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RTO Insider

YOUR EYES AND EARS ON THE ORGANIZED ELECTRIC MARKETS

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COVER: The four sitting FERC commissioners testified before the Senate Energy and Natural Resources Committee on May 4. |

RTO Insider
Your Eyes and Ears on the Organized Electric Markets
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In this week's issue

Correction

In an article in last week's newsletter on a report released by the American Council for Renewable Energy, *ACORE: MISO Should Retool Market for Resources' Transition*, *RTO Insider* misspelled Michael Goggin's last name on first reference and incorrectly labeled him as ACORE's "grid strategies vice president." Goggin is a vice president at consultancy Grid Strategies and wrote the report on behalf of ACORE.

FERC/Federal News

Senators Praise Phillips, FERC's Output at Oversight Hearing

Commission Lauded for Moving Natural Gas Projects, but Power Grid Transition Led to Debate

By James Downing

WASHINGTON — FERC's recent efforts to approve certificates for natural gas infrastructure won praise from both sides of the aisle at a Senate oversight hearing Thursday, but the ongoing transformation of the grid generated debate.

The gas industry built the lowest level of infrastructure last year since the Energy Information Administration began tracking the numbers in 1995, said Energy and Natural Resources Committee Chair Joe Manchin (D-W.Va.).

"I'm glad the FERC appears to have heard the concerns last year from everyday Americans and from members of Congress," he added. "We're starting to see FERC make decisions at a better pace. FERC approved more than 10 Bcfd of natural gas pipeline capacity and nearly 6 Bcfd of LNG export capacity over the last 12 months; combined, that's more than triple the capacity FERC approved during the 12 months prior."

Ranking Member John Barrasso (R-Wyo.) praised interim FERC Chair Willie Phillips for moving more projects under his leadership.

"Chairman Phillips, I commend you for resetting the commission's agenda," Barrasso said. "You have brought orders forward for discussion and for action; you have emphasized energy reliability and affordability."

The praise from the committee contrasted with when Richard Glick was chair and tried to get the commission to consider the global warming impacts of natural gas infrastructure by issuing two policy statements that were ultimately withdrawn after significant criticism. The issue ultimately helped sink his nomination for a second term late last year. (See *Glick's FERC Tenure in Peril as Manchin Balks at Renomination Hearing*.)

Both Republican members of the commission said they were worried about a looming reliability crisis as the grid continues to transform with more renewables coming online and fossil-fueled power plants shutting down.

Commissioner James Danly placed the blame for ongoing reliability risks on FERC's "maladministration" of the markets.

"FERC has distorted price signals and warped incentives in the markets, interfering with price formation and jeopardizing resource adequacy," Danly said. "Most of these market-distorting forces originate with subsidies — both state and federal — and from public policies that are otherwise designed to promote the deployment of non-dispatchable wind and solar assets or to drive fossil-fuel generators out of business as quickly as possible."

The subsidies enable renewables to bid at zero, or lower, and that brings down prices, which in turn leads to early retirements for fossil power plants. Danly opposed the elimination of the minimum offer price rules, which he said were their "economic guardrail."

Commissioner Mark Christie said that the problem was not with the addition of renewables, but the early retirements of dispatchable power plants.

"The United States is heading for a reliability crisis," Christie said. "I do not use the term 'crisis' for melodrama, but because it is an accurate description of what we are facing. I think anyone would regard an increasing threat of systemwide, extensive power

From left: interim FERC Chair Willie Phillips and Commissioners James Danly, Allison Clements and Mark Christie. | *© RTO Insider LLC*

FERC/Federal News

outages as a crisis."

Even though the commissioners might describe the grid's transition differently, Christie later said that when it comes to the Federal Power Act, partisan differences rarely matter.

"All four [of us are] lawyers, and that means we have 16 different opinions," Christie said. "But you know, we only need three votes to get something out and the business is getting done."

When it comes to the FPA and issues around organized markets, any disagreements generally do not fall along the normal partisan faults, so the commission has been able to find three votes and get orders out, he added.

Phillips listed reliability as FERC's most important job, and he highlighted the progress the commission has made in addressing issues such as cybersecurity and preparation for extreme winter weather. He also focused on FERC's efforts to reform transmission planning and operating rules.

"My highest priority in the near term is to finalize a proposed rule that will greatly improve our processes for interconnecting new electric generating resources, reducing the time it takes to bring those resources online," Phillips said. "In addition, we are working to finalize a second proposed rule on how to plan and pay for badly needed regional electric transmission facilities."

Sen. Martin Heinrich (D-N.M.) asked whether FERC had plans to address rules around interregional transmission along with its pending proposals on interconnection queues and regional transmission planning.

"Absolutely; I've talked about interregional transmission since I was on the commission," said Phillips. "You don't have to look any further than recent extreme weather events to see how critically important it can be to maintaining the reliability of the grid."

Heinrich also urged FERC to avoid re-imposing any federal rights of first refusal in its rule changes. The commission proposed a limited ROFR for joint projects where utilities work on a line with an unaffiliated company, but Phillips said he was open to changing that in the final rule.

"Should these rules be finalized, I expect they will reduce customer costs over time and improve reliability outcomes," Commissioner Allison Clements said. "Meanwhile, my colleagues and I continue to discuss transmission system matters with state utility regulators at the Joint Federal-State Task Force on Transmission, and I expect the finalized transmission rules to reflect lessons learned at those collaborative sessions."

In the West, the industry is increasingly working together across the entire interconnection as they deal with the transforming resource mix and more frequent extreme weather events.

"I've been really pleased to see the development in the West over the last five years. State regulators across the region, as well as state legislatures across the region, have identified how do we protect customers and reliability on a forward-looking basis," she said. "And so, they have been thinking deliberately and carefully about developing markets."

Most of the interconnection is in one of the nascent energy balancing markets now, and those are being extended to offer day-ahead services, while the states continue to consider joining an RTO, Clements said.

While FERC is moving ahead on transmission on its own, several senators noted that they are working on efforts to "reform" the permitting process, with Manchin saying projects need to be developed much more quickly. He has reintroduced a *bill* that failed to pass last session. (See *Manchin Permitting Bill Falls Short in Senate*.)

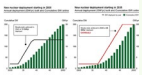
Barrasso and Sen. Shelley Moore Capito (R-W. Va.), ranking member of the Environment and Public Works Committee, released another permitting *bill* Thursday. The House of Representatives has already passed its own permitting bill, but it lacked anything to do with transmission. (See *Republicans Opening Offer on Permitting is Missing Electric Tx*.)

Manchin said he hoped that the interest in changing permitting on both sides of the aisle would lead to bipartisan legislation, saying that electric transmission was the hardest part of the bill to negotiate, but that it is necessary.

"The House gave us a piece of legislation with no transmission," Manchin said. "Any bill is not going to happen without transmission; same with pipelines." ■

National/Federal news from our other channels

Geothermal Heat Pump Industry Flush with Potential — NetZero Insider



DOE: US Needs 200 GW of New Nuclear Power by 2050 — NetZero Insider

Lordstown Motors Warns of Bankruptcy in Contract Funding Feud — NetZero Insider

Biden to Veto Bipartisan Rollback of Solar Tariff Moratorium — NetZero Insider

NPCC Warns of Tight Summer Margins in Ontario — ERO Insider

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FERC/Federal News

Brattle Group Finds VPPs Cheapest Alternative for Resource Adequacy

By James Downing

The Brattle Group released a study last week that found virtual power plants (VPPs) are cheaper than other currently viable options for resource adequacy, namely storage and natural gas peaking plants.

"*Real Reliability: The Virtue of Virtual Power*" was prepared for Google. It found that using distributed energy resources including rooftop solar, smart thermostats (which Google makes), smart water heaters, electric vehicles and batteries also provide additional benefits that the alternatives do not.

The last decade saw utilities spend $120 billion on resource adequacy investments, which was dominated by coal, but saw battery storage rise rapidly in the last few years.

"Electrification, coal retirements and dependence on resources with limited capacity value (wind, solar) will continue to result in a persistent need to maintain sufficient system 'resource adequacy' by adding new dispatchable capacity," the study said.

VPPs involve customers allowing their DERs to be controlled by their utility or a third-party aggregation firm, which then operate them in a way to provide the grid benefits, such as cutting demand during peak hours. That allows the power system to be expanded and operated at a lower cost, reliability to be maintained and emissions cut while the benefits are shared among customers, the aggregator and/or utility, and society at large, the report said.

DER ownership is expected to grow substantially in the next decade with smart thermostats on 34% of homes by 2030 compared to 10% today; rooftop solar growing to 83 GW from 27 GW; light-duty electric vehicles growing to 26 million from 3 million; and behind-the-meter batteries growing to 27 GW from just 2 GW today. That comes on top of friendly policies such as the Inflation Reduction Act, with its promotion of electrification and efficiency, and FERC Order 2222, which requires all organized markets to open up to DER aggregations.

Demand response programs have operated like VPPs for decades in some regions, but many firms are setting up new ones that leverage the expansion of DER technologies in recent years. Portland General Electric is setting up a 4-MW behind-the-meter battery VPP involving more than 500 customers; CPower has introduced a smart thermostat-based VPP to participate in PJM; and ERCOT has set up an 80-MW VPP pilot targeting a variety of end uses.

Brattle's analysis focused on four commercially proven technologies: smart thermostats, smart water heating, managed charging for EVs and behind-the-meter battery-enabled DR. It compared the costs of providing 400 MW of resource adequacy from VPPs made of those technologies to a utility-scale battery and a natural gas peaking plant.

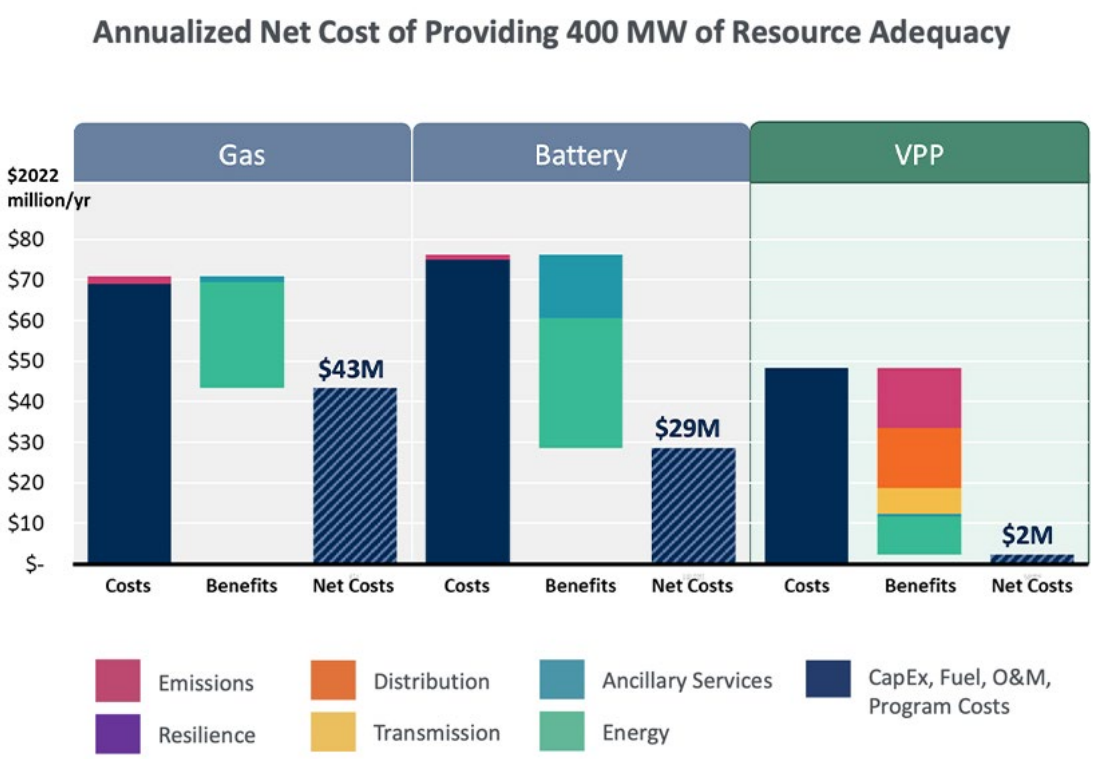
The different plants were studied in the same utility system where 400 MW produced about 7% of the peak demand and half the generation was made up of renewable power. Brattle designed the model utility to represent some challenging requirements for the VPP, like needing to offer resource adequacy during many hours in both the winter and summer. The resources all had to perform 63 hours a year and seven hours during one peak summer day.

VPPs can curtail load during the highest demand hours and shift it to lower hours, while any smart water heaters in the aggregation are capable of producing ancillary services. The VPPs also cut greenhouse gas emissions and delay the need for transmission and distribution upgrades, with the batteries able to provide backup generation during distribution outages.

"The VPP could provide resource adequacy at a net utility system cost that is only roughly 40% of the net cost of a gas peaker and 60% of the net cost of a battery," the study said.

RMI has estimated that 60 GW of VPPs could be deployed across the country by 2030 and that would meet future resource adequacy needs at a cost that is $15 billion to $35 billion lower than the alternatives.

"Decarbonization and resilience benefits are incremental to those resource cost savings," said the study. "Consumers would experience an additional $20 billion in societal benefits over that 10-year period." ■



The costs and benefits of virtual power plants compared to batteries and natural gas plants, according to a recent Brattle Group study. | *Brattle Group*

CAISO/West News

Western Plan to Add 13 GW by Summer Comes with Risks

By Hudson Sangree

Up to 13 GW of new generation and storage resources are planned to come online in the Western Interconnection by the end of this summer, helping to ensure the West remains resource adequate, but supply chain disruptions and other problems could undermine those plans, analysts said Thursday in the latest *installment* of WECC's resource adequacy discussion series.

The West has been expecting "exponential growth" of clean energy resources, and this year could be the "turning point where we start seeing a huge ramp up," said Matthew Elkins, WECC's principal analyst for reliability assessments. But 13 GW by this summer is "a lot of resources to bring online with supply chain issues and things like that."

Last year, new solar installations in the West fell nearly 3 GW short of expectations because of tariffs on solar panels from Southeast Asia and supply chain constraints, said Amanda Sargent, WECC senior resource adequacy analyst.

"There are always deviations from the plan year to year, usually small ones, but you can see in 2022, there was a large deviation in what was planned for solar capacity to come online in 2022 versus what did," Sargent said. "We also saw an increase in the energy storage that was not able to come online, in part because it was usually a hybrid resource with the solar."

In June 2022, President Joe Biden ordered a two-year waiver of the solar tariffs, and he is expected to veto a Senate resolution passed Wednesday to override his waiver. (See related story, *Biden to Veto Bipartisan Rollback of Solar Tariff Moratorium*.)

Most of the new resource additions will be solar, battery storage and wind, with some natural gas and biogas generation, WECC said.

Supply chain constraints could delay commissioning new generation and transmission resources and put off scheduled maintenance. For instance, 3.5 GW of new batteries are planned to come online by July and another 2 GW by September, but supply chain problems with battery components could reduce those amounts, Sargent said.

On the upside, retirements of existing generators through the summer should be minimal, she said.

WECC's resource adequacy analysis gathers data from 38 balancing authorities in four regions of the Western Interconnection: California and a small part of Mexico; the Desert Southwest (Arizona and New Mexico); Canada (Alberta and British Columbia); and the Northwest, which covers the Pacific Northwest, the Rocky Mountain states, Utah and Nevada.

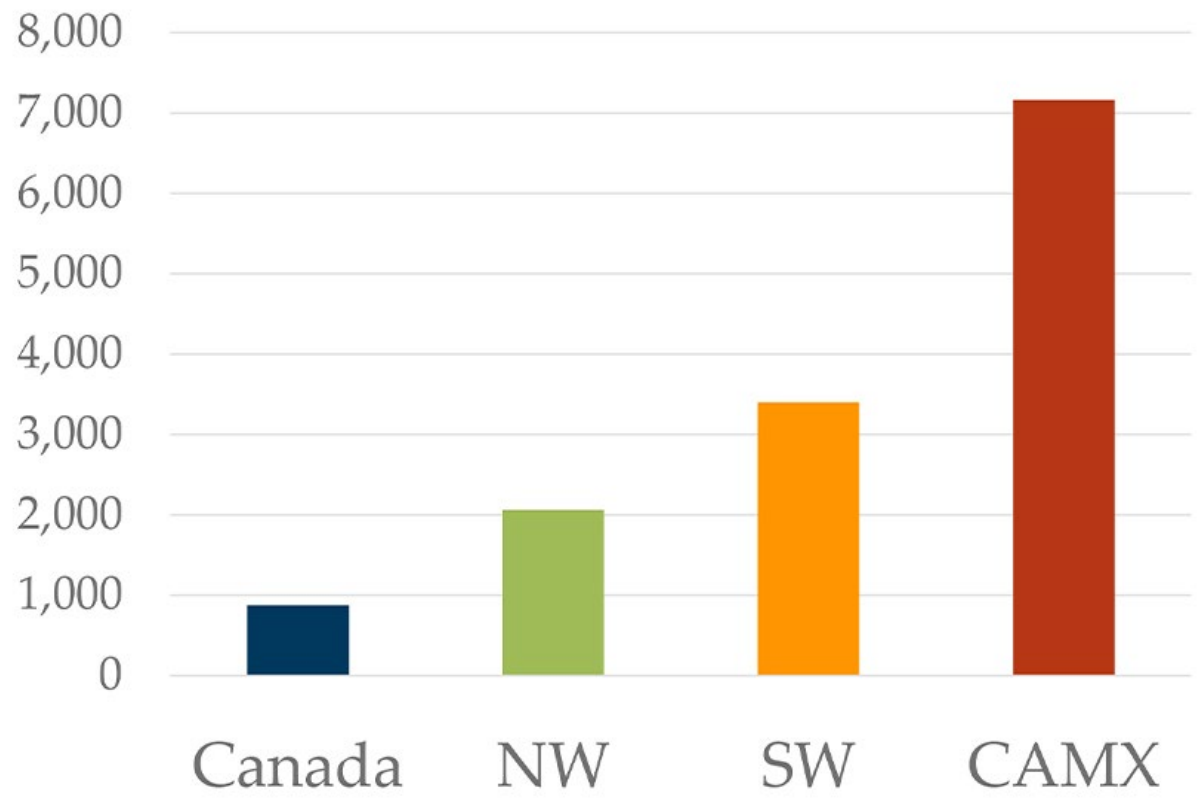
The results of WECC's analysis showed no significant resource adequacy concerns except for short periods in California and the Northwest later this summer as hydroelectric power wanes. The analysis assumes the availability of imports and that thousands of megawatts of the new resources will come online.

The resources and imports are needed to cover the so-called net peak, after solar drops offline but demand remains high on hot evenings.

"All areas are resource adequate on the peak hour," Sargent said. "However, we are seeing demand at risk outside of the peak hours. That is mediated if the resources that are planned come online on time, and if there is market availability for imports when it's needed."

In addition to supply chain problems, fuel constraints could reduce generating capacity, she said. A spike in natural gas prices drove up demand for coal, limiting supply, she said.

"We heard very loud and clear from our stakeholders that there are significant ongoing supply chain issues and fuel constraints that could impact connecting new resources, scheduling needed maintenance before summer and potentially the availability of transfer capabilities," Sargent said. ■



Four regions in the Western Interconnection plan to add 13 GW by September. | *WECC*

CAISO/West News

PG&E's Distribution System Needs Replacing, Monitor Says

By Hudson Sangree

The independent safety monitor that keeps watch on Pacific Gas and Electric said much of the utility's distribution system is "stressed" with age and needs to be replaced for reliability and to avoid wildfires, but that the utility has greatly reduced the number of fires its equipment starts by quickly de-energizing lines when faults occur.

The findings were part of a 38-page report drafted by Filsinger Energy Partners and released last week by the California Public Utilities Commission, which hired Filsinger last year to monitor PG&E's safety work and report back every six months. (See *CPUC Orders Independent Safety Monitor for PG&E*.)

Filsinger, a Denver-based advising firm, filed its first report Oct. 4. (See *PG&E Slow to Replace Old Equipment, Monitor Says*.)

Its second report, dated April 3 but made public May 2, covers PG&E's activities from October to March.

During that time, the independent safety monitor (ISM) "participated in meetings where several PG&E managers reported that a shift in strategy is required as the PG&E distribution asset base ages more towards its end of life, and that elevated investment levels will be required to adequately control and mitigate the associated risks," the report says.

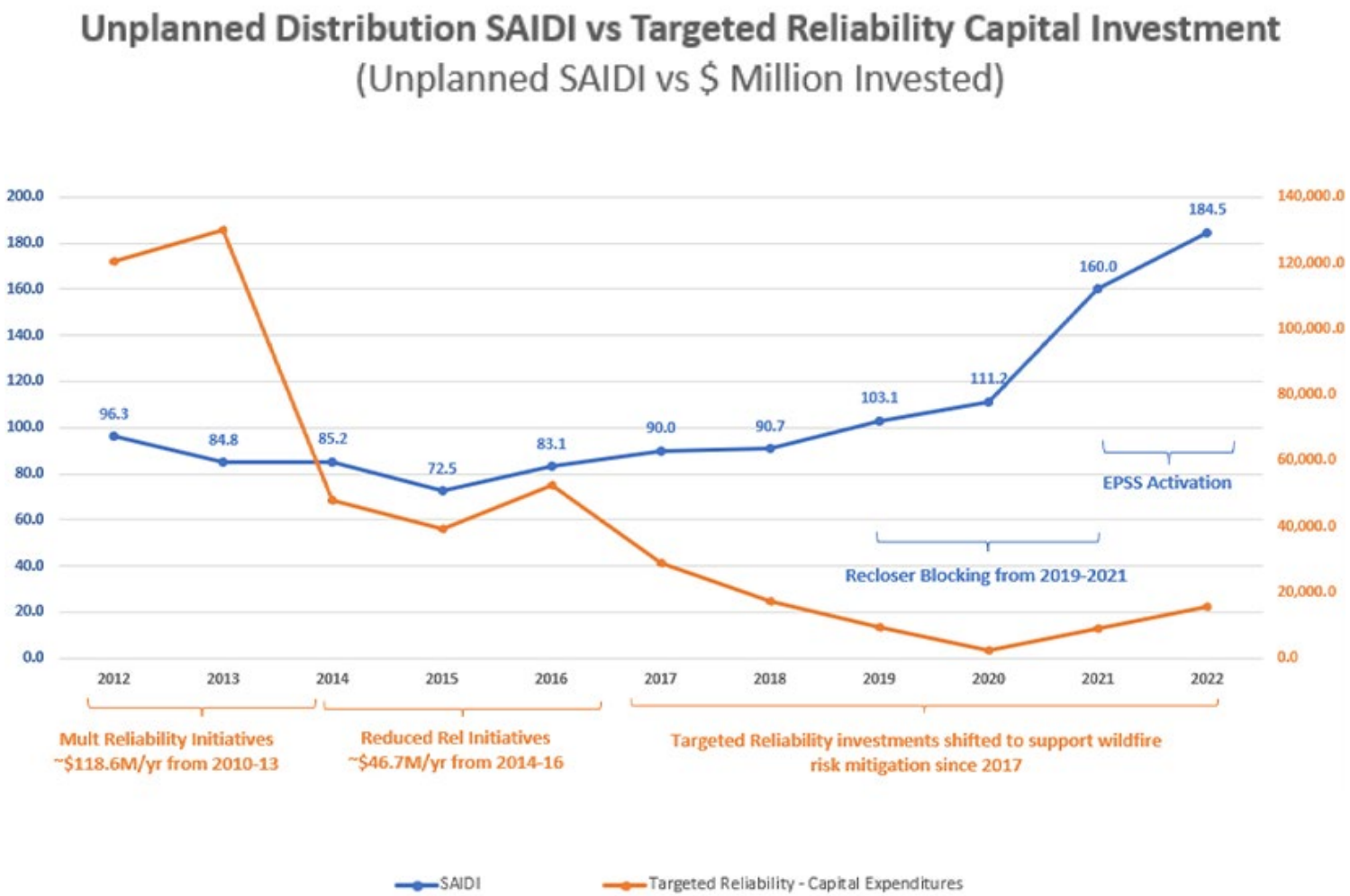
PG&E's 70,000-square-mile overhead distribution system includes 161,500 miles of power lines, 2.25 million wooden poles and more than 669,000 transformers, the report notes.

Much of the system serves high-risk fire areas, where PG&E equipment started major wildfires each year from 2017-2021.

Parts of the utility's vast distribution system "are currently stressed or are forecast to become stressed," and a third of its overhead conductor qualifies for "asset health replacement in the next 10 years," the report says.

"While half of the distribution circuits have good reliability, approximately 20% of the circuits are responsible for 50% of the average customer outage duration across the distribution system," it says. "There is a considerable backlog of distribution asset maintenance and/or upgrade items needing to be addressed, including approximately 120,000 poles tagged for replacement."

PG&E's annual spending on reliability-oriented



From 2015 to 2020, the System Average Interruption Duration Index (SAIDI) for PG&E's distribution system, a measure of unplanned outage duration (blue line), increased by 53% while reliability investment (orange line) declined. | *Filsinger Energy Partners*

CAISO/West News

projects plunged from more than $180 million in 2013 to less than $5 million in 2020, in part because of spending on wildfire mitigation since 2017, it says.

From 2015 to 2020, PG&E's System Average Interruption Duration Index (SAIDI), a measure of the duration of unplanned outages, increased by 53% while reliability spending fell, the report says.

The outage index rose when PG&E began using public safety power shutoffs (PSPS) in 2018 and when its Enhanced Powerline Safety Settings (EPSS) program took effect in 2021, it says. EPSS increases the fault detection sensitivity on power lines and quickly de-energizes them when it senses a change in current.

"During the current ISM reporting period, the ISM observed that PG&E's unplanned distribution SAIDI increased by an additional 66% since 2020, and PG&E sits in the fourth quartile for SAIDI as compared to all other U.S. based electric utilities," the report says.

Maintenance Backlog

PSPS and EPSS have angered many residents and endangered those who rely on plug-in medical equipment, but they have been effective at reducing ignitions by PG&E equipment.

The report says that, since 2017, the number of ignitions in high fire-threat districts "attributed to PG&E equipment failure has been in steady decline." There were 59 ignitions in 2017 and 14 in 2022 — a 76% decrease, it says.

"The largest contributing factor for this decrease in the last two years has been the introduction of EPSS enablement across all of PG&E's HTFD [high fire-threat district] distribution circuits in 2022," it says.

PG&E believes that "wire down rate is a key indicator of public safety," the report says, quoting the utility. "Wire downs per year have stayed steady over the past five years. However, [PG&E expects] the number of wire downs to increase as conductors are aging faster than the replacement rate."

PG&E, which has been criticized for its lack of record keeping, has age data on only 47% of its primary conductors and 12% of its secondary conductors, the report says.

Using an alternative methodology, PG&E determined that it should replace approximately 800 miles of overhead conductor per year, but "over the past seven years, the miles of proactive replacement of deteriorated conductor have averaged approximately 40 miles per year," the report says.

PG&E said in a statement Wednesday that it "has made significant progress in the areas of safety and risk reduction, including in the focus areas identified by the ISM team," but that its wildfire mitigation efforts have created a maintenance backlog.

"Our increased inspections, which exceed CPUC General Order requirements and better address wildfire risk, created a build-up of repair work," the utility said. "In our 2023 Wildfire Mitigation Plan, we committed to providing targets for addressing repairs found during inspections [and] prioritizing work with the most ignition risk within the high fire threat districts."

The utility said it has refocused its efforts on "addressing … asset replacement, including developing strategies for managing wear-out failures." ■

CAISO/West News

PNM, Avangrid Optimistic About Merger Prospects

By Elaine Goodman

While PNM Resources (NYSE: PNM) awaits a state Supreme Court decision that could give the company another shot at a merger with Avangrid (NYSE:AGR), PNM officials said they'll keep running the company like it's a standalone business.

The comments came Friday during a conference call with analysts to discuss PNM's first-quarter results. Much of the discussion focused on Avangrid's proposed acquisition of PNM, a deal that was announced in October 2020 and valued at $8.3 billion.

The merger received approval from five federal agencies and the Public Utility Commission of Texas, leaving approval from the New Mexico Public Regulation Commission (PRC) as the final hurdle to closing the merger. But in December 2021, the PRC voted 5-0 to reject the merger. (See *NM Regulators Reject Avangrid-PNM Merger*.)

PNM and Avangrid appealed the decision to the New Mexico Supreme Court. But the companies revised their strategy this year, when the PRC changed from a five-member elected commission to a three-member panel with commissioners appointed by Gov. Michelle Lujan Grisham. (See *New NM Commissioner Steps Down over Qualifications*.)

In March, the reconfigured PRC joined with PNM and Avangrid to file a motion asking the Supreme Court to dismiss the appeal and remand the case back to the PRC for rehearing.

On Friday, analysts pressed PNM officials for a timeline of the proceedings.

PNM Resources CEO Pat Vincent-Collawn emphasized that the court has no deadline for making a decision. Calling the state's high court "the Supremes," Vincent-Collawn referenced a song by the Motown musical group of the same name.

Pat Vincent-Collawn, PNM Resources | *Edison Electric Institute*

"You can't hurry love … or mergers," Vincent-Collawn told analysts.

Vincent-Collawn said that if the Supreme Court agrees to dismiss the appeal, the companies would file a motion for reconsideration of the merger with the PRC. The commission would establish a procedural schedule and decide whether to assign the case to a hearing examiner or manage it at the commission level.

PNM and Avangrid agreed last month to extend their merger agreement until July 20. That follows a decision last year to extend the merger agreement through April 20, 2023.

"This additional time should provide clarity on the path forward and an expected timeframe for further regulatory proceedings," Vincent-Collawn said.

And for now, it's business as usual at PNM, according to Don Tarry, the company's president and chief operating officer.

"We're focused on continuing to manage the business like it's a stand-alone business," Tarry said. "And we'll continue to operate it that way and continue to fund it that way, too."

Under the proposed acquisition, Avangrid would pay $50.30 in cash for each share of PNM Resources common stock. PNM Resources includes PNM, New Mexico's largest electric utility, and TNMP, an electric transmission and distribution utility in Texas.

In discussing the proposed acquisition in a February conference call with analysts, Avangrid CEO Pedro Azagra said he expected the PRC's new composition to make a difference. (See *Avangrid Pushes Forward on NECEC, Offshore Wind, PNM Merger*.) Azagra described the new commissioners as "highly experienced individuals" with "deep knowledge" of the energy transition and its challenges.

And in a news release last month announcing an extension of the merger agreement, Azagra said Avangrid remains committed to the merger.

"Together, we will accelerate Texas and New Mexico's clean energy futures and increase the focus on reliability and resiliency for customers," Azagra said. ■

West news from our other channels

Inslee Signs Raft of Wash. Climate, Energy Bills — NetZero Insider

Wash. Allocates Millions from Cap-and-Trade Fund — NetZero Insider

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CAISO/West News

PG&E Looks to Cut Costs of Undergrounding Lines

By Hudson Sangree

Pacific Gas and Electric is seeking ways to save time and money on its $25 billion plan to underground 10,000 miles of power lines in high fire-threat districts, CEO Patti Poppe said during a first-quarter earnings call Thursday.

Digging trenches that are 30 inches deep, six inches less than the utility's longtime standard of 36 inches, will save $25 million this year as PG&E tries to underground 350 miles of line, Poppe said.

"We determined that 36 inches of cover is not required in most places, and there's little evidence that incrementally deeper conduits are meaningfully safer or more reliable than slightly shallower conduits," she said.

"While this may not seem like much, a 6-inch change in depth reduces the labor hours required to install our underground conduits and reduces the amount of spoils [excavated earth and rock] created during our trenching activities by approximately 17%," she said.

Poppe said PG&E is exploring whether "it's appropriate to put the conduits 24 inches deep, another 6 inches of potential savings, and we're analyzing the entire undergrounding delivery process through a value stream mapping exercise to identify further opportunities for efficiency, better customer and co-worker engagement, and even more waste elimination."

The undergrounding effort is part of PG&E's wildfire mitigation *plan* (WMP) that it filed with the California Office of Energy Infrastructure Safety (OEIS) in March.

The utility announced its undergrounding plan in July 2021. That year it buried 73 miles of line, and in 2022 it undergrounded 180 miles. From 350 miles in 2023, PG&E plans to ramp up to 450 miles in 2024, 550 miles in 2025 and 750 miles in 2026.

"We will continue to build on this progress during the WMP cycle by undergrounding 2,100 miles of distribution lines in [high fire-threat districts] from 2023 to 2026, effectively eliminating the ignition risk for overhead lines in those areas," the wildfire plan says. "Between 2023 and 2026, 87% of PG&E's undergrounding work is planned for the top 20% of risk-ranked circuit segments, as identified by our risk models."

PG&E intends to file a 10-year undergrounding plan this year with OEIS under the terms of *Senate Bill 884*, a bill approved last year that provides for expedited review of undergrounding plans submitted by large electrical corporations to OEIS and the California Public Utilities Commission.

PG&E workers underground power lines near Grizzly Flats, Calif., a rural community leveled by the Caldor Fire in August 2021. | *PG&E*

Once filed, OEIS will have nine months to review the plan before passing it on to the CPUC, which will also have nine months to review it.

Reduced Miles and Costs

During a February earnings call, Poppe said PG&E had buried line last year for less than the $3.75 million per mile it had originally estimated and expects to bring down the cost of undergrounding to $2.5 million per mile by 2026 through efficiencies of scale and technical advances.

The utility also reduced the scope of its work, saying it would bury 2,300 miles of line by 2026, not the 3,600 miles it originally targeted.

In its 2023 general rate case, PG&E had asked the CPUC to approve nearly $10 billion for three years of undergrounding but revised that figure down to about $6 billion because of the decreased mileage.

Even with the reduced mileage and costs, critics have called the plan expensive and unrealistic.

The Utility Reform Network, a consumer watchdog group, said in a Jan. 23 brief to the CPUC that PG&E had lowered its mileage target because it knew it would not meet its initial undergrounding goals.

"PG&E itself has come to realize that those targets were unrealistic," TURN said.

Nevertheless, the utility is "moving ahead with plans to underground 350 miles in 2023, at a forecast cost of approximately $1 billion," TURN said. "PG&E appears committed to this path, even though it has not received any authorization from the commission for any rate recovery for its 2023 undergrounding proposal. Needless to say, PG&E's undergrounding request is hugely controversial and subject to CPUC disapproval, in full or in part."

TURN recommended that PG&E should focus its system hardening work on installing covered conductor, "a proven strategy" that would be less than a third of the cost of undergrounding.

PG&E, however, said in its WMP that undergrounding is key to its "stand that catastrophic wildfires shall stop."

The utility's overhead lines have been blamed for a series of wildfires starting in 2015 and extending through last year's Dixie Fire, which burned close to 1 million acres. The fires included the 2018 Camp Fire, which leveled the town of Paradise, killed 84 people and drove PG&E to file for bankruptcy reorganization in January 2019.

PG&E equipment did not cause any large fires in 2022, which the utility partly credited to its use of enhanced fault-detection technology that quickly de-energizes lines when changes in current are detected, limiting ignitions. (See *PG&E's Distribution System Needs Replacing, Monitor Says*.)

One result has been a gradual rise in PG&E's stock price over the past year. Its shares had traded at around $9 to $12/share for more than two years after its emergence from bankruptcy in June 2020 but closed Friday at $17.27/share.

On Thursday, the company *reported* first-quarter GAAP earnings of $569 million, or 27 cents/share, compared with $475 million, or 22 cents/share, in the first quarter of 2022. ■

CAISO/West News

California Faces Challenges Connecting 156 GW to Grid

By Hudson Sangree

Participants in a California Energy Commission workshop last week wrestled with the question of how the state can interconnect huge quantities of new storage and generation resources to its transmission grid in the next two decades to meet its climate goals.

State statutes require load-serving entities in California to serve retail customers with 90% carbon-free electricity by 2035 and 100% by 2045, while reducing greenhouse gas emissions to 40% below 1990 levels by 2030 and 85% below 1990 levels by 2045.

"The punchline, of course, is that we need 86,000 MW added to our grid in 12 years," said Sharon Eddy, executive director of the Large-scale Solar Association. "We need another 70,000 MW in the 10 years after that" to meet the 100% clean energy goal established by Senate Bill 100 in 2018. "This is unprecedented."

The state's transmission system needs major upgrades and additions in a relatively short timeframe to handle so much new capacity, panelists said in the *workshop*.

"Our current transmission grid can't accommodate an additional 86,000 MW without new lines, new poles, new substations, and we need it quickly," Eddy said.

"Everyone is running into the fact that we just didn't plan early enough to build out the transmission system," she said. "The challenge isn't that we have too many projects vying for too little grid space, it's that our entire system and our planning processes weren't set up to handle this kind of accelerated growth."

541 Interconnection Requests

CAISO adopted what it called a "more strategic and proactive approach" to interconnections in its 2022/23 transmission plan, which identified 46 transmission projects costing $9.3 billion that California needs by 2032 to incorporate more than 40 GW of renewable resources. (See *CAISO Retools Transmission Plan for Reliability, Renewables*.)

Future transmission plans will have to address portfolios from the California Public Utilities Commission (CPUC) that call for adding 70 GW of new resources by 2033 and 86 GW by 2035, CAISO said.

The 2022/23 transmission plan broke with tradition by analyzing projected resource additions within 14 transmission interconnection zones. CAISO said the "zonal" approach will allow it to deal more efficiently with interconnection requests, which it previously evaluated in annual cluster studies.

Interconnection requests to CAISO have soared in the last three years, from 155 in 2020, to 373 in 2021, to 541 this year, in clusters 13, 14 and 15, respectively. This year's requests totaled 354 GW on top of the 180 GW already in its queue, including 18 GW of requests for a single substation, CAISO said.

Performing cluster studies on "such a huge volume is inefficient and provides less meaningful study results," said Neil Millar, CAISO vice president of infrastructure and operations planning. "This clearly calls on us to take action and move forward with more substantive, transformative changes, better prioritizing where we're putting our energies."

The ISO's new zonal approach targets "energy rich zones" with current or anticipated transmission connections where CAISO wants utilities and resource developers to focus their efforts, Millar said.

"We're talking about volumes being required in next year's transmission plan of over 7,000 MW of installed capacity to be added to the grid each year for the foreseeable future," Millar said. "The challenge would be to maintain that pace year over year, which our current processes were not designed around."

Transmission-owning utilities such as Pacific Gas and Electric also have been inundated with interconnection requests.

"For many years up to cluster 13, the number of applications never exceeded more than 70 and [involved] less than 20,000 MW," said Marco Rios, PG&E's manager of transmission planning. "That wasn't the case in cluster 14, where we received 185 applications and over 46,000 megawatts of generation just in the PG&E system. That makes the study process very, very difficult."

PG&E used to have a high withdraw rate, but fewer developers are withdrawing their projects from the queue, compounding the problem, he said.

'Promising if Arcane'

The afternoon sessions of the all-day workshop dealt with possible solutions.

Representatives of wind, solar and storage trade organizations urged CAISO to revise its generation deliverability study methodology.

Nancy Rader, executive director of the California Wind Energy Association, called it a "very promising if arcane topic."

"Reforming that methodology could really accelerate generator interconnections and make more efficient use of our existing grid and every additional transmission project that we build," Rader said.

The ISO launched a stakeholder *initiative* in December to review its deliverability methodology, she said.

"CAISO uses this methodology to determine what reliability upgrades are needed for an interconnection customer to obtain deliverability capacity … which is what generators need to qualify under the CPUC's resource adequacy program," Rader said. "The point of the methodology is to ensure that a project will be able to deliver its generation to load when it's needed.

"The prospect of reforming this methodology is exciting because it could immediately address the current lack of available [deliverability] capacity" on transmission lines, she said. "Without it, projects can't qualify for RA and generally won't be commercially viable. And so, in our view, the available capacity appears to be insufficient to meet the state's mid-decade and certainly our longer term SB 100 goals. And that will remain the case until new transmission is planned and built and that's about 10 years off..."

CAISO currently uses a more restrictive methodology for assessing deliverability capacity than other RTOs, Rader said. Adopting less stringent criteria such as that used by PJM and MISO could "free up more than 10 GW of capacity immediately across the CAISO grid in areas … where the grid is strong," she said.

"Capacity is a function of the assumptions used in the CAISO's deliverability study methodology, and in our view those assumptions are unnecessarily conservative," she said. "Reforming those assumptions consistent with those used by PJM and MISO could dramatically expand [deliverability] capacity. And that capacity would immediately become available at no cost.

"So, we really might have a big free lunch here," she said.

Rader said she and others were looking forward to discussing the issues in CAISO's upcoming stakeholder process. ■

ERCOT News

ERCOT, PUC Repeat Call for Dispatchable Generation

Lake Says Projected Summer Demand Exceeds Available Thermals

By Tom Kleckner

ERCOT's final *resource adequacy assessment* for the summer indicates the grid operator will have "sufficient" installed capacity to meet expected record demand during the next few months.

However, Public Utility Commission of Texas Chair Peter Lake chose to highlight the lack of dispatchable — or thermal — generation to meet that demand. During a press conference Wednesday to provide what has become an annual public update before the summer, Lake used the modifier "on-demand dispatchable" 10 times when referring to power, generation or generators.

For the first time this summer, he said, ERCOT's data shows demand will exceed "on-demand dispatchable power."

"So, we will be relying on renewables to keep the lights on during the hottest days of summer," Lake said.

Ironically, the Texas Legislature has moved bills during the current session that add costs and requirements for renewables. Lawmakers have instead focused on legislation designed to incent the construction of more thermal generation. (See *Texas Legislature Moves Bills Remaking the ERCOT Market*.)

Lake said that between 2008 and 2020, Texas' population increased by 24% while the state's "on-demand dispatchable power supply" grew by only 1.5%. He said demand continues to grow with the state adding the equivalent of the population of Oakland, Calif., (433,823 residents as of 2021, according to the U.S. Census Bureau and other sources) and their "devices" requiring electricity every year.

Oakland has replaced Corpus Christi, Texas, (population: 317,863), which Lake and ERCOT CEO Pablo Vegas used in the example last year.

"The increase in demand for electricity is outpacing the supply of on-demand dispatchable power in this new reality," Lake said. "Our risk goes up as the sun goes down because it's still hot at 9 p.m. Our solar generation is all gone, so at that point in the day we will be relying on wind generation on our hottest days. We may not have enough on-demand dispatchable generation to cover the gap between when the sun sets and we lose the solar, and when our wind generation picks up."

According to ERCOT's seasonal assessment of resource adequacy (SARA), which assumes typical summer grid conditions, the ISO has enough capacity to meet a summer peak of 82.7 GW. That would smash the current record of 80.04 GW, set last July.

The report says more than 97 GW of summer-rated resources are expected to be available for the summer peak. That includes 65.1 GW of thermal resources, a slight increase from last summer's 63.5 GW number. The grid operator expects to have on hand another 10.4 GW of summer-rated wind resources and 12.3 GW of solar.

The SARA's most severe risk scenario assumes a high peak load, extreme unplanned thermal plant outages, and extreme low wind power production. However, Vegas said that probability is less than 1%.

Noting that most of the new capacity added since last summer comes from renewables, Vegas said ERCOT could see more tighter hours than last summer and after the traditional 5 p.m. peak load hour. Scarcity conditions are more likely around 9 p.m., after the sun sets and before wind picks up.

Lake said there were at least 12 days last summer when ERCOT experienced tight conditions between 8 p.m. and 10 p.m. He said less than 20% of all wind turbines were generating, despite data showing "on our hottest days we need 50% of all the windmills generating power at 9 p.m."

"To help mitigate these risks, we're going to continue to operate the grid conservatively as we have been doing," Vegas said. "That means bringing generating resources online earlier to mitigate any sudden changes in generation or demand. We plan to operate a reliable and resilient grid this summer."

Help for Ramping

The grid operator also will launch a new ancillary service on June 8, ERCOT contingency reserve service, that will address the rapid ramps that can occur when renewable resources are operating.

"The urgency to move forward with meaningful electric market reforms that will incentivize the development of dispatchable generation remains extremely high," Vegas said. "I've described many of the tools that we have to deal with the real-time operational challenges that we have, but these do not substitute for significant market reforms that will incentivize the development of new dispatchable generation and to help preserve older generation until it can be replaced."

ERCOT also released its semi-annual *capacity, demand and reserves report* (CDR) for the next 10 years. The report provides forecasted planning reserve margins (PRMs) for the summer and winter peak load seasons, forecasting a 2024 summer PRM of 33.9%. That's a six-percentage point drop from the November CDR.

The grid operator defines the PRM as the percentage of resource capacity greater than firm demand and available to cover uncertainty in future demand, generator availability and new resource supply. Firm demand accounts for load reductions available through interruptible load programs and incremental load reductions from rooftop solar systems that are not accounted for in the load-forecast models.

According to the report, demand will exceed 85 GW next summer and peak at 71.5 GW during the 2024-25 winter. ■

Public Utility Commission Chair Peter Lake (left) and ERCOT CEO Pablo Vegas listen to a media question. | *Texas PUC*

ISO-NE News

National Grid Proposes Quebec-New England Transmission

1.2-GW Line Would Run 185 Miles, Partly Underground, Cost $2B

By John Cropley

National Grid is proposing a 1.2-GW *transmission project* to carry power from Quebec hydroelectric plants to southern New England through Vermont and New Hampshire.

The Twin States Clean Energy Link has a preliminary cost estimate of $2 billion. It would entail a new HVDC line running 75 miles underground from the Canada-Vermont border to a retired converter station in Monroe, N.H., that would be repurposed as part of the project.

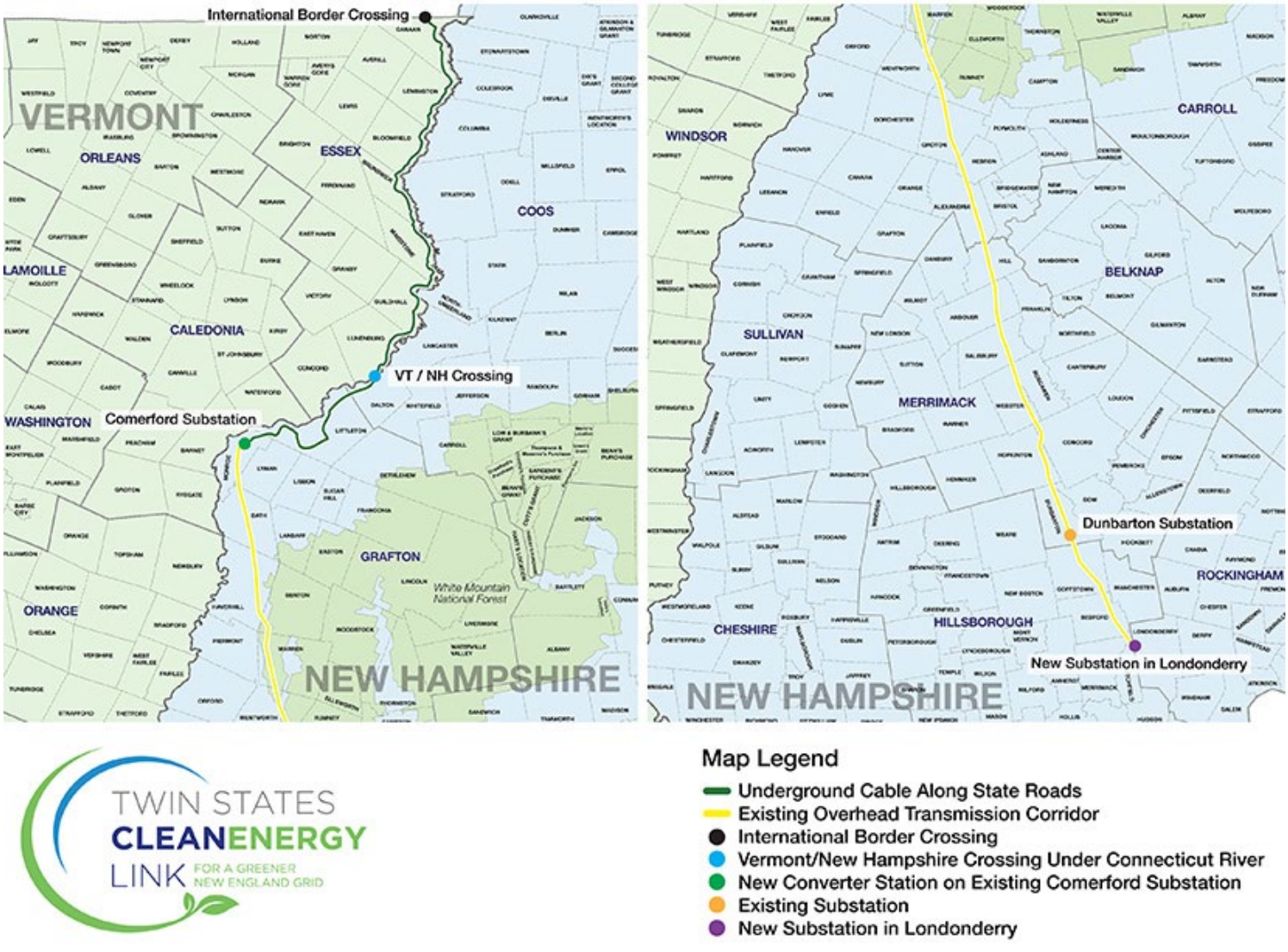
The existing 110 miles of above-ground AC infrastructure would be upgraded between Monroe and a new 345-kV substation Londonderry, N.H.

National Grid is partnering with the nonprofit Citizens Energy on the project. The Northeastern Vermont Development Association would aid in programming the estimated $100 million of community benefits associated with the project, and the International Brotherhood of Electrical Workers would support construction.

The company is promoting the project as a way to reduce dependence on fossil fuel generation when variable wind and solar power output lag. It would reduce New England's carbon emissions by millions of metric tons per year and save ratepayers billions of dollars over the first 15 years, developers said.

National Grid said it has submitted the proposal to the U.S. Department of Energy's *Transmission Facilitation Program* (TFP), a $2.5 billion funding stream created by the Infrastructure Investment and Jobs Act.

The company said federal investment and initial cost recovery through TFP is critical to Twin States moving forward on the planned timelines. A spokesperson said Friday the earliest construction could begin would be in



The northern (left) and southern (right) portions of the proposed Twin States Clean Energy Link in Vermont and New Hampshire are shown. | *National Grid*

ISO-NE News

late 2026.

The line would be bidirectional, able to export power to Quebec if the profusion of solar and wind projects being planned and built in southern New England should generate a surplus of electricity in a period of low demand.

There will be demand for it on the other side of the border: Quebec is mounting a clean-energy transition just as New England is, and Hydro-Quebec in its recent *strategic plan* forecasts a more than 50% increase in demand for its electricity through 2050.

The government-owned utility *reported* record income in 2022, thanks to high electricity prices and heavy exports, but reports by *Bloomberg* and other media outlets suggest its aggressive marketing will soon leave it short of power for Quebec's own needs. It has begun planning to add generation from solar, wind and other renewable sources.

Slow Process

Building transmission lines to carry Quebec's hydroelectric power south to the U.S. grid has proved challenging at times.

There has been strong local opposition from people who do not want to look at power lines or see trees cleared to build them; criticism from activists that hydropower is not as benign for the environment as advertised; and extensive regulatory processes to navigate.

New Hampshire shot down Eversource Energy's plan to build the 1.09-GW Northern Pass line in 2018. (See *New Hampshire Rejects Permit for Northern Pass*.)

Avangrid's 2017 proposal for the 1.2-GW New England Clean Energy Connect line in Maine has stalled amid multiple legal challenges. (See *New England Clean Energy Connect Wins Court Battle*.)

The 1.25-GW Champlain Hudson Power Express, first proposed in early 2010, finally began construction in New York early this year. Its projected completion is in 2026. (See *Champlain Hudson Power Project Receives Landmark Delivery*.)

National Grid is emphasizing that construction of the Twin States line would have a light impact and heavy benefit for the communities through which it would pass. The underground portion of the line would run along state roads, reducing its visual and environmental disruption. The above-ground portion would mostly entail replacing existing wires and reinforcing existing structures.

National Grid and its partners did not formally announce the proposal, but it gained public attention last week when New Hampshire Gov. Chris Sununu (R) *threw his support* behind it.

"New Hampshire is always looking to put solutions on the table that lower energy rates for consumers, and the Twin States Clean Energy Link makes use of clean, renewable energy to do just that," Sununu said. "With a low-impact plan that utilizes already existing infrastructure, this project is a win-win for families and businesses across the Granite State."

In a *letter* to U.S. Energy Secretary Jennifer Granholm, Sununu endorsed the project for inclusion in the TFP and said it would have the added benefit of allowing small renewable energy projects to be developed in northernmost New Hampshire. ■

ISO-NE News

Coalition Promotes US-Canadian Offshore Transmission Link

Developers Say Line Would Benefit New England, Nova Scotia

By John Cropley

An industry coalition is promoting the concept of underwater transmission linking New England and Nova Scotia with each other via wind farms off their respective coasts.

The shared infrastructure, they say, would help both regions meet their climate-protection goals in the coming decades.

The New England-Maritimes Offshore Energy Corridor last week released a *report* on the concept prepared by risk-management company DNV and electric consulting firm Power Advisory.

It is not a business case for building such a power line; it was intended to show its potential benefits, rather than quantify them.

But the benefits would be spread among multiple parties, the report's authors write, so for a proposal to attract investment, they must be quantified and recognized in the cost-allocation process.

The long, windy coast of New England is expected to play a critical part in that region's clean energy drive, with *Massachusetts* alone targeting 5,600 MW by 2027 and other states hoping developers will install thousands more megawatts.

Nova Scotia's provincial government wants to *offer leases* for 5 GW of OSW between 2025 and 2030 to support its budding green hydrogen industry.

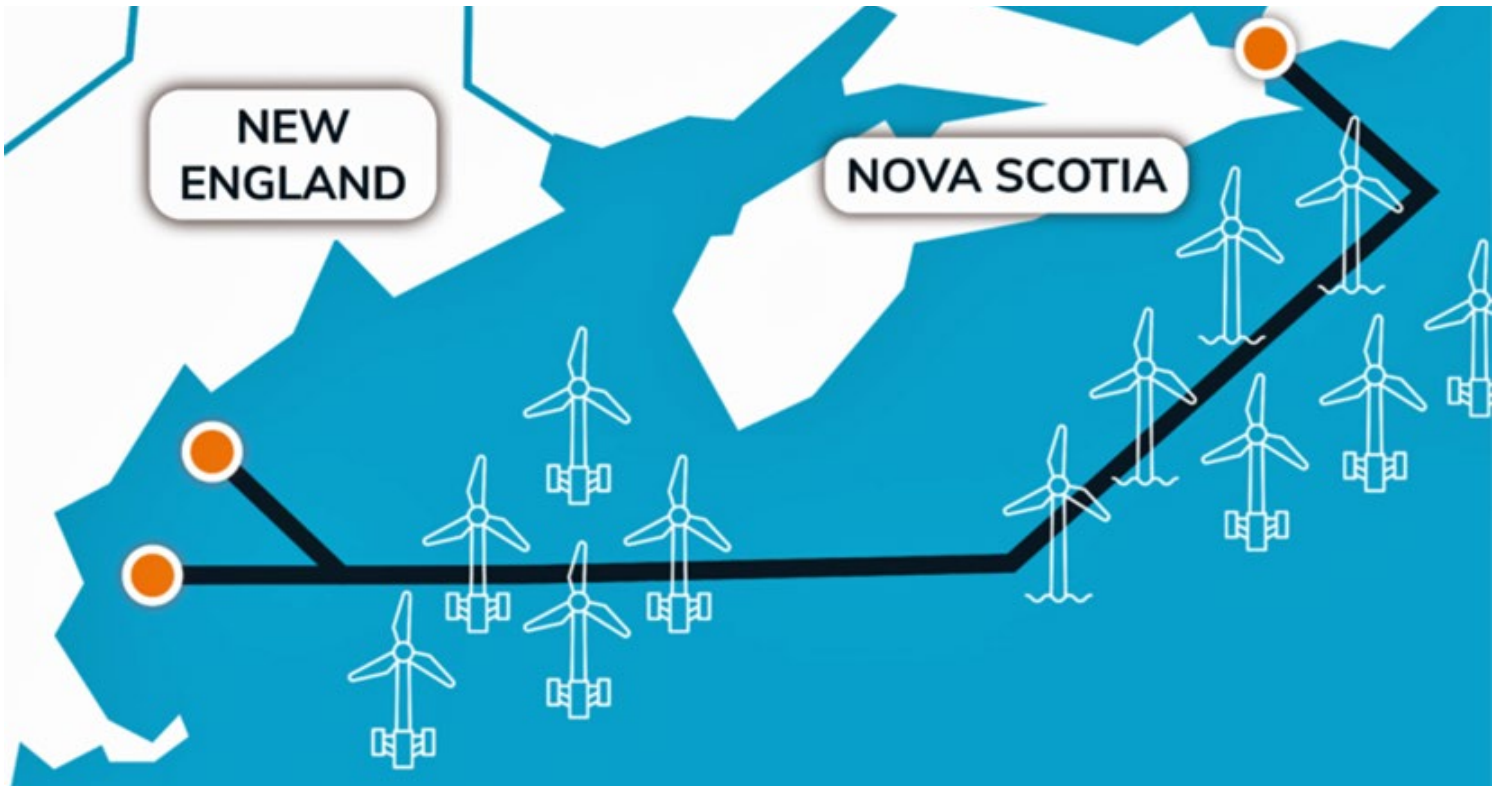
Transmission between the two sets of offshore wind arrays could both enhance grid reliability and provide economic benefits, the authors said. Nova Scotia turbines could export to ISO-NE during high-priced hours, and wind turbines in the Gulf of Maine could export to Nova Scotia to reduce curtailment.

Weighing against this are multiple challenges: the multijurisdictional permitting of such a line, its non-traditional value proposition and its significant cost: High-level price estimates range from $6.4 billion to $8.3 billion (USD).

Government financial support would be needed. Meanwhile, the floating turbine technology that would be required in the deep water of the Gulf of Maine is still being developed, and the supply chain to manufacture its components is facing yearslong delays.

NEMOEC comprises:

- Atlantic Canada Offshore Development, a joint venture of Copenhagen Investment Partners and Shell Canada to explore the potential for OSW in Canada's Maritime provinces;
- hydrogen and ammonia developer Bear Head Energy, a subsidiary of BAES Infrastructure;
- Ireland-based renewable energy developer and operator DP Energy;
- floating wind developer Hexicon;
- transmission line developer Grid United;
- Canadian power producer Northland Power; and
- floating offshore wind developer TotalEnergies SBE US, a partnership between TotalEnergies and the Simply Blue Group. ■



A coalition of energy developers is advocating for an offshore wind power transmission link between New England and Canada's Maritime provinces. | *New England – Maritimes Offshore Energy Corridor (NEMOEC)*

ISO-NE News

Climate Advocates Ask FERC to Reject ISO-NE Capacity Results

By Jon Lamson

Environmental activists asked FERC on Friday to reject the results of ISO-NE's Forward Capacity Auction 17, saying continued payments to fossil fuel generators is a risk to ratepayers and the climate.

The March 6 auction for the 2026/27 procurement period saw a slight increase in non-emitting generation obligations but still resulted in over three-quarters of the total obligations going to fossil fuel generation. (See *FCA 17 Shows Clean Energy Boost, Endgame for Coal in New England*.)

ISO-NE filed the *results* on March 21, asking the commission to find them just and reasonable and in accordance with the RTO's tariff (ER23-1435).

More than 160 individuals and organizations wrote comments opposing the auction's results. No Coal No Gas, a New Hampshire-based campaign to end fossil fuels that recently elected an activist slate of candidates to the Consumer Liaison Group's (CLG) Coordinating Committee, coordinated the effort to reject the results. (See *Climate Activists Take Over Small Piece of ISO-NE*.)

"Based on blatantly inaccurate assumptions about the capacity, reliability and sustainability of fossil fuel-powered generators, the FCA 17 results not only violate ISO-NE's mandate, but also call into question the legitimacy of the [Forward Capacity Market] as a whole," the group wrote in its *comments*. "Thus, the arguments made in No Coal No Gas's protests and comments are directly relevant to whether the ISO-NE followed its tariff when it conducted FCA 17."

The group noted that the Merrimack Station did not win a capacity supply obligation, saying it was "grateful that our utility bills will not be used to subsidize coal as of June 2026."

But it lamented that the auction "awards hundreds of millions of ratepayer dollars to keep the oldest, dirtiest, least economical fossil fuel-powered generators online for use as peaker plants. By propping up these failing fossil fuel-powered generators as standby peaker plants and sending bonus payments to base load generators, ISO-NE is preventing a just transition on our dime, and we call on FERC to intervene."

The organization highlighted a 2019 *white paper* commissioned by the Sustainable FERC Project that found that capacity markets like those run by ISO-NE "have built-in biases against renewable energy."

Commenters also criticized the structure of ISO-NE, arguing that the Forward Capacity Auction is part of a broader bias within the RTO favoring existing fossil fuel generators and providers.

"The current status quo financial subsidies and broken rules of ISO's transmission grid has created a state of high ratepayer financial and physical vulnerability," wrote Nathan Phillips, a Boston University ecology professor and one of the recently elected members of the CLG coordinating committee. "ISO-NE's corporate arm, NEPOOL, is set up so that ratepayers are only one-sixth of the stakeholder groups involved in the grid."

The Mystic Generating Station in Everett, Mass. | *Fletcher6, CC BY-SA 3.0, via Wikimedia Commons*

The Berkshire Environmental Action Team also filed comments in opposition, saying ISO-NE should "also aggressively prioritize demand response and other efficiency programs, and engage ratepayers in programs designed to reduce demand during peak events on the grid."

Several companies with a financial stake in the auction — including Eversource, National Grid, Calpine, Dominion and Constellation — filed motions to intervene in the proceedings, though none filed comments.

ISO-NE has requested FERC rule on the auction results with an effective date of July 19. ■

ISO-NE News

NEPOOL Participants Committee Briefs

Historically Warm Last Winter

ISO-NE COO Vamsi Chadalavada on Thursday told the NEPOOL Participants Committee that New England's overall energy demand was down during the past winter, coming in at approximately 29,300 GWh, compared to the 31,600 GWh average since 2010.

This is the lowest winter energy total reported by ISO-NE going back through 2010, punctuating a clear downward trend over this time period.

Chadalavada highlighted how the expansion of behind-the-meter solar energy, which has significantly outperformed ISO-NE projections in recent years, has helped to ease winter demand.

The low demand was also in part from abnormally high temperatures, which averaged 4.8 degrees Fahrenheit above "normal" — defined as the average temperature over the past 30 years — from December through February. This includes a 35-consecutive-day stretch of above-normal temperatures, nearly extending through the entire month of January.

These warm conditions could increasingly become the new normal in the region, as research has *indicated* that New England is warming faster than average global temperatures, with the greatest impacts being felt in the winter.

2023/24 Projection

Looking forward to this coming winter, Chadalavada presented a variety of scenarios modeling the impacts of different severities on the grid. These generally found the region well positioned, with sufficient energy and capacity to meet demand in mild and moderate winter scenarios.

In the case of a harsher winter, with lower-than-normal overall temperatures and several extended cold stretches, the RTO projected that some capacity deficiency actions may need to be taken for a few days, but that emergency measures will likely not be necessary.

He also noted that the Inventoried Energy Program, which compensates generators for storing up to three days of fuel, will remain in place in the winters of 2023 and 2024.

Winter Without the Everett LNG terminal

Chadalavada also presented the RTO's modeling of the winter of 2024/25 with and without the LNG import terminal in Everett, Mass., owned by Constellation Energy. The reliability-must-run agreement for the Mystic generating plant, the terminal's "anchor tenant," will expire in June 2024. (See *Narrow Set of Options for Retaining Everett LNG Terminal*.)

The RTO, along with the gas distribution companies, have *argued* that the terminal is necessary for the reliability of the region's gas and electric systems, while environmental groups have *challenged* this conclusion, saying that these needs could be covered by storage investments and demand response programs.

ISO-NE's modeling, which looked at how the grid would perform under moderate and severe winter scenarios, found "limited exposure to energy shortfalls" without the terminal, compared to essentially no exposure to energy shortages with the terminal. The projected severity of the shortfall depends on the size of the fuel oil inventory and how much additional clean energy — offshore wind in particular — is added prior to the loss of the terminal.

The RTO concluded that an increased fuel oil inventory could fully cover the energy shortfall in the case of a moderate winter, and mostly mitigate the shortfall in the case of more extreme winter conditions.

Despite these findings, Chadalavada cautioned against jumping to the conclusion that the terminal will no longer be necessary following the expiration of the existing contract, owing to potential impacts the loss would have on the gas system, as well as on the electric system in the winters following 2024/25.

"The ISO doesn't have the expertise to assess the operational capability of the regional pipeline system without Everett and will rely on the expertise of pipelines and the [local distribution companies] to identify any operational concerns," Chadalavada said.

The RTO has been collaborating with the Electric Power Research Institute to study the potential long-term effects that the loss of the Everett terminal would have on reliability in the region. The first phase of this study, projecting out to 2027, is set to be released this Friday.

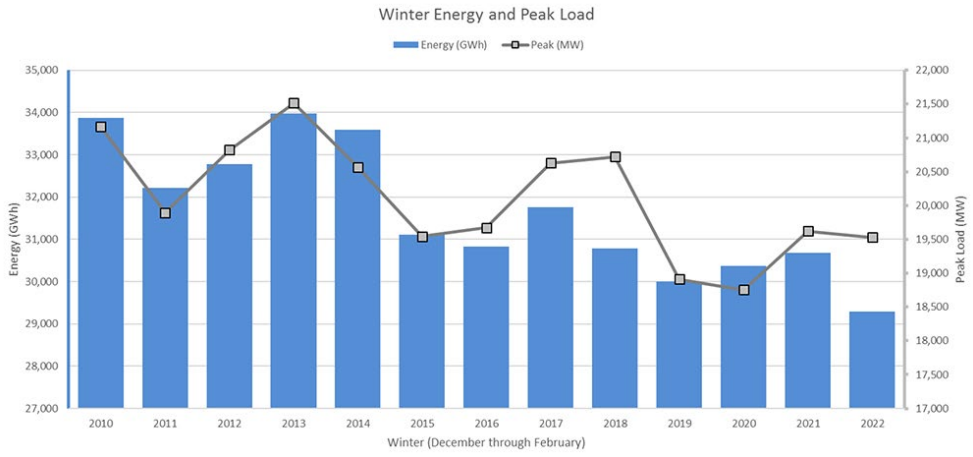
Order 2222 Compliance

The committee endorsed tariff revisions to comply with FERC Order 2222 in response to a commission directive, with a filing expected today.

The PC voted along the same sector lines as the Markets Committee did when it endorsed the revisions last month, with almost exactly the same amount of support: about 78.6%. (See "Compliance Filing on DER Aggregation," *ISO-NE Stakeholders OK DER Aggregation Plans, Generator Relief*.)

FERC in March rejected certain elements of ISO-NE's original proposal to comply with Order 2222, which directed RTOs and ISOs to allow distributed energy resource aggregations to fully participate in their markets. The commission ordered further revisions by several different deadlines, depending on the element.

The new revisions are those due 60 days from FERC's March 1 order. (ISO-NE was granted a week extension to file them.) They would clarify that the relevant electric retail regulatory authority authorizes customers of small



Winter energy and peak load in New England from 2010 to 2022 | *ISO-NE*

ISO-NE News

utilities to participate in a DER aggregation and that the RTO will resolve disputes that are within its authority and subject to its tariff.

The filing will also include an explanation of why ISO-NE's proposal to require measurement of behind-the-meter DERs at the retail delivery point, rather than allowing submetering, minimizes barriers to entry for resources. The RTO has requested a rehearing of FERC's rejection of its proposal to designate the DER aggregator as the entity responsible for providing any required metering information.

LS Power CSO Proposal

Finally, the committee rejected endorsing proposed tariff revisions by LS Power to allow its gas-fired Ocean State Power plant to unwind a 64-MW capacity increase while maintaining its existing 270-MW capacity supply obligation.

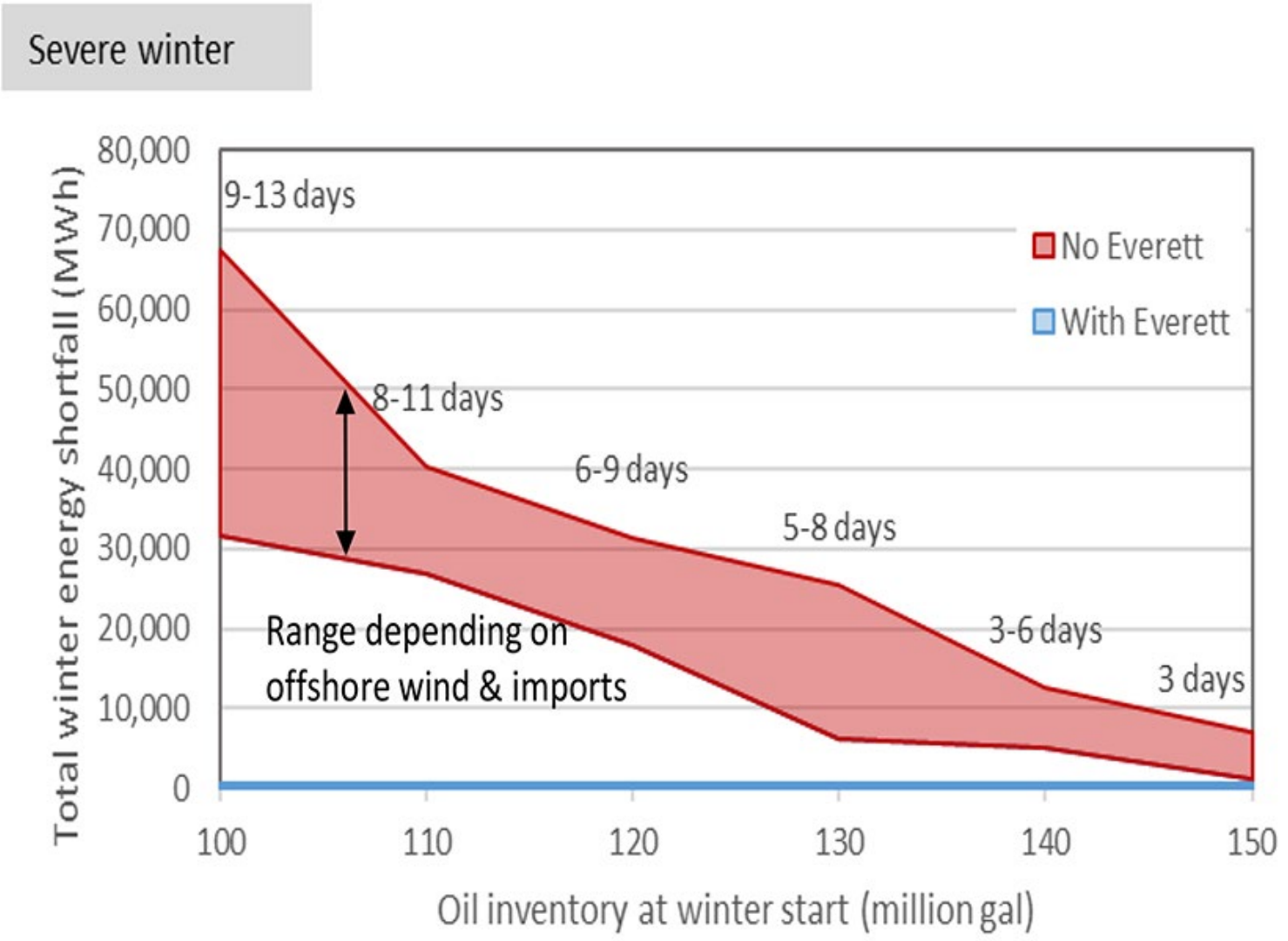
The plant had cleared Forward Capacity Auction 15 at 334 MW, but the company has become concerned that it will not be able to complete the uprate by the June 1, 2026, deadline. Under the RTO's tariff, that would mean the plant would also lose its CSO for the existing capacity.

LS Power's proposed revisions were intended to allow market participants to "unwind" promised capacity increases, allowing the plant to continue participating in the capacity market. Despite the RTO and its Internal Market Monitor opposing the proposal, the MC last month overwhelmingly endorsed it, with 83.3% in support. (See "LS Power's Dilemma" in linked article above.)

But the company failed to achieve even a majority of the PC's support, with only 45.7% voting in favor; it needed 60% for endorsement. All of the Generation sector was in favor, and minor support came from the Supplier, Alternative Resources and End User sectors. The Publicly Owned Entity sector was unanimous in opposition. Every sector had numerous abstentions.

LS Power may file a complaint with FERC under Federal Power Act Section 206. Before the vote, NEPOOL clarified to committee members that if they endorsed the revisions, it would indicate its support for LS Power's revisions in the docket but not weigh in on the just and reasonableness of the current tariff. ■

— Jon Lamson and Michael Brooks



Modeling of a severe 2024/25 winter with and without the Everett LNG terminal | *ISO-NE*

ISO-NE News

FERC Orders ISO-NE to Reconsider Market Power Mitigation Rules

Dynergy Units Lost $900,000 During Elliott

By Rich Heidorn Jr.

FERC last week ordered ISO-NE to reconsider its market power mitigation rules to address an "unanticipated and highly atypical" situation that Dynegy Marketing and Trade said caused it to lose more than $900,000 during the December winter storm.

In partly granting Dynegy's request for recovery of more than $903,000 in costs, the commission's May 5 order also instituted a show-cause proceeding under Federal Power Act Section 206 requiring the RTO to revise or defend its current rules (*ER23-1261*, *EL23-62*).

Dynegy Marketing and Trade, which was *acquired* by Vistra in 2018, operates the Bellingham, Blackstone, Lake Road, Milford, Casco Bay/Independence and Masspower natural gas-fired generation stations in New England.

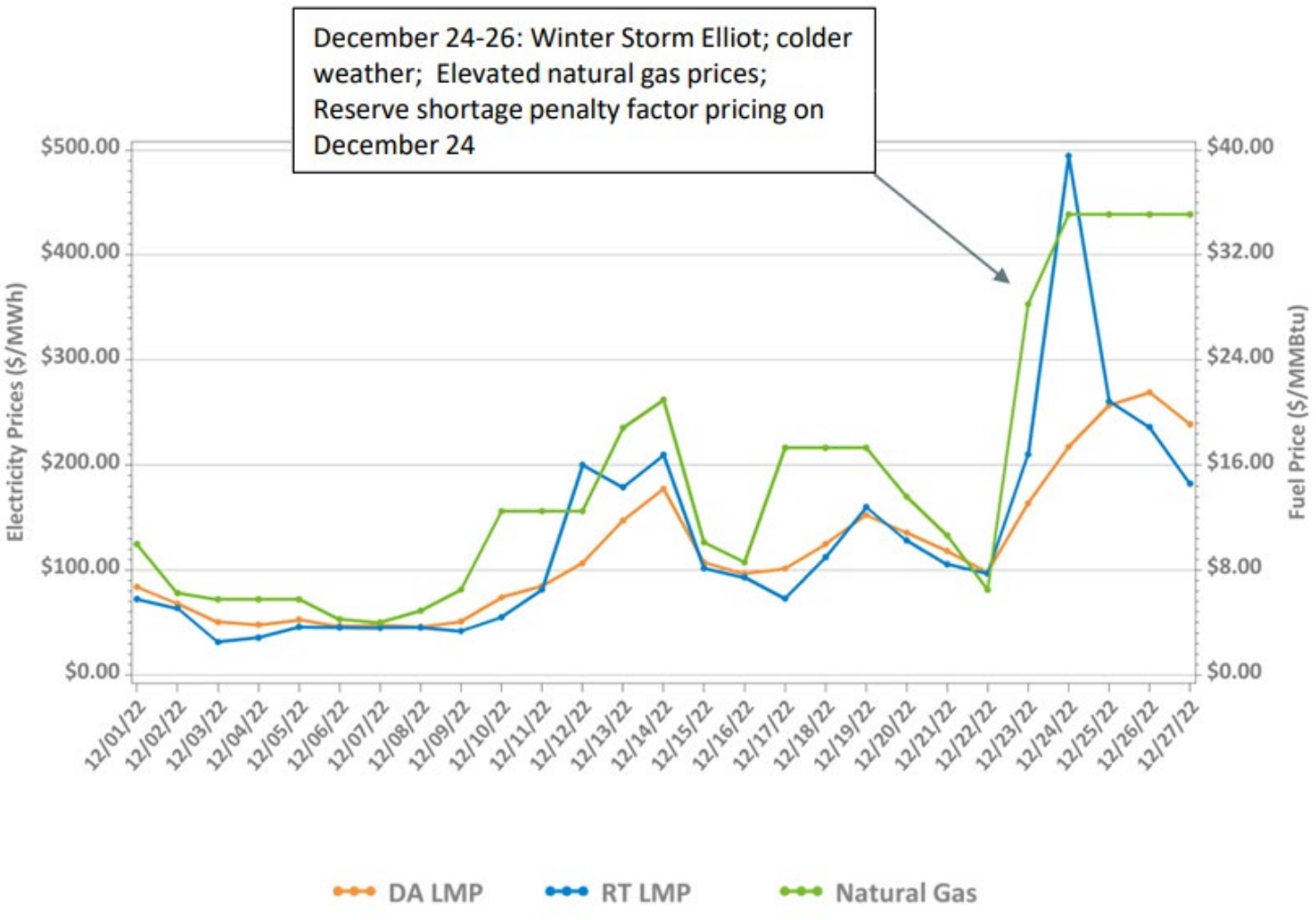
On the morning of Dec. 24, ISO-NE's Internal Market Monitor determined that the size of Dynegy's fleet relative to the system supply margin made the company a "pivotal supplier" that could potentially exercise market power.

This "structural" test is one of three screens ISO-NE uses to identify potential market power. The RTO's "conduct" test determines if the participant offered the resource at a price above its "reference level" — a unit-specific price based on its cost of operations — by a certain threshold. The RTO's "impact" test determines if the resource changed LMPs by more than 200% or $100/MWh, whichever is lower.

Resources that fail all three tests are subject to mitigation, with the duration of the mitigation determined only by the structural test — meaning that even after a resource's offers no longer exceed the reference level plus threshold, it remains mitigated until it is no longer a pivotal supplier.

Pivotal Supplier

ISO-NE found that Dynegy was a pivotal



Daily average day-ahead and real-time ISO-NE hub prices and input fuel prices: December 1-27, 2022 | *ISO-NE*

ISO-NE News

supplier during hour ending (HE) 1 through HE19 on Dec. 24, resulting in the RTO mitigating "several" of its resources in the real-time energy market, causing them to under-recover their actual real-time energy market costs as natural gas prices rose in intraday markets.

Dynegy said its under-recovery occurred during intervals in which its supply offers were mitigated to lower reference levels and its resources were uneconomically dispatched higher than they would have been without mitigation ("downward price mitigation").

The company also had offered segments of its supply curves below reference levels, but the IMM mitigated them to the higher reference levels ("upward price mitigation"), pushing Dynegy's units out of merit and resulting in lower dispatch levels than the company had expected based on prevailing LMPs. Dynegy also said it under-recovered costs in those hours because it was required to buy back its day-ahead awards.

The company supported its request with an affidavit from consultant Bill Fowler, a longtime ISO-NE stakeholder, who said he had never before seen the use of upward mitigation, nor heard it discussed in stakeholder processes that developed the current rules.

"If a generator is watching its offers being mitigated [in real time] to higher price levels, with the result being unit output is driven to lower megawatt levels than it desires, the generator no longer has an economic incentive to follow the ISO's dispatch instructions as required, as it would be more profitable to self-dispatch to the higher megawatt levels," Fowler said.

The tariff calls for mitigation to continue until a complete hour passes during which the pivotal supplier test is no longer exceeded.

As a result, said Fowler, Dynegy's "offers became meaningless: They would be mitigated to reference until the [pivotal supplier test] condition was over. Adding to the problem, the mitigation would extend to all offer segments, not just those that were above reference."

Rules that increase offer prices defeat the purpose of market mitigation and undermine reliability, Fowler said. "It is in precisely these situations — with volatile gas prices in scarcity conditions — that we want generators to take extraordinary steps to find ways to secure additional fuel."

Dynegy's request for recovery was supported by the New England Power Generators Association but opposed by the Maine Public Advocate, the Massachusetts Attorney General and the Connecticut Office of Consumer Counsel.

Ruling

The commission granted Dynegy's request to recover costs related to downward price mitigation and recovery of $62,600 in legal costs but denied its request to recover costs related to upward price mitigation, saying the latter recovery was not permitted by the tariff.

But the commission also said the tariff provision that allows ISO-NE to apply upward mitigation may be unjust and unreasonable and can result in "an illogical outcome."

Raising a seller's offer "may potentially lead to suboptimal dispatch, and may increase production costs, because when ISO-NE mitigated Dynegy's offers to a higher level, the market clearing software dispatched Dynegy resources to lower output levels than would have occurred had Dynegy's offers not been mitigated upward," FERC said. "ISO-NE likely dispatched other, more expensive resources to higher output levels to replace the output from the Dynegy resources that were dispatched down."

FERC gave the RTO 60 days to defend the rule or propose a remedy to its concerns.

It said the RTO should consider whether it is appropriate to mitigate a resource to the lower of its submitted offer prices or its reference level for a given offer segment, rather than automatically mitigating all of a resource's submitted offer segments to reference levels.

ISO-NE also should consider whether its market power screens should continue testing for conduct and impact beyond the first hour that a portfolio of resources is determined to be pivotal and whether there are other scenarios in which participants would be precluded from recovering costs incurred in situations where their supply offers are mitigated upward, FERC said.

ISO-NE spokesman Matt Kakley said the RTO was reviewing the order and had no immediate comment on how it would respond.

Stakeholders will have 21 days to file comments following the RTO's filing. ■

Northeast news from our other channels

NY to Begin Banning Gas in New Construction in 2026 — NetZero Insider

Mass. DOER Issues Draft RFP for Region's Largest OSW Solicitation — NetZero Insider

Offshore Wind Power Boosts Revenue for Ørsted — NetZero Insider

Eversource CEO Gives Update on Offshore Wind Sale — NetZero Insider

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

MISO News

New Law Expands Indiana ROFR Law for Transmission Buildout

By Amanda Durish Cook

Indiana has become the latest state to give incumbent utilities a right of first refusal to develop regional transmission projects.

HB 1420 acquired Gov. Eric Holcomb's signature on May 1, along with 67 other *bills*. Indiana already *maintained* rights of first refusal for incumbent utilities to build, own and operate new transmission lines for reliability purposes within their service territories. The new law extends utilities' rights to projects approved through an RTO transmission planning process that can cross multiple states, preventing competitive developers from bidding on segments of them.

The bill advanced 55-39 from the House of Representatives last month, with opposition coming from both sides of the aisle.

The final bill included amendments that require utilities to use competitive bidding when they subcontract out construction on portions of their projects and notify their RTO within 90 days of project approval if they intend to pass on a project, so they can initiate their request for proposals process.

American Electric Power's Indiana-Michigan Power is a member of PJM. All other utilities in the state — AES Indiana, CenterPoint Energy, Duke Energy Indiana and Northern Indiana Public Service Co. — are members of MISO.

MISO automatically assigns approved transmission projects, or portions of them, to incumbent utilities in states with ROFR laws in place.

It is unclear what PJM's policy is regarding state ROFR laws; the RTO had not responded to a request for more information as of press time.

Indiana Rep. Ed Soliday (R), the bill's author, has said that the objective of the law is to ultimately lower rates for customers and secure better cost controls for incumbent utilities, which are best positioned to own and operate transmission in their territories.

Danielle McGrath, president of the Indiana Energy Association — a trade group representing utilities — has also said that incumbent utilities are best situated to manage restoration after grid-disrupting events.

Opponents of the law have argued that it will stymie competition and increase rates while holding back innovation. The Electricity Transmission Competition Coalition (ETCC) said it was disappointed in the bill's passage and had called on Holcomb to veto the bill.

In a statement, Paul Cicio, chair of ETCC, said "the decision by Gov. Holcomb to sign this anticompetitive, anti-consumer and inflationary legislation is regrettable. HB 1420 will hurt families and businesses with higher monthly utility bills."

The ETCC said ROFR bills give incumbent utilities "no reason to reduce or even contain costs and will pass higher transmission costs onto consumers." It said that according to MISO's zonal transmission *rates*, transmission costs in Indiana have climbed by an average 63% over the past five years. It did not address transmission rates in PJM.

"HB 1420 will see those rate hikes accelerate for decades to come. Hoosiers have had to deal with the fourth highest increase in electricity prices in the country," the coalition said, citing pricing *data* from the U.S. Energy Information Administration and a 2019 Brattle Group *study* that concluded transmission competition saves consumers money. "HB 1420 will make a bad problem worse. Electricity transmission competition has been shown to lower costs by as much as 40%. Indiana needs an upgraded grid, and Hoosiers deserve affordable electricity, and electricity transmission competition is the only way to deliver both."

Indiana's law takes effect weeks after the Iowa Supreme Court overturned the state's ROFR, which could potentially shake up the construction and ownership of a couple billion dollars' worth of MISO's approved long-range transmission project portfolio. (See *Iowa Regulators Ponder MISO Tx Projects After ROFR Ruling*.) Multiple MISO state legislatures have considered ROFR bills since the beginning of the year as MISO mounts a second long-term transmission portfolio that could contain as much as $30 billion worth of new projects. (See *MISO States Ramp Up ROFR Legislation*.) ■

NIPSCO transmission repair work after storm damage in April | *Northern Indiana Public Service Co.*

MISO News

WEC Energy Group's Earnings Droop on Mild Winter

By Amanda Durish Cook

WEC Energy Group's first-quarter earnings dipped year-over-year after one of the mildest winters in its service territory in more than a century.

The utility *reported* net income of $507.5 million ($1.61/share) for the first quarter of 2023, a drop from the $565.9 million ($1.79/share) it brought in during last year's first quarter.

WEC Executive Chair Gale Klappa last week said the weather was a "major factor" in the earnings results.

"We saw one of the mildest winters in the history of the Upper Midwest," Klappa said during a conference call with financial analysts May 1. "For example, it was the second-warmest first quarter in Milwaukee since 1891. However, we're confident in our plan for the remainder of the year."

WEC serves nearly 4.7 million customers in Wisconsin, Illinois, Michigan and Minnesota.

Assuming normal weather for the rest of 2023, WEC will be able to achieve its annual earnings guidance of $4.58 to $4.62/share, Klappa said.

"We continue to focus on the fundamentals of our business: financial discipline, operating efficiency and customer satisfaction," he said in a statement. "And we're confident that we can deliver another year of strong results, in line with our original guidance for 2023."

WEC's consolidated revenues totaled $2.9 billion, down $20 million from the first quarter a year ago.

The utility said residential electricity use dropped by 5.8% compared to last year's first quarter. Small industrial and commercial customer electricity consumption fell by 3.4%, and large commercial and industrial customer electricity use declined 3.9%.

Klappa said WEC continues to make progress on its $20.1-billion, five-year environmental, social and governance plan. He said it's the largest five-year investment plan in the history of the company and should drive compound earnings growth of 6.5% to 7% annually from 2023 through 2027.

"As we look to the future, it's clear that the mega-trend of decarbonization and the need for even greater reliability will drive investment plans that are long and strong," he told analysts.

WEC CEO Scott Lauber said that since last December, the Wisconsin Public Service Commission has granted approval for two solar battery parks and WEC's purchase of a portion of the solar and natural-gas output from Alliant Energy's West Riverside Energy Center.

Lauber said work continues on Badger Hollow II Solar Farm and the Paris Solar Battery Park, in which WEC shares ownership interest with other utilities. He said the projects' remaining solar panels are clearing customs in Chicago, and WEC hopes to place the solar parks into service late this year or early next year. ■

| *WEC Energy Group*

MISO News

MISO: No Deadline Yet for 2023 Queue Applications

By Amanda Durish Cook

MISO told stakeholders last week that it hasn't yet settled on a deadline for developers to submit generation project applications for the 2023 interconnection queue cycle.

Ryan Westphal, manager of generation interconnection, said during an Interconnection Process Working Group (IPWG) teleconference that staff will announce a finalized date during a future IPWG meeting.

Multiple stakeholders asked whether MISO is considering embedding some feasibility checks earlier in the process. Entergy's Yarrow Etheredge said reforming the application process would give stakeholders more certainty on the number of viable projects, given the sheer amount of generation that entered the 2022 cycle. MISO fielded more than 170 GW of new generation requests last year. (See *MISO Insists it can Handle Record-setting Interconnection Queue*.)

"Obviously we have more generation in the queue than we have load," Etheredge said

Westphal said MISO is considering some application process changes but isn't ready to share proposals.

The RTO has been accepting queue requests since last fall.

Stakeholders are asking the grid operator to clear up its transmission service-request process for incoming battery storage that charges from the grid. They said inconsistencies and ambiguous language exist between MISO's business practice manuals and tariff as to whether battery storage needs to secure yearly, firm point-to-point transmission service or non-firm service. Staff maintain that storage charging from the grid is required to obtain long-term, point-to-point service.

WEC Energy Group's Chris Plante raised the issue earlier this year, saying he thought the business practice manuals are light on authority when standalone battery storage connects to the transmission system and intends to charge from the grid.

MISO said it is also hoping to introduce a new relative queue priority with PJM to study proposed generation projects near the seams for potential effects that might require transmission upgrades in each footprint. Westphal said the RTO wants to use a process like the one it rolled out last year with SPP, in which it uses a first-ready, first-served philosophy. Staff first study projects that are best prepared for interconnection, rather than according to the order in which they entered the queue. (See *FERC OKs New Queue Priority for MISO, SPP Seams Studies*.) ■

| *Ameren Missouri*

MISO News

Report: Energy Storage Would Save Indiana Utilities $73M

By Amanda Durish Cook

Three Indiana utilities could save their customers a combined $73 million if they scrapped plans to build new gas plants and invested in battery storage instead, according to a new report released last week.

Strategen Consulting, a firm specializing in decarbonizing the grid, *concluded* Northern Indiana Public Service Co., CenterPoint Energy and Indiana Michigan Power should discard plans for new natural gas-fired combustion turbines in their recent integrated resource plans and add 366 MW to 1,156 MW of battery storage instead.

The firm said the utilities could achieve comparable grid reliability with storage. It said the Inflation Reduction Act (IRA), volatile natural gas prices, and MISO's shift to a new availability-based capacity accreditation for thermal resources mean that gas plant construction doesn't make economic sense.

"The IRA has dramatically shifted the energy planning space and requires all utilities to reassess their prior plans," Strategen wrote in the report. "The economic incentives for building clean energy resources provide new opportunities for utilities to provide their customers the most competitive rates while also achieving their clean energy and climate goals."

The firm analyzed savings potential in battery systems' first year of deployment based on when the utilities expected to add the gas plants. It found:

- CenterPoint Energy could save its customers $3.5 million in 2025 if it replaces a planned 460-MW gas plant with 551 MW of four-hour battery storage;
- NIPSCO could achieve savings of $3.43 million in 2027 by replacing an envisioned 300-MW gas plant with 366 MW of storage; and
- Indiana Michigan Power could save $66.17 million in 2028 if it swaps its planned 1,000 MW gas plant for 1,156 MW of storage.

Strategen said it didn't account for gas plants' stranded asset risk in its findings. The firm said it anticipates savings in subsequent years will be even larger.

The report is a companion to Strategen's February *study* that found Duke Energy Indiana could save ratepayers $68.5 million in the first year if it traded its plans for a new gas plant for wind, solar and storage resources. The Advanced Energy United trade association commissioned both studies.

Strategen said advanced energy technology has become cheaper since the utilities finalized their IRPs in 2020 and 2021.

"There has never been a better time for Indiana to look beyond a business-as-usual approach and modernize its energy grid by replacing polluting fossil fuels with low-cost, plentiful clean energy," Strategen's Ed Burgess said in a press release.

The firm said though natural gas plants have historically been the generation of choice for emergencies, "recent performance and availability of natural gas plants warrants a serious reconsideration of this preference, as evidenced in MISO and PJM in the latest winter storms."

NextEra Energy battery storage | *NextEra*

It said if combustion turbines cannot be depended on "during the most crucial hours, their value to the utility and overall system reliability drops dramatically."

"Indiana utilities are on the verge of committing many hundreds of millions of their customers' dollars on expensive and outdated technology when there are better, lower-cost, and lower-risk alternatives," said Trish Demeter, Advanced Energy United's managing director. "Indiana utilities made their plans to build these costly power plants back before fuels got more expensive and renewable energy technologies got a whole lot cheaper. This analysis shows advanced energy tech provides a more affordable path to building a reliable and modern electric grid for Hoosiers." ■

NYISO News

Con Ed Completes 300-MW Line for Cleaner NYC Grid

Project Energized as Large Peaker Plants Shut down Nearby

By John Cropley

Consolidated Edison said Wednesday it has energized the first piece of its *Reliable Clean City* initiative.

The six-mile, 300-MW power line links the 345-kV Rainey substation with a 138-kV Astoria substation.

Con Ed is building two other power lines in Brooklyn and Staten Island as part of the initiative begun in 2021. Altogether, the three lines have a combined rating of 900 MW, and, with associated substation upgrades, a price tag of approximately $800 million.

When completed in 2025, the three lines will allow for retirement of eight gas-fired peaker units at five other sites across the city by facilitating importation of power generated elsewhere.

With its large nuclear and hydro facilities and a growing number of solar and wind farms, the upstate New York grid is mostly emissions-free. Downstate is densely populated and powered mostly by fossil fuels.

Multiple transmission projects are now in planning or construction stages to bring clean energy to the nation's largest city from upstate and elsewhere, and to retire the fossil fuel plants blamed for respiratory illnesses in surrounding neighborhoods.

On a similar note, the 558-MW peaker formerly operated by Astoria Gas Turbine Power closed May 1.

The aging plant was denied a state permit to modernize in 2021 because it would not comply with new, stiffer state regulations.

In 2022, the NRG subsidiary that owned it announced a deal to sell the site to the Equinor-BP entity developing the proposed Beacon Wind project off the New York coast.

The plant will be demolished, and its proposed replacement is the Astoria Gateway for Renewable Energy (*AGRE*), a 1,230-MW converter station for power generated by Beacon Wind.

In nearby Long Island City, Rise Light & Power is proposing to *convert* Ravenswood Generating Station, the city's largest power plant, into a 1,310-MW offshore wind hub. Ravenswood, a longtime target of health and environmental justice activists, has already been partially retired and three more of its generating units totaling 68.6 MW will be retired as Con Ed completes the Reliable Clean City projects.

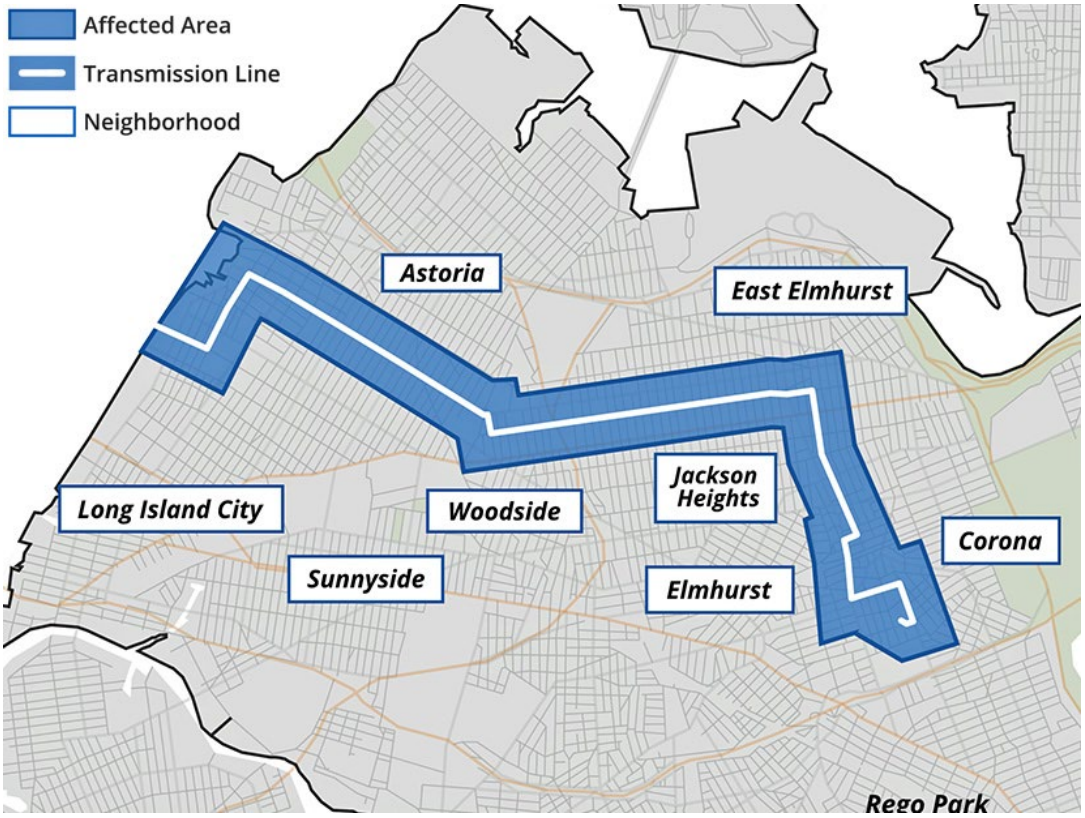
In a state *news release* Wednesday, New York Public Service Commission Chair Rory M. Christian tied together the impact of Reliable Clean City and similar projects in the pipeline.

"New York state is in the middle of a fundamental change in the generation and delivery of electricity," Christian said. "Our priority is ensuring renewable, clean sources are integrated into the grid while polluting sources are being phased out. Given this fact, it is expected that additions and modifications to the utilities' transmission infrastructure will accommodate the cleaner sources of electricity while ensuring reliability. These are much needed, welcomed changes that will improve all of our lives for the better."

The Astoria-Long Island City corridor is called "Asthma Alley" in some circles. The construction of the city's largest power plant a stone's throw from two of its largest public housing complexes is an example of the environmental injustice that is a parallel target of New York's clean energy transition efforts.

Queens Borough President Donovan Richards Jr. alluded to this in a Con Ed *news release*:

"Queens is done with the days of disinvestment in our health — both the health of our families and the health of our environment. There is no mission more critical than our transformation into a borough run on renewable energy, and Con Edison's Reliable Clean City Project represents a significant step toward that goal. I look forward to working with Con Edison and all of our partners to ensure that Queens becomes a global leader in the fight against climate change and environmental injustice." ■



This six-mile, 300-MW transmission line will better allow electricity to be imported to New York City as local generating units are retired. | *Con Edison*

PJM News

Jury Finds Former ComEd CEO, 3 Others Guilty in Bribery Trial

Deliberations Lasted Five Days

By John Funk

Anne Pramaggiore, former ComEd CEO | *© RTO Insider LLC*

A federal jury in Chicago last week found former Commonwealth Edison CEO Anne Pramaggiore guilty of bribery in connection with a multiyear conspiracy to pay former Illinois House Speaker Michael Madigan (D) for passage of legislation favorable to the utility.

John Hooker, lobbyist and former ComEd executive | *Chicago Housing Authority*

Also found guilty May 2 were former ComEd lobbyist and Madigan associate Michael McClain, former ComEd Vice President John Hooker and former ComEd consultant Jay Doherty.

The four were charged with nine counts of conspiracy to bribe Madigan in exchange for his help in passing bills that set certain rate charges that could not be debated before the Illinois Commerce Commission and produced millions of dollars of profits for the company over several years.

Michael McClain, retired lobbyist | *WBEZ*

The conspiracy outlined by the U.S. Justice Department and now accepted by the jury included payments of about $1.3 million from the utility to pay contractors favored by Madigan but who did not work, and an arrangement to generate billable hours with a favored law firm that also did no work. ComEd also provided summer jobs for constituents in Chicago Ward 13, where Madigan resided, and the wards of Chicago aldermen allied with the speaker. The scheme also included an appointment of a candidate favored by Madigan to a seat on the company's board of directors.

Prosecutors during the trial referred to the payments as a "corruption toll" ComEd paid from 2011 to 2018.

Federal Building and Dirksen United States Courthouse in downtown Chicago | *Ken Lund, CC BY-SA 2.0, via Wikimedia Commons*

Defense attorneys tried to convince the jury that the efforts of Pramaggiore and the others were just old-fashioned lobbying and not criminal.

A sentencing hearing must still be set. Each defendant faces up to five years in prison.

The guilty verdict came after five days of deliberations following a trial that lasted nearly eight weeks. The four were *indicted* on Nov. 18, 2020, after an eight-year FBI investigation that included hundreds of hours of wiretapped conversations. (See *Ex-ComEd CEO, Officials Charged in Ill. Bribery Scheme*.)

ComEd pleaded guilty to bribery in a *deferred prosecution* agreement on July 17, 2020, agreeing to pay a $200 million fine and cooperate with Justice Department prosecutors for three years. (See *ComEd to Pay $200 Million in Bribery Scheme*.)

The verdict on all nine counts sets the stage for trials in April 2024 on federal racketeering charges filed against Madigan and his confidant McClain. The Justice Department *indicted* Madigan in March 2021.

Madigan was speaker of the Illinois House of Representatives for 36 years, the longest-serving leader of any legislative body — both federal and state — in the history of the U.S. ■

PJM News

Exelon CEO: Energy Transition 'Requires Investments,' Rate Increases

Company Focused on Multiyear Rate Cases

By K Kaufmann

With utilities in states with aggressive clean energy goals — including Illinois, Maryland and D.C. — Exelon CEO Calvin Butler spent part of Wednesday's first-quarter earnings call talking about how the company's recently filed multiyear rate cases will help meet those decarbonization targets.

"We are well underway in a number of jurisdictions with three new filings initiated since the fourth-quarter earnings call," Butler said in his second earnings call as the company's CEO. "Building a stronger, smarter, resilient and cleaner grid requires investments. We are engaging with our stakeholders to align on our shared goals and ensure this investment is compensated fairly."

For example, Baltimore Gas and Electric's (BGE) multiyear plan, filed in February, calls for $2.3 billion in investments for Maryland's electric grid and natural gas systems and another $400 million for electric vehicle and building efficiency programs, CFO Jeanne Jones said.

"BGE's infrastructure plan includes more than 300 projects and maintenance programs designed to continue meeting customers' needs that lay the foundation for the state of Maryland to reach its goal of net-zero emissions by 2045," Jones said.

The rate increases to pay for these investments would start with a 6.8% hike in 2024, ramping down to 4.5% in 2025 and 3.7% in 2026, according to the company summaries of its current rate base applications included in the earnings call *presentation*.

Butler also sees opportunities emerging for BGE with Maryland's Promoting Offshore Wind Energy Resources (POWER) Act, recently signed into law by Gov. Wes Moore (D). The law calls for the deployment of 8.5 GW of offshore wind and a regional study on the associated transmission needs.

"We'll prioritize leveraging existing infrastructure, permitting risks and grid challenges, use of open access of collective transmission system and avoiding any single-contingency items," Butler said.

At the same time, the Maryland and Illinois multiyear plans will be facing new regulators. In Illinois, Gov. JB Pritzker (D) has named Doug Scott, energy systems vice president at the Great Plains Institute, to chair the Illinois Commerce Commission, beginning in June. Scott previously chaired the ICC from 2011 to 2015 and also served as head of the state's Environmental Protection Agency.

In Maryland, Moore has nominated Fred Hoover, an attorney with the Office of the People's Counsel, to head the Public Service Commission. Hoover also served as director of the Maryland Energy Administration under former Gov. Parris Glendening (D).

Butler described the leadership changes as "part of the process" of working with regulators. "Given this [energy] transformation will be measured in decades, it reinforces the importance of building a shared, forward-looking understanding across a variety of stakeholders, which is accomplished through transparency and collaboration," he said.

Asked if he had been in communication with Scott, Butler said, "There has been communication, but the communication has been around moving the state's goals forward." The Climate and Equitable Jobs Act, which Pritzker signed in 2021, commits Illinois to moving toward net-zero by 2050, with 40% of its power coming from renewable energy by 2030 and 50% by 2040.

Exelon is still expecting that Commonwealth Edison's multiyear rate plan will be approved by the end of the year, Butler said. If approved, customers rates could jump 7.3% in 2024. ComEd has asked to defer 35% of the increase to 2026, to soften the impact, but that deferment would mean a 6% increase in rates in 2026.

Calvin Butler, Exelon | *Exelon*

Elephant in the Room

Following its first full year of separation from Constellation Energy, Exelon reported first-quarter earnings of $669 million on revenue of $5.56 billion. GAAP earnings per share were 67 cents, while adjusted, non-GAAP earnings were 70 cents.

The company reported $597 million in earnings on revenues of $5.3 billion for the same period last year.

"These results keep us on track to deliver

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Utilities' Role Debated in NJ Community Solar Plan — NetZero Insider

Enviros Pan Dominion Integrated Resource Plan — NetZero Insider

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PJM News

earnings within our guidance range of $2.30 to $2.42/share for 2023," Butler said.

In addition, Exelon's four utilities — Atlantic City Electric, BGE, ComEd and Pepco — "had [their] best on-record reliability performance" in the first three months of 2023, he said. All four scored in the top quartile in terms of outage frequency and duration.

While Butler and Jones kept the call upbeat, the first question from analysts was on last week's guilty verdict in the trial of former ComEd CEO Anne Pramaggiore for a multi-year conspiracy to pay former Illinois House Speaker Michael Madigan (D) for passage of legislation favorable to the utility.

Former ComEd lobbyist and Madigan associate Michael McClain, former ComEd Vice President John Hooker and former ComEd consultant Jay Doherty were also found guilty. (See related story, *Jury Finds Former ComEd CEO, 3 Others Guilty in Bribery Trial*.)

The four were charged with nine counts of conspiracy to bribe Madigan in exchange for his help in passing bills that set certain rate charges that could not be debated before the ICC, producing millions of dollars of profits for the company over several years.

ComEd pleaded guilty to bribery in a *deferred prosecution* agreement in 2020, paying a $200 million fine and cooperating with Justice Department prosecutors for three years. But Butler said, "We have done more than that. We have made substantial changes to our contracting, lobbying and compliance operations to ensure that the conduct that was at issue in the trial would not happen again. … We are committed to the highest standard of integrity and ethical behavior."

Solar in South Jersey

Both Butler and CFO Jones kept the call focused on Exelon's investments in improving and decarbonizing the grid and the value and benefits customers will get for their increased rates.

Jones talked up the multiyear rate case for Pepco in D.C., filed with the district's Public Service Commission on April 13. The nation's capital is targeting 2045 for citywide carbon-neutrality, and in support of that goal, "Pepco is requesting a $190.7 million revenue increase over the 2024 to 2026 period," she said.

The money will be invested in "system equipment and infrastructure that will enable integration of more renewable energy such as solar," Jones said. It "will also help customers access and adopt cleaner energy technology like electric vehicles and will allow Pepco to manage load to ensure the electric service customers depend on is available when they need it." On a similar note, Jones talked about Atlantic City Electric's smart meter program, which has been installing about 30,000 new meters per month since September 2020.

"Smart meters are foundational for smarter power grids," she said. Benefits include being able to restore power faster and "better integration of new clean energy technologies, including solar."

ACE has the highest level of solar penetration of all Exelon's utilities, 25% of peak demand, she said. ■

PJM News

PSEG Sees Fortunes Stoked by NJ OSW, EV Advances

Utility Expects Future Benefits from State Clean Energy Initiatives

By Hugh R. Morley

Public Service Enterprise Group should get a boost from New Jersey's second solicitation for offshore wind transmission upgrades and the state's deepening embrace of electric vehicles, CEO Ralph A. LaRossa said during a first-quarter earnings call last week.

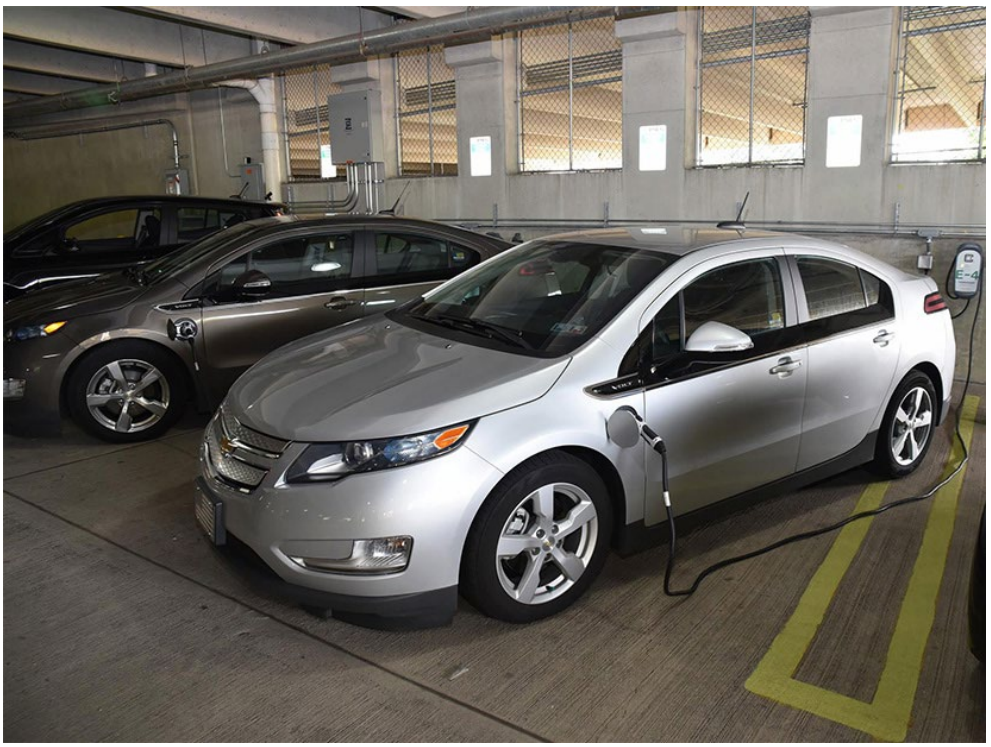
Of particular benefit to the company could be a recommendation by the state Board of Public Utilities (BPU) that cables running from offshore projects pass through the utility's 500-kV Deans substation in Northern New Jersey, LaRossa told analysts.

The BPU made the recommendation to PJM, which can choose whether to accept it as the best strategy. (See *NJ BPU Backs Plan for 2nd Grid Upgrade Process with PJM*.)

"What it means for us certainly is that if PJM does agree with the Board of Public Utilities and selects that, any of the work inside the fence will be the responsibility of [PSEG utility subsidiary] PSE&G," he said. "Outside the fence will still follow under that state agreement approach and be competitive solicitation."

"What I'm encouraged by is the fact that Deans is in our service territory; we know our service territory; and we should be very knowledgeable about the routes to get from the shore to that substation," he said.

PSE&G was among 13 developers that submitted 80 proposals in the state's first solicitation, made under the FERC State Agreement Approach rules, which resulted in last October's



| *PSEG*

awarding of contracts totaling $1.07 billion. PSEG submitted several proposals, some with Danish OSW developer Ørsted, which is developing two of the three approved projects off the Jersey shore under the name Coastal Wind Link. (See *NJ BPU OKs $1.07B OSW Transmission Expansion*.)

Despite PSEG's anticipation that it could see up to $3 billion in business from the solicitation, the BPU awarded the utility only two small contracts totaling $40.3 million. (See *PSEG Sees Potential $3B OSW Transmission Spending*.)

LaRossa said he was "very happy" the utility had upgraded its transmission network because BPU's recommendation to use Deans indicated "that our transmission system is ro-

PJM News

bust enough to take that injection of offshore wind generation into it."

"Our engineering team has done a really nice job of readying the system for what might come, and here it is," he said.

One analyst on the call noted that a major part of the business awarded in the first solicitation went to FirstEnergy's Jersey Central Power and Light, which was contracted to build a new substation next to its existing Larrabee substation. The analyst suggested that might happen with PSEG and its Deans substation.

But LaRossa said only that the work already done has improved the utility's "readiness" for the future.

Growing EV Use

LaRossa said the utility also is "developing proposals to help support and advance" New Jersey's updated and expanded clean energy policy, which PSEG expects will be primarily implemented by the BPU. The utility is paying particularly close attention to three climate change-related executive orders signed by Gov. Phil Murphy in February, including one to bring about electrification of 400,000 homes by 2035 and to require all electricity sold in the state to be derived from clean sources by the same year.

Another measure would end the sale of gas-powered cars and light-duty trucks by 2035.

LaRossa said the company is seeing signs that the state is turning to EVs.

"We are starting to see some new business requests come in," he said. "We see it in some of the Garden State Parkway rest stops. We're seeing it in the New Jersey Turnpike rest stops. We're seeing it in some of the large commercial organizations that were just granted approval by the BPU, that will install the charging infrastructure."

"We're going to keep an eye on that and see about what kind of capital is required for each one of those installations on a standalone basis to help us in projection going forward. But it's just the start," he said.

LaRossa added that he expects more information will become available over the next 12 months as the company deploys more advanced metering infrastructure, which uses smart meters to collect and communicate energy use data, and as "we start to see folks connect their EVs."

He said he was "really excited" by the apparent interest in EVs, especially after the BPU on April 24 announced the recipients of the first round of grants under its Electric Vehicle Tourism Program and opened a second round of grant applications. The program provides funding to support the installation of EV charging stations at tourist sites around the state. In the first round it awarded $755,000 to 16 applicants who together will install 43 chargers.

Cash Flow from Nuclear

LaRossa said PSEG is looking to evaluate how it might boost the capacity of its three South Jersey nuclear plants in the second half of this decade.

Asked by an analyst about the future of the nuclear fleet, LaRossa said, "We want to and expect to keep those assets in our portfolio. I don't see any scenario that we've been presented with that would make us waver from that.

"They are a great cash flow. They've been run really, really well. And they continue to be run really well," he said. "And so, when you have that operating excellence, combined with the cash flow, it does create a very unique utility-like revenue stream for us that we think differentiates us from some of our peers."

Company officials said they are awaiting direction from the U.S. Treasury Department about how to handle different aspects of the nuclear Production Tax Credit (PTC) approved under the Inflation Reduction Act. When that becomes clear, the utility can work out how that will affect the economics of its three plants and the future of the subsidies they receive under the state's Zero-Emission Certificate program. (See *NJ Nukes Awarded $300 Million in ZECs*.)

"One of the things that we were saying that was so, so important is that we have a long-term solution for nuclear," said PSEG CFO Dan Cregg.

He said the company was "happy" that the PTC created a long-term solution for profitably operating nuclear plants.

Earnings

PSEG reported first-quarter net income of $1,287 million, ($2.58/share) compared to a loss of $2 million ($0.01/share) for the first quarter of 2022. Non-GAAP operating earnings for the first quarter were $695 million ($1.39/share) compared with non-GAAP earnings of $672 million ($1.33/share).

LaRossa said the results show the company "delivered solid operating and financial performance to begin the year, and we are on track to achieve our full-year 2023 non-GAAP Operating Earnings guidance.

"We are executing our plan to grow PSEG while also increasing its predictability," he said. ■

PJM MC Preview

Below is a summary of the agenda items scheduled to be brought to a vote at the special PJM Members Committee meeting Thursday. 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 week's newsletter for a full report.

Endorsements (9:05-10)

1. Capacity Performance Penalties (9:05-10)

The Members Committee will consider endorsement of a proposal from American Municipal Power to modify the Capacity Performance (CP) penalty rate, performance assessment interval (PAI) trigger used to determine when generators pay penalties and the stop-loss limit defining how much a facility can be penalized. (See "Capacity Performance Penalties," *PJM MRC Briefs: April 26, 2023*.)

The committee will be asked to endorse the proposed solution and corresponding tariff revisions. ■

— Devin Leith-Yessian

PJM News

Dominion Sees Earnings Drop, but CEO Blue Predicts Bright Future

By James Downing

Dominion Energy on Friday said warm weather in the first quarter of this year led to lower operating earnings of 99 cents/share, compared to $1.18 a year earlier.

Despite the mild winter weather, Dominion CEO Robert Blue said the firm was in a good position given projected demand growth and the new Virginia law on regulations, providing it with certainty to make needed investments going forward. (See *Virginia Legislature Passes Utility Regulation Bills Backed by Dominion*.)

"With nearly unanimous bipartisan support, the legislation provides the certainty we need to fund and execute critical energy investments in support of the commonwealth's robust electric demand growth, long-term energy security and reliability, leading decarbonization goals and impressive economic growth," Blue said on a conference call with analysts.

Blue said the new law will lead to lower customer bills through the elimination of $350 million in riders and the securitization of fuel costs, cutting the average residential customer's bill by about 10%, which positions the company's Virginia utility about 21% below the national average.

"The law prescribes certain regulatory parameters for use in rate-setting for the next few years and establishes an authorized ROE of 9.7%, up from 9.35% currently," said Blue.

The new law compliments previous legislation — such as the Virginia Clean Economy Act, which set up decarbonization goals for the utility in midcentury — to create a regulated utility framework that balances customer benefits, regulatory oversight and Dominion's need for capital to invest in its system for decades to come, he added.

"That stability and certainty is especially critical now, as we ramp into the very substantial and growing multidecade utility investment required to address resiliency and decarbonization public policy goals," said Blue.

The decarbonization policy comes on top of fast load growth in Dominion's system, which is dominated by data centers in Northern Virginia. PJM's load forecast for Dominion's territory this year calls for 5% growth, compared to 2.1% last year, and the RTO is projecting a 2033 peak demand of 35.8 GW, a 39% increase over last year's projection of 25.8 GW.

"This isn't hypothetical growth. It's demand we're seeing and investing to serve every day," Blue said.

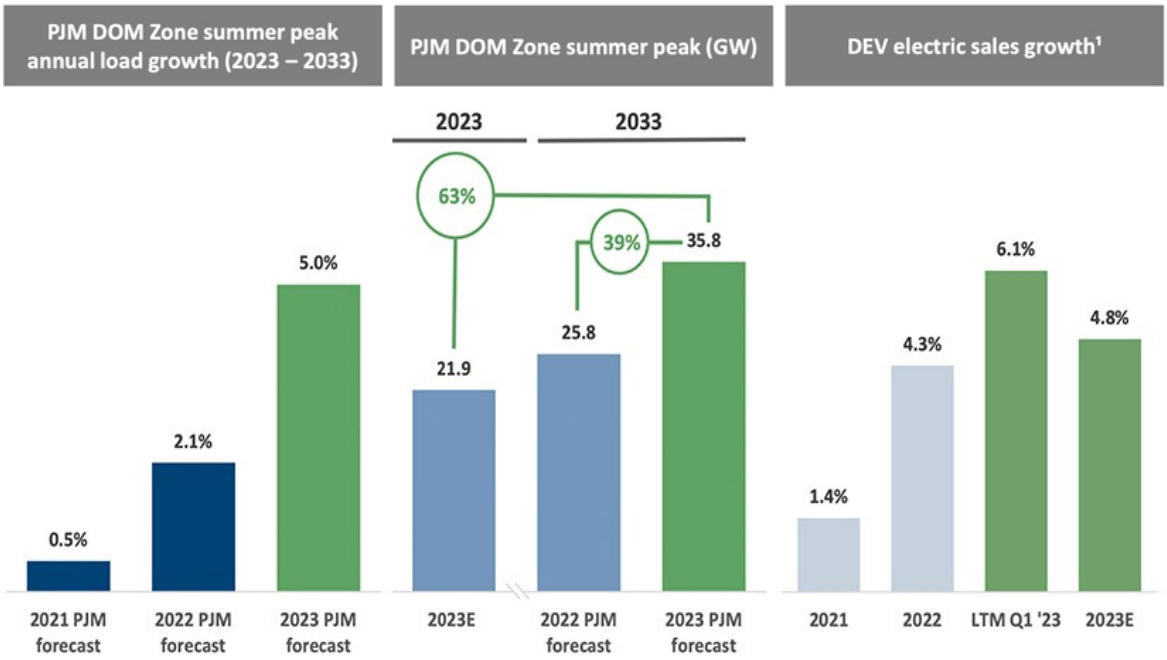
Dominion is working on a business review, but the exact plans are still being worked out. Blue and other executives offered no real details beyond their schedule. The firm plans to discuss the review at an investor day in the third quarter.

While the firm said recent developments in Virginia set it up for future success, exactly who will be helping to implement the new law is still unclear because the State Corporation Commission is down just one member.

Former commissioners have been stepping in to help vote out orders as needed, and the commission has been able to issue several orders on Dominion cases recently, including approving a transmission line needed to serve growing load from data centers and the company's request to procure 800 MW of solar and storage. (See *Virginia SCC Approves 800 MW of Renewables for Dominion*.)

The Virginia Constitution gives legislators the right to appoint new members to the SCC, though if they are out of session, then the governor can make temporary appointments, Blue said.

"If you look just at where we've been in Virginia: We've got low rates; we've got strong reliability; we've got a clear mandate from policymakers for energy security within an energy transition," Blue said. "And as our [integrated resource plan] indicates, we've got very strong load growth. So, we're sitting in a very good spot moving forward in the Virginia regulatory process." ■



Dominion graphic showing rapid load growth in its service territory in the coming years. | *Dominion Energy*

PJM News

PJM CEO, Panelists Address Reliability During Annual Meeting

By Devin Leith-Yessian

CAMBRIDGE, Md. — Opening PJM's Annual Meeting on May 1, CEO Manu Asthana said organized markets and planning have continued to stand the test of time, but challenges lie ahead as stakeholders wrestle with a possible overhaul to the capacity market to address future resource adequacy concerns, in part sparked by the impact of the December 2022 winter storm.

"Just within PJM we estimate our markets … bring in $4 billion in value each year to customers and producers. I know there's a lot of rhetoric lately about RTOs and organized markets, and I just want to say RTOs and organized markets are" efficient and transparent, Asthana told the Members Committee at the meeting.

Though this is not the first time PJM has experience a major energy transition, pointing to the shift from coal to natural gas for generation, Asthana said the clean energy transition presents a new, global challenge that will require the RTO to continue to evolve.

The need to interconnect more renewable energy could be exacerbated by a significant number of generation retirements that are expected through 2030, Asthana said, referencing PJM's February *Resource Retirements, Replacements & Risks* (4R) report, as reserve margins are expected to shrink because of electrification and data center load growth.

The winter storm, also known as "Elliott," underlined many of those concerns, leading PJM's Board of Managers to initiate a Critical Issues Fast Path (CIFP) process in February to gather stakeholder proposals for the board to consider later this year. That process is currently in the second of four phases. (See *PJM Stakeholders Refine CIFP Capacity Market Proposals*.)

Though the storm was within the studied conditions that could be expected within PJM, Asthana said it was concerning that emergency procedures were required to meet load during the storm, and it's necessary to now think about what can be done differently to not get as close to the edge next time.

"The question is, did our Capacity Performance [CP] rules work as intended? … I think it's important that we look at that and think about that," he said.

Last year's FERC approval of a new system for handling interconnection requests — allowing PJM to work through its queue backlog quicker — will go a long way toward navigating the transition, Asthana said. (See *FERC Approves PJM Plan to Speed Interconnection Queue*.)

PJM CEO Manu Asthana speaks during the PJM annual meeting on May 1. | © *RTO Insider LLC*

"That complicated piece of work is a big deal for us. It is a big deal from a reliability perspective. It is a big deal from an energy transition perspective. It is a big deal from the perspective of helping our states and our members reach their energy transition goals," he said.

PJM's State Agreement Approach (SAA) has also proven itself to be a valuable tool for states to work with the RTO to meet their clean energy goals, he said. New Jersey received FERC approval for the cost allocation portion of its first SAA process to construct the transmission necessary to interconnect 7,500 MW of offshore wind. The state announced a second SAA process with the goal of developing 11 GW of offshore wind capacity by 2040. (See *NJ BPU Backs Plan for 2nd Grid Upgrade Process with PJM*.)

MC Chair David "Scarp" Scarpignato said Elliott was both an accomplishment for PJM and a struggle: The RTO kept the lights on while managing to provide aid to surrounding regions, but it laid bare unforeseen reliability issues. While a sudden emergency hasn't occurred recently, it remains a real risk, and stakeholders must consider changes to price signals, a "circuit breaker" system for limiting extended periods of high pricing and the market seller offer cap, he said.

"Last year, the defining accomplishment or struggle for PJM at large was Elliott and how well our market reliability procedures and rules worked," he said. "We, collectively, did keep the lights on."

Panel Discusses Future Reliability Landscape

Independent Market Monitor Joe Bowring and PJM administrators shared how they're working to maintain reliability through the clean energy transition through state, market, operations and planning initiatives.

Asim Haque, PJM vice president of state policy and member services, outlined the series of "Energy Transition in PJM" reports the RTO is publishing, detailing the challenges presented by the transition and possible solutions. The first iteration, "*Reliability in PJM: Today and Tomorrow*," was released in March 2021, while the 4R study earlier this year was the most recent. He categorized the identified reliability concerns as immediate, largely pertaining to Elliott; near term, relating to resource adequacy in the latter portion of this decade; and upcoming, which includes essential reliability services.

"We do believe we are relatively well positioned today, but we are concerned this position may not hold for the not too distant future … so we feel some sense of urgency to act to maintain reliability," Haque said.

In visiting state legislatures, he found that each have their own priorities but are all bound together by a desire for reliability. He recounted telling states that regardless of their individual goals, it is a reality that PJM's interconnection queue is primarily composed of renewable resources, and planning the future of the grid will have to reflect that.

"The finding that most directly impacts reliability as we transition to greater renewable penetration is the conclusion that we will continue to need our thermal resources and the essential reliability services they provide in order to preserve reliability until a replacement technology for these resources is deployable at scale," he said.

Senior Vice President of Operations Mike Bryson said there have been multiple retirements announced since the 4R study that weren't anticipated during the document's

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drafting, and some scenarios for this summer are showing operating reserve shortages this summer for the first time he can remember. The reliability-must-run (RMR) system is one potential area for improvement, as he believes there may be a more significant need for those contracts in the future.

Bowring said increasing reliance on RMR agreements could create an incentive to retire, and they should be used with caution. Bryson said they offer a benefit in allowing some flexibility in addressing policy retirements that could impact reliability, an area that cannot be met through market changes.

Ensuring the right types of reserve products and all necessary characteristics are being captured in offers and procured is critical to provide dispatchers assurance that when they call on resources, they will receive what has been committed, said Vice President of Market Design and Economics Adam Keech. The transition provides an opportunity to use markets to shape the grid of the future, focusing on flexibility and providing incentives as a proactive solution.

"Now is the time to use the markets proactively to send the right signal, so we attract the right resources we need," he said.

Bowring said Elliott showed the flaws of having energy market incentives manifest in the capacity market and that extreme prices and penalties can have a destructive effect. He cautioned against creating new cost-of-service constructs as a reaction to the storm, saying that wouldn't promote reliability; market solutions should be sought instead.

Vice President of Planning Ken Seiler said PJM is potentially on track to complete interconnection studies on projects with a nameplate capacity equal to resources expected to retire in the coming years, but much of that new generation is intermittent, which will push the RTO to change how it acts under various system conditions.

The first-come-first-serve interconnection model approved by FERC last year allows PJM to transfer the capacity interconnection rights of generators that complete the study process and receive an interconnection service agreement (ISA) but do not complete construction within a year. Seiler said PJM has seen a large number of projects that receive ISAs but haven't entered construction.

Stakeholders Approve New Terms for 3 Board Members

The MC voted to reseat three board members whose terms expired: Jeanine Johnson, Margaret Loebl and Charles Robinson.

The committee also elected Vickie VanZandt to continue filling the remaining year left on the term previously held by Sarah Rogers, who retired in September 2022.

Johnson brings a background in cybersecurity and product design to the PJM board, to which she was elected in 2021, according to PJM's biographies of the candidates. She was shortlisted as Entrepreneur of the Year by the Women in IT Awards for co-founding a company commercializing a product to create drinking water.

Loebl has held officer positions in finance at several companies, most recently serving as executive vice president and CFO at AgroFresh Solutions, and has worked with the board of companies on acquisitions, strategy, controls infrastructure and risk management, according to her biography. She was elected to the board in 2020.

First elected in 2011, Robinson serves as general counsel for the Regents of the University of California and was previously general counsel for CAISO. He has also served as a senior attorney for several companies, including Packard Bell and Raychem Corp.

President of VanZandt Electric Transmission Consulting, VanZandt was appointed to the board in 2022. She previously served as the senior vice president and chief engineer of transmission services for the Bonneville Power Administration and served on the ISO-NE Board of Directors.

States Argue Board Didn't Consult Membership on Auction Delay

The MC voted to approve the minutes of its special meeting held April 4, but five states objected to them because they stated that PJM provided an update on the Base Residual Auction schedule and consulted with membership on delaying upcoming auctions.

The board is required to consult with stakeholders prior to making any Federal Powers Act Section 205 filing under the RTO's tariff. PJM made a Section 205 filing to delay future auctions following the meeting on April 11 (*ER23-1609*).

"The board members weren't present to have that discussion, so it was kind of a misrepresentation of what that meeting would entail," said Gregory Poulos, of the Consumer Advocates of the PJM States. He added that the objecting states didn't believe that it constituted an adequate consultation. ■

PJM News

PJM MRC Endorses Proposal to Reduce Performance Penalties

By Devin Leith-Yessian

The Markets and Reliability Committee on Thursday endorsed a proposal to reduce penalties for generators that don't meet their capacity obligations during performance assessment intervals (PAIs).

The *package*, made by American Municipal Power, redefines the penalty rate and the stop loss limit — the maximum a generator can be penalized in a year — to both be based on the Base Residual Auction (BRA) clearing price. It would also reduce the circumstances under which PJM can declare a PAI.

Both the penalty rate ($3,177/MWh) and stop loss ($142,952/MW-year) are currently based on the net cost of new entry (CONE). AMP's proposal would reduce them to $394/MWh and $17,744/MW-year, respectively. The change would be effective through the 2024/25 delivery year. (See "Capacity Performance Penalties," *PJM MRC Briefs: April 26, 2023*.)

The AMP *proposal* was one of *three* before the MRC during a May 4 special meeting, with LS Power and the Independent Market Monitor also making presentations. The subject was brought before the MRC by LS Power through the quick fix process, allowing the issue charge and problem statement to be considered simultaneously with the proposed rule changes. The Members Committee is set to consider endorsement of the AMP solution on May 11.

The LS Power proposal retained the $3,177/MWh status quo PAI charge rate but set the stop loss limit to twice the BRA clearing price, or $23,659/MW-year. All three proposals included the same PAI trigger.

Monitor Joe Bowring said LS Power's proposal would result in the annual limit being reached very quickly, defeating the purpose of the penalties. The IMM's *proposal* used the same penalty rate as AMP and the same stop-loss formula as LS Power. It did not receive a vote because AMP's plan was approved.

According to the sector-weighted *vote report*, the Electric Distribution sector unanimously opposed the LS Power proposal, which was voted on first, but gave full support to the AMP solution. The Transmission Owner and End Use Customers sectors also gave majority opposition to the LS Power package and supported AMP.

Marji Philips of LS Power speaks during a special meeting of the Markets and Reliability Committee on May 1. | *© RTO Insider LLC*

During a May 1 special MRC meeting, LS Power's Marji Philips said her company's proposal was a compromise between PJM's desire to have a higher penalty rate and the goal of many stakeholders of limiting when PAIs can be called and lowering the annual penalty cap. Philips said she would support any of the three options over the status quo, arguing that generators wouldn't invest in PJM if they were subject to a penalty rate that could wipe out years of capacity market revenues.

PJM General Counsel Chris O'Hara said the RTO strongly preferred the LS Power proposal, largely because it has the highest penalty rate of the three.

"We feel that from an economic perspective and from a legal challenge perspective that if we are going to do something for these two years, we are much more comfortable leaving the penalty rate where it is," he said during the May 4 meeting.

Reviewing penalty claims from the December 2022 winter storm, he said the capacity performance construct appears to have properly incentivized many generators to make investments to support their capacity obligations. In many cases, circumstances out of generators' control impacted their ability to perform, he added, saying it makes a case for reducing the stop loss limit.

American Electric Power's Brock Ondayko said a filing at FERC seeking to modify the stop loss limit would likely run into challenges that it constitutes retroactive ratemaking. He said generators expected to overperform their capacity obligation may have made offers based on the assumption that they were likely to receive a certain amount in bonuses in a year.

Vitol's Jason Barker said reducing the penalty rate or stop loss limit effectively shifts the performance risk from a financial risk faced by generators to a reliability risk across PJM. Rather than a separate process addressing penalties for upcoming delivery years, he encouraged stakeholders to vote against all three and instead seek a solution through the ongoing critical issues fast path (CIFP) process. If an interim solution were to go forward, he said one limited to just modifying the PAI trigger would be preferable. (See *PJM Stakeholders Refine CIFP Capacity Market Proposals*.) ■

PJM News

Public Interest, Environmental Groups Urge Transparency at PJM

By Devin Leith-Yessian

CAMBRIDGE, Md. — Consumer advocates, environmental groups and a Maryland lawmaker last week all urged PJM to become more transparent in its decision making.

Maryland legislators often find their energy policies are stymied at the RTO level and struggle to identify why, Lorig Charkoudian, a Democratic member of the state's House of Delegates, said during a meeting of PJM's Public Interest and Environmental Organizations User Group on May 3.

Charkoudian was sponsor of *HB 1186*, a bill that would require state utilities to submit annual reports detailing any recorded votes they make at an RTO and explain how each vote benefits the public interest. The bill passed the House 100-35 in March but was not brought to a vote before the Senate prior to conclusion of the legislative session and would require reintroduction for further consideration. (See *Maryland Bill Would Require Utilities to Report Votes at PJM*.)

Charkoudian said the complexity of PJM's operations and decisions makes transparency doubly important, as many of her constituents don't understand what the RTO is and how it impacts the legislation they have pressed their elected officials to enact.

"A lot of what I have to do is then explain to them how an RTO works, which is interesting to do in a community town hall," she said.

States' confidence in organized markets comes from the ability of RTOs to predict and forecast, making it difficult for Charkoudian to understand how PJM didn't predict a future in which a high volume of renewable resources would enter the interconnection queue, requiring a faster pace of processing requests to keep up, she said.

As Maryland pursues stronger clean energy policies, including the passage of the Promoting Offshore Wind Energy Resources (POWER) Act (SB 781) last month, Charkoudian said closer collaboration with PJM will be necessary. (See *Md. Legislature Sends POWER Act to Governor's Desk*.)

"Our overall experience with PJM is [that] we pass laws and those laws can't be enacted because of PJM interconnection queues," she said.

Tyson Slocum, director of Public Citizen's Energy Program, said public confidence in PJM has been undermined by the RTO's recent fast-track processes for generators attempting to lower capacity performance penalties, closed-

Tyson Slocum, Public Citizen | © *RTO Insider LLC*

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door discussions about the Independent Market Monitor contract and Base Residual Auctions (BRAs) being rerun with minimal stakeholder feedback. (See "Capacity Performance Penalties," *PJM MRC Briefs: April 26, 2023*)

"This creates a credibility problem with PJM, and when you lose credibility you start to lose confidence in the markets … and I'd say that's where we are with PJM," he said. "… The more light that is shown on your deliberations, it will relieve those questions about whether special interests are driving your decision making."

PJM CEO Manu Asthana said the RTO holds more than 400 meetings each year, the vast majority of which are open to the public, and it publishes records of the votes taken at the Members Committee, broken down by how each sector and individual member voted.

"Transparency is important, [and] it does lead to credibility, and we think we are extremely transparent," he said.

PJM Board of Managers member Charles Robinson said it's critical that all stakeholders be able to engage with the board to promote transparency and accountability, though it may not be possible to always involve simultaneous access. He said the board plans to release a written summary of the feedback it has received on the possibility of a review of the Monitor contract.

Consumer Advocates Question Transmission, Capacity Costs

Gregory Poulos, of the Consumer Advocates of the PJM States (CAPS), said PJM must be more transparent about transmission costs, which have been steadily rising, according to his *presentation*, and are likely to go higher as transmission plays a major role in making renewable generation deliverable in efforts to meet states' clean energy goals.

Following recent meetings of the Transmission Expansion Advisory Committee (TEAC), Poulos said he was rebuffed after reaching out to transmission owners that presented supplemental projects and asking how they developed estimated project costs and solution budgets. Given the lack of cost information being presented to the TEAC and the short timeframe for presenting solutions, there's little opportunity for stakeholder engagement, he said.

"These are really self-approved projects, and that's not to say if they're good or bad. I don't have the information to know if they're good or bad," he said.

T. David Wand, an attorney with the New Jersey Division of Rate Counsel, said the December 2022 winter storm demonstrated that generators may not be able to deliver the capacity they've been paid for, undermining the foundations of the capacity market.

"How do we ensure performance? Without performance, it's hard to have confidence that the capacity market is serving its intended purpose," he said.

Wand said that when the capacity performance (CP) structure was created to incentivize performance, the Rate Counsel and other advocates expressed concern that risk penalties would be built into capacity bids, a reality that has come to pass, costing consumers millions of dollars.

"Generators did not complain when they received these [capacity payments] and saw no penalties. It was always known that penalties would happen and excusals would not be allowed," he said.

Asthana said CP includes significant penalties that provide an incentive to perform and credited the CP program with contributing to years without any significant issues in the PJM markets. Nonetheless, PJM can still make improvements, such as exploring whether gas resources are over-accredited for winter operations.

While those improvements are being considered, Asthana said, it's important to not cause generators to retire prematurely.

Poulos questioned whether that way of thinking represents a shift in priorities — from guaranteeing reliability to a focus on reducing penalties to hold onto existing generation.

"Are we going from performance and reliability as the No. 1 issue and goal to [a situation in which] we have resources that are too big to fail even though they're not performing," he said.

Advocates Defend Monitor

Ankush Nayar, of the D.C. Office of the People's Counsel, said some stakeholder factions are "clamoring" for changes to the Monitor contract. Those critics want to allow others to compete for the contract, currently held by Monitoring Analytics, and they seek greater access to the Monitor's data. (See *PJM Stakeholders Discuss Monitor Contract Review*.)

Nayar said states have confidence in the way that Monitoring Analytics' Joseph Bowring has performed as PJM's IMM. Mandating data access could undermine the independence that allows Bowring to continue his work, while putting an auditor in place would be "overkill," he said. Rather than issuing an RFP for new applicants, Nayar said he'd prefer to see the contract revised, to maintain continuity.

PJM board member David Mills said the board has "the utmost respect for Monitoring Analytics," and that its proposed review of the contract doesn't seek to reduce the independence or strength of the Monitor but instead seeks to address stakeholder comments and concerns.

Environmental Groups Seek More Renewable Development

Environmental groups pushed PJM to ensure that its markets and operations were structured to support the growth of clean energy, arguing that the grid operator has lagged behind other RTOs in the volume of wind and solar cleared in recent auctions.

Casey Roberts of the Sierra Club said PJM's February *report* on resource retirements and load growth — the "4R" study — ignored the role played by capacity market signals and offered a lopsided perspective on how state policies impact resource adequacy by not noting the impact of incentives to increase the pace of renewable resource development. She said the report has been cited in proceedings seeking to delay the retirement of coal plants and referenced a May 1 *letter* from the PJM board stating that retirements unforeseen by the study have already been filed.

"In our view, retirement of facilities like that is a good thing … rather than raising false alarms of the need to slow down retirements," she said.

Tom Rutigliano, of the Natural Resources Defense Council, said the issues identified in the 4R study are the same as those being addressed by stakeholder initiatives to improve the capacity market, which is where resource adequacy concerns should be focused. Rutigliano thinks capacity market price signals are being impacted by over-accreditation of gas resources that are not accounting for fuel supply issues.

"PJM probably has several gigawatts of phantom capacity from gas plants that can't deliver. Fixing that is the first step to preventing excessive requirements," Rutigliano said.

Asthana said PJM's interconnection queue has been advancing significant volumes of renewables, including some projects that require minimal network upgrades. However, few of those have been completed over the past year due to issues such as siting and supply chain challenges. ■

PJM News

PJM Hears from White House Official on Security

Officials from Other RTOs Provide Perspectives at PJM Annual Meeting

By Devin Leith-Yessian

CAMBRIDGE, Md. — A top White House security official urged participants in PJM's General Session to engage in closer collaboration with RTOs, infrastructure owners and law enforcement at all levels as cyber and physical security threats morph.

"We need to think about how in this changing environment we can enhance our resilience — not just on the grid, but other critical infrastructure sectors," said Caitlin Durkovich, deputy homeland security adviser for resilience and response.

The growing prevalence of renewable resources on the grid and new transmission technologies will increase the use of networked devices on the grid, which Durkovich said will bring new capabilities but also potentially create vulnerabilities for attackers to exploit.

Part of expanding grid security at all levels will involve a "Madison Avenue campaign" to educate the public, critical communities in particular, about the infrastructure they rely on. By increasing people's ability to be more self-sufficient, she said first responders can focus on the most important aspects of their response to an emergency, be it a security issue or related to the impacts of climate change.

"It is a remarkable engineering feat, especially as you think about the number of … dependencies and interdependencies," Durkovich said of the electric grid. "I think we're at a point where we have to do a better job of helping Americans understand … the increasing threats that we're dealing with."

The Biden administration is currently working on updating the 2013 Presidential Policy Directive 21, which defines the responsibilities of government agencies and private companies in maintaining the security of critical sectors, as well as creating bridges for collaboration. The 2021 cyberattack on Colonial Pipeline was an instructive moment for the Department of Homeland Security, which Durkovich said has been working to create new communications infrastructure to allow for tighter collaboration between infrastructure owners and law enforcement. (See *Glick Touts Gas Pipeline Reliability Organization Before Congress*.)

In addition to strengthening security guidelines, she recommended that companies reach out to state and local law enforcement to identify ways of collaborating. Many of those

Panelists from several RTOs discussed how stakeholders can learn from their experiences on reliability, security and the clean energy transition. From left: Stu Bresler, PJM; Melissa Seymour, MISO; Eric Johnson, ISO-NE; and Rana Mukerji, NYISO. | © *RTO Insider LLC*

agencies have received federal security funding and are also in the process of expanding their own practices or creating new programs, which could benefit from knowledge about the infrastructure within their jurisdictions. Recent attacks on substations have also highlighted the need for enhancing physical security, and Durkovich recommended companies reach out to report any suspicious activity.

RTO Panelists Discuss Experiences

A panel of top officials from CAISO, MISO, ISO-NE, NYISO and SPP discussed their experiences navigating the clean energy transition and how they've addressed challenges that would be familiar to PJM stakeholders, including how to accredit burgeoning renewable energy, resource adequacy concerns, and the siting and cost allocation for the transmission needed to interconnect intermittent resources.

Melissa Seymour, MISO vice president of external affairs, said the RTO has seen a dramatic evolution from a fairly homogenous grid powered by dispatchable coal resources to a more balanced and diverse fleet. Looking at the projects that are expected to be built in the coming years, however, she said it's likely to become dominated by resources with limited ability to be dispatched. The margin between the accredited capacity on MISO's grid versus installed capacity is expanding, along with the number of unforeseen outages, which she said pose a growing reliability risk.

SPP Vice President of Engineering David Kelley said that as wind resources began to proliferate in the RTO, it didn't require the generators be dispatchable, requiring significant retrofits years later. PJM stakeholders recently endorsed a proposal addressing renewable dispatch, providing more transparency and expanding existing wind rules to solar resources. (See "Renewable Dispatch," *PJM MRC Briefs: April 26, 2023*.)

In New England, coal and oil generation have fallen from accounting for 40% of ISO-NE's generation to single digits, though oil still accounted for nearly a third of the energy supplied during the December 2022 winter storm. Director of External Affairs Eric Johnson said natural gas now supplies about 45% of the RTO's energy, but there is a disconnect between the short-term commitments wholesale powers markets utilize for generators and the long-term investments needed to support the fuel infrastructure for those resources.

Constructing adequate transmission to meet localized load is proving to be particularly difficult for NYISO. Vice President of Market Structures Rana Mukerji said there is limited transmission going into New York City and opposition upstate to building more to connect to more plentiful renewables.

MISO has sought to address transmission needs by implementing long-term planning using its Multi-Value Project system. It is planning four tranches of transmission, with the first round approved in July 2022 with 18 projects. (See *MISO Finalizes Long-range Tx Cost Sharing Plan*.)

Johnson said ISO-NE has also experienced many of those challenges, presenting roadblocks to clean energy projects proposed by individual states. The RTO is exploring what can be done to reconductor or otherwise improve lines in existing rights of way and has found that many constraints can be resolved while avoiding siting new projects.

Casey Roberts of the Sierra Club questioned how the RTOs plan to manage the transition to clean energy and retirement of fossil fuels. Mukerji said it will require long-term storage capability beyond four intervals, which is not currently available technologically or economically in many cases.

Kelley said the December storm showed the need for forecasting to go beyond drawing off historical data to find ways of evaluating needs during rarely seen conditions, such as a sharp temperature drop on a holiday. The RTO created an Uncertainty Response Team in 2018, incorporating experienced staff from several departments tasked with identifying new risks and solutions. ■

SPP News

Markets+ State Committee Adopts Inclusive Membership Policy

By Tom Kleckner

Western state utility regulators last month unanimously voted to revise the charter for SPP's Markets+ State Committee (MSC) to allow additional states and Canadian provinces to join the group.

As originally envisioned by SPP, the MSC was to be comprised of a member from each state in which a Markets+ participant has generation or load in the market. Ten states were listed as being members of a committee that is designed to advise the Markets+ stakeholder groups on policy issues and initiative prioritization as they draft the tariff language and protocols for the RTO's proposed day-ahead market. (See *SPP MPEC Briefs: April 18-19, 2023*.)

The modified charter deletes the states' names and adds language that "initial membership may include representatives from any of the states or provinces with entities that may plausibly choose to participate" in Markets+.

MSC Chair Eric Blank, chair of the Colorado Public Utilities Commission, said during the April 28 *conference call* that California, Texas and South Dakota have all expressed interest in joining the committee. The Canadian province of British Columbia has also been mentioned as a possible member.

South Dakota Public Utilities Commissioner Kristie Fiegen, a member of a similar SPP committee in the Eastern Interconnection, joined the call to say her state would "love to be involved." She pointed out that Black Hills Corp., which has subsidiaries that serve customers in eight states, is headquartered in South Dakota.

"I've been watching Black Hills Power for the last five years to see what they are going to possibly do and bringing them into the commission to ask them questions," she said. "Markets+ is part of their strategy right now, so we look forward to working with you."

Blank urged flexibility for the MSC, given the current state of flux surrounding Markets+, which is competing with CAISO's extended day-ahead market, with some Western entities evaluating both.

"Given the uncertainty about the footprint, the shape of the table and the evolving policy and market context, I'm just hoping we're as inclusive as reasonably possible," he said. "I continue to believe that the whole is greater than the sum of the parts and that we're far stronger when we work together."

The MSC also discussed initial points of contact to represent the committee on the various Markets+ working groups and task forces. ■

Colorado PUC Commissioner Eric Blank chairs SPP's Markets+ State Committee. | *© RTO Insider LLC*

SPP News

AEP Continues to 'De-risk' its Businesses

Company Selling, Reviewing Unregulated Subsidiaries

By Tom Kleckner

American Electric Power said Thursday that it plans to sell its *AEP Energy* competitive retail business in PJM as it continues to simplify and de-risk its operations.

CEO Julie Sloat told analysts on a quarterly earnings call that the company has completed a strategic review of AEP Energy, which serves 700,000 electricity and gas customers in six states and D.C. She said AEP will include its unregulated distributed resources business in the sale, which she expects to close in the first half of 2024.

"We're focused on our core regulated utility operations and continue to evaluate all value additive potential activities to enhance their performance and look for opportunities to recycle capital," Sloat said.

To that end, AEP is selling its 50% share in the solar-focused New Mexico Renewable Development joint venture with Public Service Company of New Mexico. Sloat said AEP is also pursuing a strategic review of its ownership interests in three non-core transmission joint venture businesses, Prairie Wind Transmission, Pioneer Transmission and Transource Energy, to determine whether they fit with the company's long-term plan.

"Active review of our portfolio allows us to continue prioritizing investment in our regulated utilities to enhance service for our customers," Sloat said.

AEP in February reached an agreement with IRG Acquisition Holdings to sell 1,365 MW in unregulated contracted renewable assets comprising 14 large-scale projects. The sale is pending FERC approval, but AEP hopes to close the transaction by July.

Sloat said $1.2 billion of the sale's cash proceeds will be funneled into AEP's regulated businesses as the company transforms its generation fleet.

"Actively managing our portfolio also means staying flexible and being ready to change our focus and adapt our strategy when it becomes clear that certain transactions or initiatives may no longer be viable," she said, a nod to AEP's termination last month of its Kentucky businesses' sale.

AEP is renewing its focus on the Kentucky region, Sloat said, saying that Kentucky Power's first-quarter return on equity of 2.9% "does not reflect a financially healthy utility." She said AEP will be addressing the utility's underperformance over the next year and will file a base case with Kentucky regulators in June to take effect in January.

AEP says its pending sale of its unregulated renewables portfolio furthers it commitment to simplify and de-risk the company. | *Electric cat, CC BY-SA 3.0, via Wikimedia Commons*

AEP reported first-quarter earnings of $397 million ($0.77/share). That compares unfavorably to the same period a year ago when earnings were $714.7 million ($1.41/share). The company's operating earnings per share of $1.11 fell short of the Zacks consensus estimate of $1.14.

AEP's share price gained 57 cents during the day, closing at $91.44.

OGE Earnings Miss Expectations

OGE Energy, Oklahoma Gas and Electric's parent company, *reported* earnings Thursday of $38.3 million ($0.19/diluted share), compared to last year's first quarter of $279.5 million ($1.39/diluted share). Earnings just missed financial analysts' expectations of $0.20/diluted share.

"We're off to a really strong start for the year," CEO Sean Trauschke said, pointing out that the first quarter typically represents less than 10% of utilities' earnings. "However, this quarter does provide momentum for the year. And I really like what I see."

OGE is working through three requests for proposals to meet its capacity needs. Trauschke said not all the responses have delivered full value, so the company will issue a new integrated resource plan later this year with updated planning assumptions.

"Our goal is to implement a generation plan that supports our customers and business smoothing investments in the steady incremental way without large spikes or bumps," he said.

OGE's share price closed at $37.33 after the earnings release, a gain of 52 cents for the day. ■

SPP News

FERC Rejects Protest of SPP PRM Increase

By Tom Kleckner

FERC last week rejected a complaint by SPP members seeking to overturn the RTO's decision last year to increase its planning reserve margin (PRM) from 12% to 15%.

In a 3-1 vote Wednesday, the commission ruled that American Electric Power (AEP), Oklahoma Gas and Electric (OG&E) and Xcel Energy failed to show SPP's PRM process was unjust, unreasonable, or unduly discriminatory (*EL23-40*).

Commissioner James Danly dissented from the order, saying FERC had failed to grapple with the complainants' core point: What must SPP be required to include in its tariff and what can the commission allow to be consigned to business practices or external processes?

The three utilities filed their complaint in February under Section 206 of the Federal Power Act. They argued that the new PRM's implementation gave them only six months to procure additional capacity necessary to comply with the increased resource adequacy obligations ahead of the 2023 summer season. The utilities said the PRM's value and calculation is not in SPP's tariff and asked the commission to require the grid operator to include the methodology in the tariff and file it for the commission's review.

SPP's board approved the change last July over opposition from stakeholders, who advocated for phasing in the PRM over a three-year period. Load-responsible entities unable to meet the requirement can incur financial penalties from the RTO. (See *SPP Board, Regulators Side with Staff over Reserve Margin*.)

In rejecting the protest, FERC ruled that the utilities failed to meet their Section 206 burden to show that exclusion of the PRM left SPP's tariff as unjust. It disagreed with their argument that SPP's PRM decision constituted an "impermissible collateral attack" on a 2018 resource adequacy order and assessed the complaint on the record before the commission.

"Complainants' core argument is that the rule of reason, filed rate doctrine and due process require SPP to include its planning reserve margin value in its tariff," FERC wrote. "Granting this relief would go beyond merely adding new details about SPP's existing process, which is a common remedy to a rule of reason claim."

SPP headquarters in Little Rock, Ark. | *SPP*

The commission said Attachment AA to SPP's tariff, which it accepted in 2018, describes the process through which the RTO reviews and revises the PRM.

"We find that this level of detail is sufficient to satisfy the rule of reason," the three approving commissioners wrote. "Our determination here is consistent with relevant commission precedent, including specific precedent regarding the establishment of planning reserve margins in resource adequacy programs."

FERC also denied the utilities' alternative request that it direct SPP to remove the deficiency payment mechanism from its tariff, saying it continues to exercise jurisdiction over the deficiency payment mechanism and the grid operator's PRM process.

Danly said in his dissent that while the PRM value doesn't necessarily need to be in the tariff, "it nevertheless represents a rather important part of SPP's rate."

"Perhaps the lesson to be drawn from this proceeding is not to focus on whether the existing tariff provisions accord with the rule of reason but whether responsible administration and regulation of RTOs is even possible," he wrote. "As the complexity and uncertainty of our markets increases, it becomes ever more difficult to implement rational policies and to assure ourselves, even in the face of a particular complaint, that a tariff remain just and reasonable." ■

Company News

Constellation CEO: Nuclear PTC Could Extend Reactors' Life to 80 Years

Company to Invest $900M in Producing Clean Hydrogen at Nuclear Plants

By K Kaufmann

The Inflation Reduction Act's production tax credits for nuclear could boost Constellation Energy Group's (NASDAQ:CEG) profits by $100 million annually beginning in 2024 and help extend the life of its reactors to 80 years, CEO Joseph Dominguez said during the company's 2023 first quarter earnings *call* on Thursday.

Nuclear represents about 86% of the terawatt-hours of power Exelon's spin-off independent power producer generates for its customers, according to the company website. The PTC, which could provide up to $15/MWh for plants not already receiving state support, "provides downside commodity risk protection … while ensuring that our plants remain economic and reliable," Dominguez said.

"Other provisions in the IRA create unique growth opportunities, like increasing the output from our nuclear plants through upgrades and hydrogen [production]," he said. "And finally, it gives us the opportunity to extend the time horizon of our fleet to 80 years. … No other clean energy assets can run this long without being replaced."

The company began producing zero-carbon hydrogen at its Nine Mile Point nuclear plant in Oswego, N.Y., in March. The 1-MW hydrogen production facility was a joint demonstration project of Constellation and the Department of Energy. (See *Megawatt-scale Demonstration Project Yields First Pink Hydrogen*.)

"The clean hydrogen generation system operating at Nine Mile Point uses 1.25 MW of zero-carbon energy per hour to produce 560 kg of clean hydrogen per day, more than enough to meet the plant's operational hydrogen use" to cool the facility, according to a company *press release* on the project.

Constellation also said it will invest $900 million through 2025 to develop and scale commercial clean hydrogen production using nuclear power.

Marking just over a year since its separation from Exelon, Constellation reported first-quarter GAAP net income of $96 million versus $106 million in the first quarter of 2022. Adjusted (non-GAAP) EBITDA was $658 million, down from $866 million.

The lower 2023 figures were partially caused by higher energy prices in 2022 and increased refueling outages and labor costs as Constellation has been increasing staff, said Daniel L. Eggers, executive vice president and chief financial officer.

Dominguez was nonetheless upbeat about the quarter's results, saying the company expects "we will end the year comfortably in the top half of our guidance range" of $2.9 billion to $3.3 billion.

It declared a dividend of 28.2 cents/share in the first quarter, about twice the payout in the first quarter of 2022.

The Nuclear Edge

While Constellation is now separate from Exelon, which reported its first-quarter results one day earlier, both companies are positioning themselves as key players in the U.S. energy transition, providing carbon-free power to a broad range of residential and commercial customers. (See *Exelon CEO: Energy Transition 'Requires Investments,' Rate Increases*.)

With its large nuclear fleet — 12 plants with 21 reactors — and smaller amounts of solar and wind, Constellation boasts that it is currently producing 90% of its power from carbon-free sources. All of the generation it owns will be 100% carbon-free by 2040, it says.

Dominguez said the company provided 11% of the country's clean power in 2022, serves 25% of the competitive commercial and industrial market and numbers 75% of the Fortune 100 among its commercial customers.

He also stressed nuclear's reliability in the face of the increasing number and severity of extreme weather events.

With electric generation shifting toward more intermittent renewables, anyone participating in retail or wholesale markets has "to ask yourself really three basic questions," Dominguez said. "Do I have physical generation? Is it the kind of physical generation that is going to show up in extreme events? And do I have the financial balance sheet to deal with negative outcomes?"

How the PTC Will Work

The nuclear PTC does not kick in until 2024, when Constellation anticipates four of its 12 plants will be eligible for the credit: Calvert Cliffs in Maryland, LaSalle in Illinois, and Limerick and Peach Bottom in Pennsylvania.

The credit is designed to ensure nuclear owners are getting around $40/MWh for their power, with the amount of the credit a specific plant gets hinging on market prices. The credit phases in at $25/MWh and phases out at $43.75/MWh, Constellation said.

In a hypothetical example, the company assumes prices at $35/MWh, with the PTC then kicking in $7/MWh, to ensure a total of $42/MWh.

In such a situation, Eggers said, "The PTC is functioning as it should, stepping in to provide downside protection."

Dominguez was confident that IRA tax credits would not be lost in any deal over the debt ceiling now being debated between the White House and congressional Republicans.

"We just see that as — it's hard to use the word 'normal' — the political back-and-forth that's occurring," he said. "I don't think there's any prospect that President Biden is going to cut or gut the IRA to deal with this issue." ■

Quad Cities Generating Station, Illinois | *Constellation Energy*

Company Briefs

Westinghouse Unveils Small Modular Nuclear Reactor

Westinghouse last week unveiled plans for a small modular reactor to generate emissions-free electricity that could replace coal plants or power water desalinization and other industries.

Rita Baranwal, Westinghouse Electricity top technology officer, said the reactor, dubbed AP300 for its planned 300-MW capacity, will not use special fuels or liquid metal coolants.

Westinghouse did not say how much the first reactor would cost, but later units could cost about $1 billion.

More: *Reuters*

Amazon: Largest Corporate Buyer of Renewables in 2022

Amazon purchased 10.9 GW of clean power in 2022, making it the largest corporate buyer of renewable power in the world, according to data from BloombergNEF.

Amazon's total was more than four times that of the second-largest purchaser of clean power, Facebook parent company Meta. Google, Microsoft and Codelco, a Chilean state-owned copper mining company, rounded out the top five.

In 2019, Amazon announced a commitment for its entire business to be net zero carbon by 2040. At that time, Amazon accelerated its commitment to power its operations with 100% renewable energy from 2030 to 2025.

More: *CNBC*

Stanley Black & Decker Powers Kentucky Factory with 100% Solar

Stanley Black & Decker, Castillo Engineering and renewable energy company RPG Energy Group recently celebrated the completion of a 4.3-MW solar farm that will allow the tool company to run its Kentucky factory on 100% clean energy.

The solar farm sits on 15 acres next to the company's 280,000-square-foot production factory in Hopkinsville.

Stanley Black & Decker has set a goal of achieving carbon neutrality by 2030.

More: *Electrek*

Federal Briefs

New Pipeline Rule Aimed at Cutting Methane Leaks

The Transportation Department's Pipeline and Hazardous Materials Safety Administration last week announced new rules aimed at reducing methane leaks from nearly 3 million miles of natural gas pipelines across the country.

The rules would update federal leak detection and repair standards that rely solely on human senses in favor of new requirements that use commercially available, advanced technologies to find and fix leaks of methane and other flammable, toxic and corrosive gases.

If finalized, the rules would eliminate up to 1 million metric tons of methane emissions by 2030, the agency said. Overall, they would reduce emissions from covered pipelines by up to 55% according to PHMSA.

More: *The Associated Press*

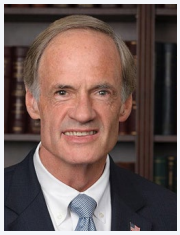
US Launches $4B Effort to Electrify Ports, Cut Emissions

EPA last week launched a $4 billion effort to electrify U.S. ports and cut heavy-duty truck emissions.

EPA said it was seeking input in its $3 billion Clean Ports Program to reduce pollutants at ports and its $1 billion Clean Heavy-Duty Vehicle Program to reduce vehicle emissions near ports and on other truck routes. The agency wants details about the availability, market price and performance of zero-emission trucks, zero-emission port equipment, electric charging and other infrastructure needs for zero-emission technologies.

More: *Reuters*

Sen. Carper to Release Permitting Proposal



Senate Environment and Public Works Committee Chair **Tom Carper** (D-Del.) soon will release his own proposal to reform the country's system for approving infrastructure projects.

In a written statement, Carper said he plans to introduce a bill based on reducing the country's contribution to climate change, keeping communities involved in the process, and providing certainty for industry.

Last year's permitting push received criticism from both the right and the left, with Republicans saying it did not go far enough, while Democrats expressed concerns that shortened environmental reviews could limit community say on potentially polluting projects.

More: *The Hill*

State Briefs

ARIZONA

Safety Board Reveals Cause of 2021 Pipeline Explosion

A fatal natural-gas pipeline explosion near Coolidge in 2021 resulted from gaps in protective tape wrapping that led to water leakage, corrosion and cracks along a seam weld, an investigation from the National Transportation Safety Board revealed last month.

The report also said that pipeline owner Kinder Morgan likely underestimated the risks of corrosion problems because its database listed an incorrect and stronger type of protective coating around the steel pipe.

The explosion on Aug. 15, 2021, ignited a

fire that destroyed a farmhouse, killing two occupants and injuring a third. The blast ejected a 47-foot segment of pipe 133 feet from the blast crater, partly damaged 33 acres of vegetation, and burned for nearly three hours. The blast and fire caused $5.5 million in combined property damages and emergency-response expenses, Kinder Morgan estimated.

More: *Arizona Republic*

CALIFORNIA

Environmentalists Sue PUC over Reduced Solar Incentives

Environmental groups last week sued the Public Utilities Commission, saying it acted illegally when it slashed compensation payments for power generated by solar panels.

The lawsuit claims that Gov. Gavin Newsom's appointees failed to consider all the benefits of rooftop solar and also ignored instructions from the Legislature to ensure that solar adoption "continues to grow sustainably." The group has asked the Court of Appeals to throw out the PUC's decision and order the agency to go back to the drawing board.

More: *Los Angeles Times*

Rancho Cucamonga Mandates Future Gas Stations Have ZEV Space

The Rancho Cucamonga City Council last week unanimously passed a change to the city's municipal code that will require all future gas stations to have a dedicated space for zero-emission vehicles.

Stations with 10 gas pumps will need to have at least two that dispense either hydrogen, compressed natural gas, or other alternative fuel, or be an EV charging station.

More: *KABC*

FLORIDA

Duke Energy Completes 2 Solar Projects

Duke Energy last week brought online two 74.9-MW solar projects in Bay and Levy counties.

The 650-acre Bay Ranch Renewable Energy Center in Bay County is composed of 220,000 single-axis tracking solar panels, while the similar Hardeetown Renewable Energy Center is built on 750 acres in Levy County and consists of 200,000 panels.

More: *Solar Power World*

Hydrogen Plant Coming to Polk County

Gov. Ron DeSantis last week signed a memorandum of understanding with South Korea's LowCarbon Hydrogen Corporation last week that will bring a hydrogen facility to Polk County.

The company is expected to break ground on the new 10-acre plant in June.

More: *Spectrum News*

Senate Sends GRU Takeover Bill to DeSantis

The Senate last week approved a bill that would create a five-member authority board appointed by Gov. **Ron DeSantis** to make all Gainesville Regional Utilities-related decisions.

The bill would strip away the city commission's century-long control of the utility.

More: *The Gainesville Sun*

IOWA

Judge: Pipeline Land Survey Law is Unconstitutional

District Judge John Sandy last week ruled that a state law that allows hazardous-liquid pipeline companies access to private land for surveys is unconstitutional because it doesn't provide compensation for intangible damages suffered by landowners.

Because the law does not compensate landowners for the duress they incur when they are forced to allow land surveyors on their properties without consent, it violates their constitutionally protected right to exclude people from their properties, Sandy said.

The lawsuit is one of four that have been filed by Navigator CO_2 Ventures against landowners who have prevented the company from conducting the surveys. Another carbon dioxide pipeline company, Summit Carbon Solutions, has filed similar suits against several landowners.

More: *Iowa Capital Dispatch*

Utilities Board Approves MidAmerican's Wind, Solar Spending Plan

The Utilities Board last week approved MidAmerican Energy's proposal to spend $3.9 billion to add more capacity to generate wind and solar energy, as well as explore technology around battery storage, carbon capture and small modular nuclear reactors.

MidAmerican says it can build nearly 2,100 MW of wind and solar generation at "no net cost to consumers" due, in part, to the Inflation Reduction Act, which earmarked $369 billion in tax credits and other support for renewable generation.

The board approved MidAmerican's plan but tacked on new requirements and gave the company 20 days to decide whether to accept the plan as revised. The order requires the company to verify annually that the project comes at no added cost to consumers; the order also reduced the financial return from 11.25% to 9.5%.

More: *Des Moines Register*

Utilities Board Preapproves Duane Arnold Solar Projects

The Utilities Board last week preapproved the Duane Arnold Solar projects in Linn County, marking a first for solar projects in the state.

The 50-MW Duane Arnold Solar I project near Palo plans to use 316 acres of an 857-acre plot to place photovoltaic solar arrays. The 150-MW Duane Arnold Solar II project would use 815 acres of a 1,780-acre for arrays and would also include a 75-MW battery storage facility with around 96 20-by-8-foot containers to house 7,040 lithium-ion modules.

Approval for the remaining 200 MW of Interstate Power and Light's solar, which have since been identified as the Creston Solar Project and Wever Solar Project, and the 75 MW of battery storage still is moving through the review process.

More: *The Gazette*

NORTH CAROLINA

Bill Calls for Moratorium on OSW Permits

A proposed bill sponsored by Sens. Tim

Moffitt (R) and Bobby Hanig (R) calls for a 10-year moratorium on the issuance of any required state permits for offshore wind projects within state waters, which extend 3 nautical miles off the coast.

Although the wind farms would be built in federal waters, transmission lines and other infrastructure would need state permitting approval.

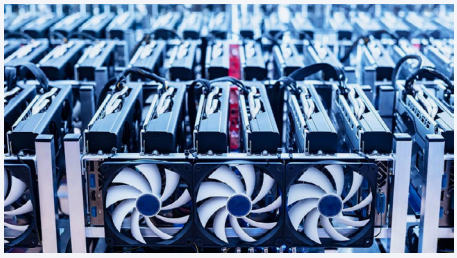
The bill says "a moratorium on the development of offshore wind power projects will allow the state to undergo a review of applicable state laws and rules to determine whether the existing offshore wind power regulatory framework adequately protects North Carolina's coastal resources in a manner that avoids or minimizes adverse effects on coastal resources and uses."

More: *USA TODAY*

Buncombe County OKs 1-year Moratorium on Cryptocurrency Mining

Buncombe County commissioners last week unanimously approved a one-year moratorium on cryptocurrency mines.

Planning Director Nate Pennington briefed commissioners on the ordinance and said the next year will give the county time to "craft standards for the newly defined use," and consider mitigation methods to regulate it.



The moratorium is effective through May 1, 2024.

More: *Asheville Citizen Times*

House Passes Bill to Delay Energy Efficiency Rule Updates

The House last week voted 90-25 to pass a bill that would reorganize the state's Building Code Council and delay any moves to improve energy efficiency in new homes until 2026.

The council, appointed by Gov. Roy Cooper, wants to bring the rules up to 2021 international standards to cut energy costs and reduce climate pollution. The changes would only affect new buildings and homes. However, the bill's Republican sponsors and the Home Builders Association argue that tightening energy efficiency requirements would make new homes unaffordable.

The bill now heads to the Senate.

More: *WFAE*

TEXAS

Bill Would Charge EV Drivers Annual Fee

The state Legislature unanimously has passed a bill that would require EV owners pay an annual $200 fee to register their cars.

The bill now heads to Gov. Greg Abbott and would go into effect Sept. 1 if approved.

More: *Chron.com*

Ranchers Sue ERCOT over Wind Farm Connected to Chinese Billionaire

A pair of West Texas ranchers are suing ERCOT, claiming the grid operator violated a 2021 law when it failed to stop Chinese billionaire Sun Guangxin's wind farm from moving forward in Val Verde County.

In response to the project, the Legislature passed the Lone Star Infrastructure Act in 2021, barring entities from China, Russia, Iran and North Korea from having direct access to critical infrastructure. GH America applied to ERCOT before the law went into effect. However, the ranchers claim ERCOT should have canceled that interconnection application when the act became law.

More: *Houston Chronicle*