity

SaskPower last week announced it had applied to SPP to upgrade its current transmission line that runs from southeastern Saskatchewan into North Dakota from 150 MW to 650 MW by 2027.

The move would allow SaskPower to continue its shift to more renewable energy while attempting to reduce greenhouse gas emissions by 50% from 2005 by 2030. A decision is expected by the end of spring.

More: *West Central Online*

SPP Names Directors to Support Market Operation, Development

SPP last week announced the promotions of Steve Johnson to be director of markets administration and Yasser Bahbaz to be director of markets development, effective June 16.

Johnson will direct the administration and operation of the day-ahead market, real-time energy and operating reserve markets, tariff administration, and interchange functions, while Bahbaz will direct their development and analysis.

More: *SPP*

Tri-State Issues RFP for New Renewable Resources

Tri-State Generation and Transmission Association last week issued an all-source request for proposals for new clean energy generation as part of its 2020 Electric Resource Plan.

Tri-State is seeking renewable and carbon-free resources, which could include wind, solar, hydroelectric, geothermal, biomass and storage resources, including standalone battery systems, pumped-storage hydroelectric, compressed air energy storage systems or renewable resources co-located with thermal or battery storage.

The cooperative intends to close the bidding process this summer.

More: *Tri-State*

Federal Briefs

BLM Approves Renewable Tx Line in Maricopa County

The Bureau of Land Management last week issued a final decision on a proposed 500-kV transmission line crossing public lands in Maricopa County, Ariz.

HV Sunrise requested a 30-year right-of-way grant to construct, operate and maintain the line. BLM evaluated several routes in its environmental assessment and chose the preferred route that crosses about 1.14 miles of federal land.

When completed, the line will deliver solar energy from the 150-MW Harquahala Sun generation facility to the grid.

More: *Daily Independent*

Carbon-removal Technologies to Get $3.5B Federal Investment

The Department of Energy last week said it will release $3.5 billion in federal funding to groups developing carbon-capture technologies.

The funding will support four large-scale regional direct air capture hubs that will include a network of carbon dioxide removal projects that each have the capacity to remove 1 million tons annually. Those projects will prioritize community engagement and environmental justice.

Companies such as Carbon Engineering and

Climeworks are building direct air capture facilities that use giant fans to suck carbon dioxide out of the air and store it underground, or make synthetic fuel, soft drinks and concrete.

More: *The Associated Press*

DOE Extends Application Deadline for Nuclear Rescue Program

The Department of Energy last week said it has extended the deadline for nuclear power plants to apply for federal funding by 47 days under the Civilian Nuclear Credit Program, to July 5.

The move came two days after the Edison Electric Institute and Nuclear Energy Institute sent a letter to Energy Secretary Jennifer Granholm requesting the extension on behalf of their members.

Under the program, owners of nuclear reactors that are scheduled to retire would get priority for the first portion of $6 billion in funding. The funding comes from the Infrastructure Investment and Jobs Act.

More: *Reuters*

EVs Surpass Phones as Top Driver of Cobalt Demand

Electric vehicles overtook smartphones and other high-tech devices for the first time last year as the main driver of cobalt demand, with the sector consuming 59,000 tons of the metal, or 34% of the total globally, according to the Cobalt Institute.

Cellphone manufacturers consumed 26,000 tons of the metal, while laptops and tablets accounted for 16,000 tons of the total demand, which reached 175,000 tons.

Benchmark Mineral Intelligence estimates the global lithium industry needs as much as $42 billion of investment by the end of the decade to meet demand. Mining.com's EV Metal Index, which tracks the value of battery metals in newly registered passenger EVs around the world, totaled $1.5 billion in December, an increase of 192% over the same month of 2020.

More: *Mining.com*

WoodMac: Global OSW Market to Reach 330 GW by 2030

Wood Mackenzie last week released a report predicting that 24 countries around the world will have large-scale offshore wind facilities and bring the world's total installed capacity to 330 GW by 2030, from 34 GW in 2020.

The research and consultancy group also said it expects investments in the global offshore wind industry to hit $1 trillion by 2031.

According to the report, as investments grow, the criteria for winning tenders will no longer be driven by price proposals. A set of four major criteria is also expected to come: local content, systems integration, ecological mitigation and sustainability, with the focus on each to differ in individual markets.

More: *Renewables Now*

State Briefs

CALIFORNIA

Homeowners Sue SoCalEd, Claim Faulty Equipment Sparked Coastal Fire

A group of Laguna Niguel homeowners last week sued Southern California Edison, claiming that its equipment was to blame for a fire that destroyed more than 20 homes on May 11.

The origin of the fire remains under investigation, but the lawsuit claims that the fire was sparked by SCE's "negligently operated, repaired and maintained electrical equipment" and failure to clear brush around the equipment.

More: *Los Angeles Times*

MICHIGAN

MSU Recertifies Campus Power Plant

FERC last week granted recertification of qualifying facility status for a power plant on Michigan State University's campus.

The university's board of trustees in February reapplied for QF status under the Public Utility Regulatory Policies Act for the 120-GW T.B. Simon Power Plant. MSU completed capacity upgrades to the natural gas-fired cogeneration facility in East Lansing, necessitating QF recertification.

The university added about 28 GW worth of reciprocating internal combustion engines and is in the process of adding an auxiliary medium pressure package boiler to provide peaking and emergency steam to campus buildings. The boiler will be ready for use in mid-July.

MSU said the upgrades will help it meet FERC's efficiency and operating standards for qualifying cogeneration facilities. The commission said the university met all requirements and allowed the recertification.

More: *FERC*

MINNESOTA

PUC Says CO2 Pipelines Should be Regulated

The Public Utilities Commission last week unanimously deemed carbon dioxide pipelines hazardous and will now require them to get state approval to be built.

The PUC must approve pipelines that carry hazardous materials, and state law does specifically list carbon dioxide as hazardous. Thus, commissioners interpreted the 1988 law as including CO_2 pipelines. The commission will now initiate a rulemaking process, which will likely take a year, to codify CO_2 as a hazardous pipeline material for regulatory purposes.

The decision affects two multibillion-dollar pipelines, including the Midwest Carbon Express and the Heartland Greenway.

More: *Star Tribune*

MISSISSIPPI

DeSoto County to Get Solar Project

The Public Service Commission last week signed off on a $90 million solar farm.

Clearway Energy plans to build the 600-acre farm about a mile outside of Walls. The

energy produced will power a Toyota plant in Blue Springs.

More: *WMC*

NEW MEXICO

PNM Seeking Proposals for 700 MW of New Resources

Public Service Company of New Mexico last week issued a request for resources and is asking developers to submit proposals that could add up to 700 MW.

PNM said the Public Regulation Commission's selection of a San Juan coal-fired generating plant replacement plan left the power system short 120 MW and blamed the commission's "overreliance on regional market purchases and demand response programs" for the problem. PNM said it "is effectively facing capacity deficits of as much as 450 MW needed to reliably serve our customers during the 2023 summer."

Those new resources would need to have guaranteed in-service date by or before May 1, 2023, or May 1, 2024.

More: *Clarion Energy*

NEW YORK

1M+ Households Late on Energy Bills

As of March, about 13% of all residential households — about 1,137,000 in total — are 60 days in arrears on their utility bills, with an average of $1,427.71 in debt, according to WE ACT for Environmental Justice. The debt level is even higher for Consolidated Edison customers, averaging about $2,085 per household.

More than 471,629 disconnection notices were sent out in April 2022 for residential customers across the state. For commercial customers, there were more than 77,651 disconnection notices overall, with about 2,540 already carried out. National Grid had the highest number of service terminations (882), followed by Con Ed (831).

The state's utility debt surpassed $2.1 billion during the month and was still mounting.

More: *Inside Climate News*

OHIO

Former PUCO Chair Haque Texted that FirstEnergy Charge Likely Unlawful

Newly disclosed texts from former Public

Utilities Commission Chair **Asim Haque** suggest he knew a grid modernization charge that cost ratepayers nearly $500 million was "likely to be found illegal and could not be refunded."

Haque and former FirstEnergy Vice President Michael Dowling exchanged text messages on the same day in June 2019 that the state Supreme Court held the charge unlawful but ruled against refunding ratepayers. Haque had resigned from the commission two months earlier to become PJM's executive director for strategic policy and external affairs. Haque is now PJM's vice president of state policy and member services..

The text suggests the ruling wasn't a surprise to Haque and that the failure to provide for any refund in the 2016 order authorizing the charge was deliberate. In an email response to Eye on Ohio, Haque said he was joking. A transcript of the texts was among thousands of pages FirstEnergy provided to the Office of the Consumers' Counsel as part of its investigation into the company's bribery scandal involving a bailout for two of its nuclear plants.

More: *Eye on Ohio*

Gas, Electric Companies Cut off Service 270,000 Times amid Pandemic

Seven gas and electric companies in the state shut off service for nonpayment more than 270,000 times over one year during the COVID-19 pandemic as their corporate parents reported billions in profits, according to an analysis of regulatory and financial flings.

After prohibiting utility shutoffs for the early months of the pandemic, the Public Utilities Commission began allowing them for nonpayment in fall 2020. For example, between June 2020 and May 2021, AEP Ohio cut off power on 124,157 occasions because of unpaid bills totaling about $60 million. That same year, AEP made $2.49 billion in net income. Duke Energy's Ohio subsidiary cut off service on more than 29,500 occasions over about $15.6 million in arrearages. It reported $3.6 billion in net income in 2021.

PUCO spokesman Matt Schilling said customers are legally liable for their overdue balances or arrearages. While disconnections for nonpayment are suspended, bills are not forgiven, and overdue balances continue to grow.

More: *Ohio Capital Journal*

Lawmaker Calls to Remove FirstEnergy Name from Browns Stadium

Cleveland City Councilman Brian Kazy last week called for FirstEnergy's name to be removed from the Cleveland Browns' stadium in a resolution he plans to introduce.

Kazy will ask the council to urge FirstEnergy to relinquish naming rights for the Browns' stadium, which the company has had for nearly 10 years. FirstEnergy has been a corporate partner of the Browns since 1999 and became the team's naming rights sponsor in 2013. The deal is worth $102 million over 17 years.

"Simply, I don't believe that the municipally owned stadium that the Cleveland Browns play in should bear the name of this tainted company," Kazy said. "The sign, seen as people enter Cleveland, gives the impression that they represent the city. This is false."

More: *Akron Beacon Journal*

Wind Turbine Decision Could be Left to Voters

After two Crawford County commissioners voted to pause wind farm development across the county, they reasoned that they did so with the hopes of returning the ultimate decision to voters.

The commissioners' newfound power emanates from Senate Bill 52, which enabled county commissioners to make decisions about wind farm development. Commissioners Tim Ley and Larry Schmidt supported a moratorium restricting development in the county, but both said they did so in the hopes that residents will file petitions to put the matter to a vote in the fall.

If petitions are filed, it will force a November referendum on the issue that could overrule the commissioners' actions. Those petitions must be filed by June 4 and signed by 8% of the votes cast in the previous gubernatorial election. If a petition is not filed, the commissioners' resolution will go into effect.

More: *Galion Inquirer*

TEXAS

NRG Keeps Unit Offline While Investigating Hydrogen Fire

NRG Energy, the owner of the W.A. Parish Generating Plant, last week said the plant's Unit 8 would be

offline through May while investigators try to determine the cause of a hydrogen fire.

Emergency units and several fire departments responded to a report of a hydrogen fire at the plant around 5 a.m. on May 9, according to County Judge KP George's office.

The plant is one of the Houston region's biggest power suppliers, and the absence of Unit 8 alone reduces the state's grid capacity by about 1%. No injuries were reported.

More: *The Fort Bend Star*

VIRGINIA

Youngkin Announces Environmental Board Appointments

Gov. Glenn Youngkin last week announced appointments to the state's citizen environmental boards, including four picks for the Air Pollution Control Board that will be charged with approving the administration's efforts to pull the state out of the Regional Greenhouse Gas Initiative.

Youngkin's air board appointments included: James Patrick Guy II, Jay Holloway, David Hudgins and Donald Ratliff. Holloway and Hudgins will join the board immediately, while Guy and Ratliff's appointments will begin July 1 after the expiration of the terms of Chair Kajal Kapur and member Gail Moore.

During the 2022 session, the General Assembly voted to strip both the air board and the Water Control Board of their permitting power, beginning July 1. The air board will be charged with approving an emergency regulation the Youngkin administration has drafted to pull the state out of RGGI.

More: *Virginia Mercury*

WISCONSIN

Judge Upholds PSC Approval of Superior Gas Plant

Dane County Circuit Judge Jacob Frost last week said the Public Service Commission followed the law when it approved the $700 million Nemadji Trail Energy Center.

Frost rejected arguments from the Sierra Club and Clean Wisconsin that the PSC failed to consider the full environmental impact of the 625-MW plant, which would be owned by the Dairyland Power Cooperative and two Minnesota utilities. Frost said the PSC simply needs evidence on which to base its decision, not a specific burden of proof, and declined to second-guess the commission's evaluation.

More: *Wisconsin State Journal*