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Counterflow

By Steve Huntoon

Offshore Wind Backbone Transmission

By Steve Huntoon

The U.S. Department of Energy released a study of offshore wind transmission last month,¹ which it said charts a path for a reliable and affordable electric system with HVDC backbone transmission interconnecting offshore wind projects along the East Coast.² (See [DOE Study Adds to Case for Interregional Offshore Grid.](#))



Steve Huntoon

For starters we need to be clear: In no way does this study establish, or even claim, that offshore wind makes economic sense. Of course it couldn't, for reasons I've given before,³ which are reinforced by all the news of the past year or so.⁴ Instead, we should be building onshore wind and, where economic, transmitting it from west to east.

What the study actually claims is that hypothetical offshore wind projects of 85 GW along the East Coast, if interconnected among themselves with an offshore transmission "backbone," would have a positive cost-benefit ratio relative to 85 GW of wind projects separately interconnected to shore with "radial" lines.

In other words, the study claims that if we were to spend \$96.3 billion⁵ on radial transmission lines for 85 GW of offshore wind, it would make sense to spend another \$20 billion for offshore north-south HVDC transmission lines to interconnect everything offshore — and, oh yeah, based on year 2050 projections of everything.

Now let's get to some specific problems with the study.

Legal and Commercial Barriers

Because offshore wind is so expensive, it happens only with large customer (and taxpayer) subsidies through a given state procurement program. For example, in New Jersey's latest procurement, the developer is receiving \$131/MWh in offshore wind renewable energy credits (ORECs) with a price escalator.⁶ Such procurements effectively or literally require all the wind generation to be delivered to the procuring state.⁷

Even if a developer were legally able to divert some generation elsewhere, it would have no reason to do so under programs like New Jersey's where all project revenues are credited back to customers.⁸ And even if there were no revenue-crediting requirement, a developer isn't going to divert wind generation elsewhere, such as to New York, except in hours when it could get more than \$131/MWh.⁹ This rarely occurs, and when it does, it is likely that energy prices in New Jersey also would be high.

Energy Price Differences

Assuming the above legal and commercial barriers didn't exist, let's examine the study's principal economic benefit claim: There are huge price differences between different East Coast regions such that there are huge customer savings to be had from moving power up and down the East Coast for injection onshore at different points. "In modeled estimates using the radial topology in 2050, price differences between suitable POIs [points of interconnection] for offshore wind averaged over \$100/MWh";¹⁰ for example, "approximately \$130/MWh on average between ISO-NE and SERC."¹¹

This appears to be a mistake. For the year 2050, DOE's Energy Information Administration projects average generation sector prices of \$66.8/MWh in New England and \$54.7/MWh in SERC East (South Carolina and the non-PJM portion of North Carolina).¹² That is a difference of about \$12/MWh, not \$130/MWh. The biggest regional price difference is between New England and PJM-East (which contains New Jersey and the Delmarva Peninsula) with a difference of about \$16/MWh.¹³ So there are no \$100/MWh average regional price differences that an offshore transmission backbone could arbitrage for the benefit of customers.¹⁴ And even if there were, stakeholders subsidizing their state's wind projects would be none too happy for their wind to be diverted elsewhere in times of high prices.

Oh, by the way, the study's specific quantifications of customer energy savings are based on a production cost model.¹⁵ But, except for the Carolinas and Virginia, customers don't pay production costs; they pay LMPs.

And the study also implicitly assumes,

contrary to actual experience, that resources could and would be dispatched efficiently among regions.¹⁶

Resource Adequacy

The study's second biggest category of claimed benefits is resource adequacy. The study claims \$940 million of incremental annual resource adequacy benefit in 2050, relative to a radial transmission design.¹⁷ The prime example is that PJM could rely on wind off the Carolinas to be delivered to PJM during peak conditions so the RTO would need less internal generation capacity.¹⁸

This also appears to be a mistake. PJM has FERC-approved capacity market rules to ensure resource adequacy that require external generation resources to give operational control to PJM so that external resources are functionally equivalent to internal resources.¹⁹ Stakeholders in wind projects off the Carolinas are not going to give PJM operational control.

And if I might pick a nit, the study says Carolina wind would be delivered to "winter-peaking parts of PJM" and specifies Maryland.²⁰ None of the coastal states in PJM are winter peaking, including Maryland.²¹

Modeling Assumptions

The study has a couple modeling assumptions that seem to put thumbs on the scale.

First, the study assumes "limited [new onshore] interregional transmission."²² Yes, despite new onshore interregional transmission being all the rage these days, the study assumes nothing is built for the next 26 years.²³ If new onshore interregional transmission were built, any price/cost differences would decline as more energy would be deliverable from low-cost areas to high-cost areas, and backbone offshore transmission would be less valuable.

Second, the study assumes "limited-access siting regimes for land-based wind and utility photovoltaics."²⁴ This assumption is not explained, but it seems safe to observe that if one assumes limited onshore renewable resources, offshore resources will look more attractive. This assumption is belied by the hundreds of gigawatts in proposed onshore renewable resources.²⁵

Counterflow

By Steve Huntoon

Incremental Annual Cost

In developing its benefit-cost ratios, the study doesn't provide detail for its capital costs.²⁶ But the study does drop a footnote for its assumptions on converting capital costs to annual costs,²⁷ and we can back into the annual costs. So, for example, comparing the radial scenario with the backbone scenario, we know that if claimed incremental "economic value" is \$3,940 million²⁸ and if claimed incremental "net annual value" is \$2,470 million,²⁹ then the implied annual cost is \$1,470 million.

If the incremental capital cost is \$20 billion and the annual cost is \$1,470 million, then

that means the assumed annualized cost percentage is 7.35%. But that is not realistic. For example, the annual carrying charge rate for transmission owners in PJM is about 11.8%,³⁰ and annual O&M expense is on top of that.

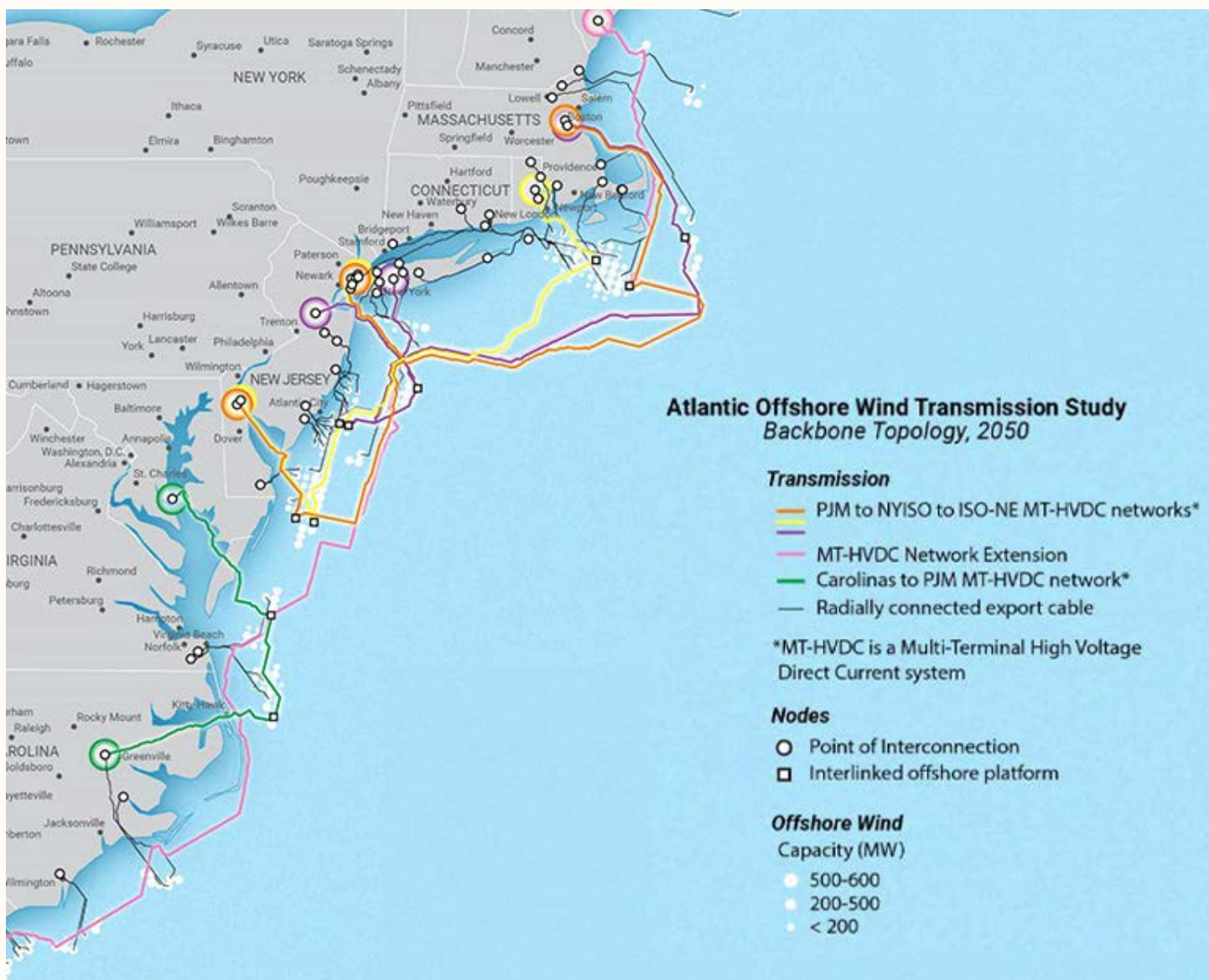
Engineering Feasibility

I am no engineer, but there is an Argonne National Laboratory study that says HVDC systems can't have more than five substations: "The number of substations within a modern multi-terminal HVDC transmission system can be no larger than six to eight, and large differences in their capacities are not allowed. The larger the number of substa-

tions, the smaller may be the differences in their capacities. Thus, it is practically impossible to construct an HVDC transmission system with more than five substations."³¹ And National Grid describes major issues with multi-terminal HDVC systems.³²

The DOE backbone design has 26 substations.³³ How does that reconcile with the Argonne and National Grid analyses? I have no idea, but these are things the study should have addressed.

And there's another potential engineering issue called the "most severe single contingency," which involves the sudden loss of a single source of electric generation, generally



Backbone topology path-routed map (2050, 85 GW) | NREL

Counterflow

By Steve Huntoon

around 1,200 MW. It is unexplained how aggregated offshore wind generation delivered onshore in excess of the MSSC would not trigger reliability and reserve issues.

What Else Could Possibly Go Wrong?

Spend \$20 billion here, \$20 billion there, and

pretty soon we're talking real money. And those who might rationalize spending "only money" on offshore wind backbone transmission should consider how much a focus on standard design among offshore transmission projects, in order to enable backbone transmission, might delay or even frustrate such projects.

In Conclusion

DOE should rethink this.

Columnist Steve Huntoon, principal of Energy Counsel LLP, and a former president of the Energy Bar Association, has been practicing energy law for more than 30 years.

¹ <https://www.nrel.gov/docs/fy24osti/88003.pdf>.

² <https://www.energy.gov/articles/doe-reports-chart-path-east-coast-offshore-wind-support-reliable-affordable-electricity>.

³ Offshore wind is more than twice as expensive as onshore wind and is a highly inefficient use of renewable energy subsidies. <https://www.energy-counsel.com/docs/we-see-through-a-glass-darkly.pdf>, citing <https://www.lazard.com/media/kwrjairh/lazards-levelized-cost-of-energy-version-140.pdf>, slide 3, showing \$40/MWh for onshore wind versus \$86/MWh for offshore wind (midpoints of the ranges). The most recent Lazard levelized cost of energy analysis is \$49/MWh and \$106/MWh, respectively, <https://www.lazard.com/media/typdgxmm/lazards-lcoeplus-april-2023.pdf>, slide 2. My earlier column criticized subsidies/mandates for offshore wind and showed that for every dollar of subsidy, we can get 11 times as much onshore wind as offshore wind. <http://energy-counsel.com/docs/Offshore-Wind-Edifice-Complex.pdf>.

⁴ An excellent article covering this news, as well as discrediting the jobs argument for offshore wind, is here, <https://www.cato.org/regulation/spring-2024/false-economic-promises-offshore-wind>

⁵ In a couple footnotes, 25 and 29, the study says "million" instead of "billion." This is confusing.

⁶ <https://www.offshorewind.biz/2024/01/25/new-jersey-selects-3-7-gw-of-new-offshore-wind-projects-awards-inflation-adjusted-orec-contracts/>.

⁷ For example, in New Jersey the points of landfall and interconnection are required to be in New Jersey. <https://njoffshorewind.com/third-solicitation/solicitation-documents/Att-5-Application-Requirements.pdf>, page 13. In New York the requirement is explicit, <https://www.nyscrda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/Offshore-Wind-Solicitations>

⁸ <https://njoffshorewind.com/third-solicitation/solicitation-documents/Att-5-Application-Requirements.pdf>, page 18.

⁹ ORECs are only paid for wind energy delivered to New Jersey. <https://njoffshorewind.com/third-solicitation/solicitation-documents/Att-4-Offshore-Wind-Economic-Development-Act.pdf>, page 17.

¹⁰ <https://www.nrel.gov/docs/fy24osti/88003.pdf>, page ix.

¹¹ <https://www.nrel.gov/docs/fy24osti/88003.pdf>, page 47.

¹² https://www.eia.gov/outlooks/aeo/tables_ref.php, comparing Tables 54.7 and 54.10 in year 2050 for generation sector prices in 2022 cents per kilowatt-hour and converting to dollars per megawatt-hour.

¹³ From north to south, EIA projects average generation sector prices in 2050 to be: \$66.8/MWh in NPCC-New England, \$61.8/MWh in NPCC-New York City and Long Island, \$50.7/MWh in PJM-East, \$50.8/MWh in PJM-Dominion, and \$54.7/MWh in SERC-East. Tables 54.7, 54.8, 54.10, 54.13 and 54.14.

¹⁴ Perhaps the study meant to say that there are some hours with at least a \$100/MWh price difference and that the average price difference of those hours is more than \$100/MWh, which of course it would be by definition. Who knows?

¹⁵ DOE Study, page v and footnote 2.

¹⁶ <https://www.brattle.com/wp-content/uploads/2023/10/The-Need-for-Inertia-Optimization-Reducing-Customer-Costs-Improving-Grid-Resilience-and-Encouraging-Interregional-Transmission-Report.pdf>; <https://www.rtoinsider.com/75385-stakeholder-soapbox-greatest-machine-needs-tune-up/>

¹⁷ DOE study, Table 19 on page 77.

¹⁸ DOE study, page 70.

¹⁹ <https://elibrary.ferc.gov/eLibrary/filedownload?fileid=E921C275-FFCB-C00E-9D23-7D6D72D00000>

²⁰ DOE study, pages 67 and 70.

²¹ <https://www.pjm.com/-/media/library/reports-notices/load-forecast/2024-load-report.ashx>, Tables B-1 and B-2. Taking Maryland as the example given in the study, the summer peak loads for the furthest year out, 2039, are 7,495 MW for Baltimore Gas and Electric and 6,870 MW for Potomac Electric Power Co., relative to their respective winter peak loads of 6,803 MW and 6,081 MW.

²² DOE study, page 9.

²³ DOE study, page 12.

²⁴ DOE study, page 9.

²⁵ https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf, Figure 16.

²⁶ Basic stuff like number of substations, total transmission miles, etc.

²⁷ DOE study, page 77, footnote 37.

²⁸ DOE study, Table 19 on page 77.

²⁹ DOE study, Table 20 on page 77.

³⁰ <https://www.pjm.com/-/media/committees-groups/committees/teac/2023/20230711/20230711-informational---market-efficiency-analysis-assumptions---july-2023.ashx>

³¹ <https://publications.anl.gov/anlpubs/2008/03/61117.pdf>, page 42.

³² <https://www.nationalgrid.com/sites/default/files/documents/13784-High%20Voltage%20Direct%20Current%20Electricity%20E%28%09%20technical%20information.pdf>, page 6. An interesting story is here, <https://spectrum.ieee.org/multiterminal-hvdc-networks>

³³ DOE study, page 52.

FERC/Federal News



IRA Driving New Clean Energy as Interconnection Queue Backlogs Persist

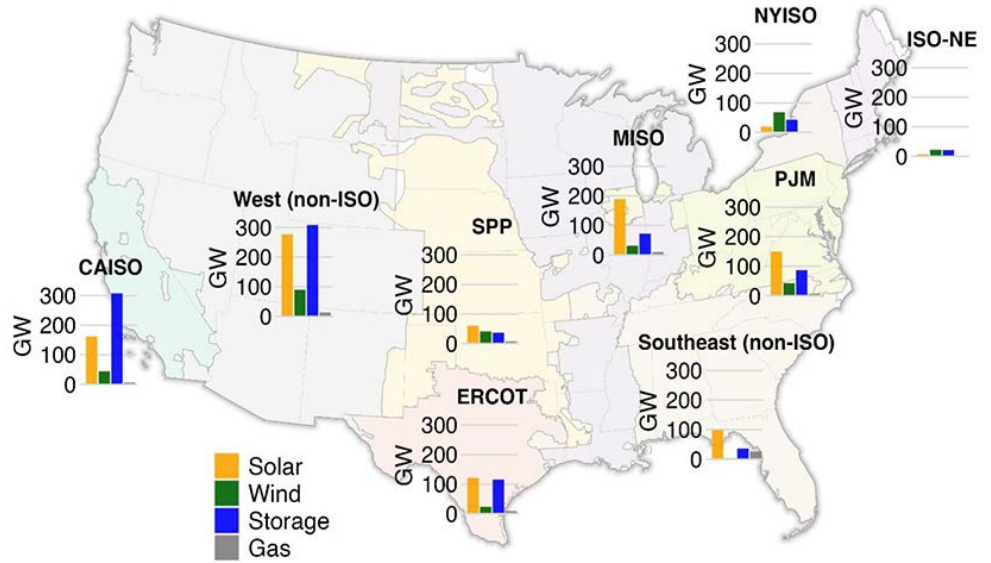
By K Kaufmann

Interconnection requests across the U.S. shot up by 30% in 2023, with close to 2,600 GW of solar, wind and storage waiting to land a spot on the grid, according to the Lawrence Berkeley National Laboratory's 2024 *Queued Up* report.

This year's edition of the lab's annual tally of projects awaiting interconnection provides a granular look at the conflicting forces – regulatory, economic and logistical – affecting projects sitting in the queues of the nation's seven RTOs and ISOs and 44 other balancing authorities in non-RTO/ISO regions.

On the one hand, the report notes, renewable energy tax credits in the Inflation Reduction Act have had a significant impact on project development, providing tailwinds for over 1,200 GW of new projects that have applied for interconnection since the law was passed in August 2022.

"Although not all of the post-IRA interconnection requests can be attributable to the IRA, these provisions increased developer interest in clean energy, and the queues are one indicator of this," the report says.



Total proposed capacity in interconnection queues by region | Lawrence Berkeley National Laboratory

But even with FERC *Order 2023*, aimed at reforming interconnection processes, existing backlogs may take one to two years or more to clear. Several RTOs and ISOs either have

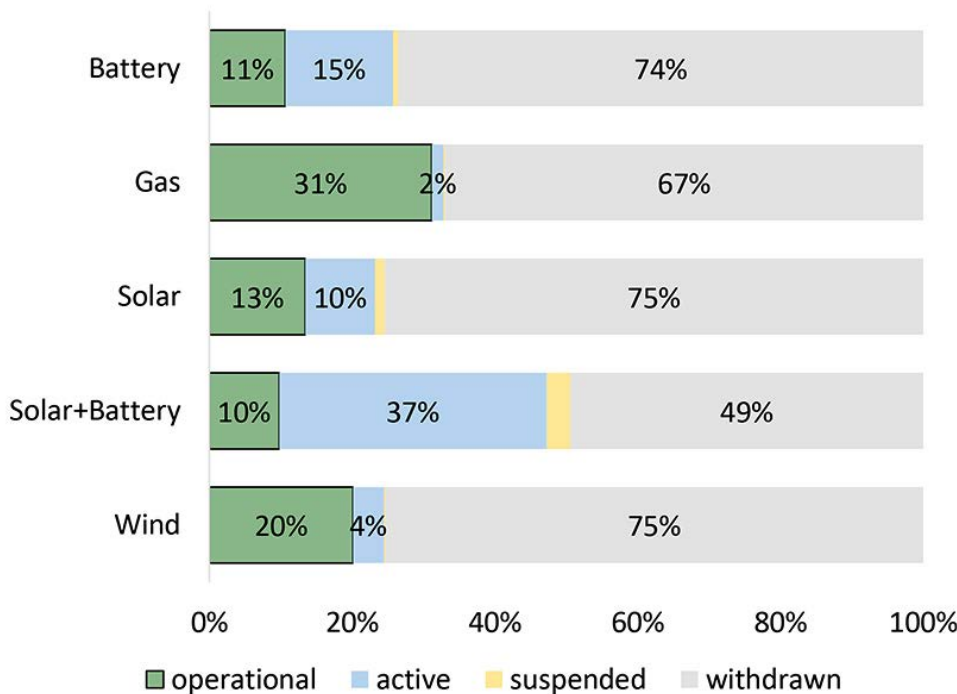
paused applications or are considering doing so until they can implement the order.

These backlogs' impact – along with other permitting obstacles, supply chain delays and high interest rates – can be seen in the more than 70% of interconnection requests withdrawn between 2000 and 2018, the most recent figures available. During that time, only 20% of wind projects requesting interconnection went online, with solar scoring 13% and battery projects 11%.

The Berkeley report also drills into the withdrawal stats to track when in the interconnection process they were withdrawn – during initial feasibility or system impact studies, or later during the facility studies or interconnection agreement negotiations. Generally, most withdrawals occur in the early stages, but the report found an increasing trend toward late-stage withdrawals from 2016 to 2018.

Such late-stage withdrawals can cause a snowball effect, the report says, causing sunk costs and lost deposits for developers while triggering restudies for other projects in the queue.

Withdrawal rates for standalone solar, wind and battery projects were higher than for hybrid projects. While standalone projects each had a withdrawal rate of about 75%, the rate for hybrid projects was 49%.



Projects online versus projects withdrawn: Interconnection queues continue to see high withdrawal rates. | Lawrence Berkeley National Laboratory

FERC/Federal News



Size, Location Matter

The number of gigawatts now sitting in queues is more than twice the 1,279 GW currently online across the country, the report says, and almost all RTOs and ISOs could add more than enough new power to cover peak demands and expected demand growth.

“Some people are saying, ‘We have so much more capacity in the queue that we really have a need for,’” said Joseph Rand, energy policy researcher at the Berkeley Lab. But with new data centers, electric vehicles and manufacturing coming online, “there’s a real need to bring online new electric generation,” he said.

The slowdown in new interconnection requests in MISO and PJM has been more than offset by a boom of new capacity going into queues in CAISO and the non-ISO West, the report says. CAISO’s queue exploded in 2023, going from about 200 GW in 2022 to 523 GW of solar, storage and hybrid storage projects.

The non-ISO West saw its queues add about 100 GW, also of solar, storage and hybrid resources; the region now leads the country with 706 GW awaiting interconnection.

The size of projects is also increasing, with solar projects now averaging 193 MW, a 250%

increase since 2015, while battery projects are averaging just over 200 MW, a 330% increase since 2015.

But along with all that increased capacity and number of interconnection requests, the report also found longer timelines for projects to cycle through the process. For projects going online in 2023, the typical time from interconnection request to start of operation was close to five years, compared to three years in 2015 and less than two years in 2008.

Timelines are also affected by project size, the report says. Projects under 5 MW can go from interconnection request to operation in about 20 months; for midsized projects of 5 to 20 MW, the time is 33 months, and for larger projects 100 to 200 MW and up, it’s four to 4.5 years.

On average, CAISO takes the longest to get projects from interconnection request to operation — an average of seven years or more — followed by NYISO and SPP, at five to six years, the report says. The non-RTO Southeast and ISO-NE have the shortest timelines, three and two years, respectively.

Rand cautioned that interconnection is one of a range of factors affecting project timelines,

such as securing offtake agreements and local permitting, along with supply chain delays.

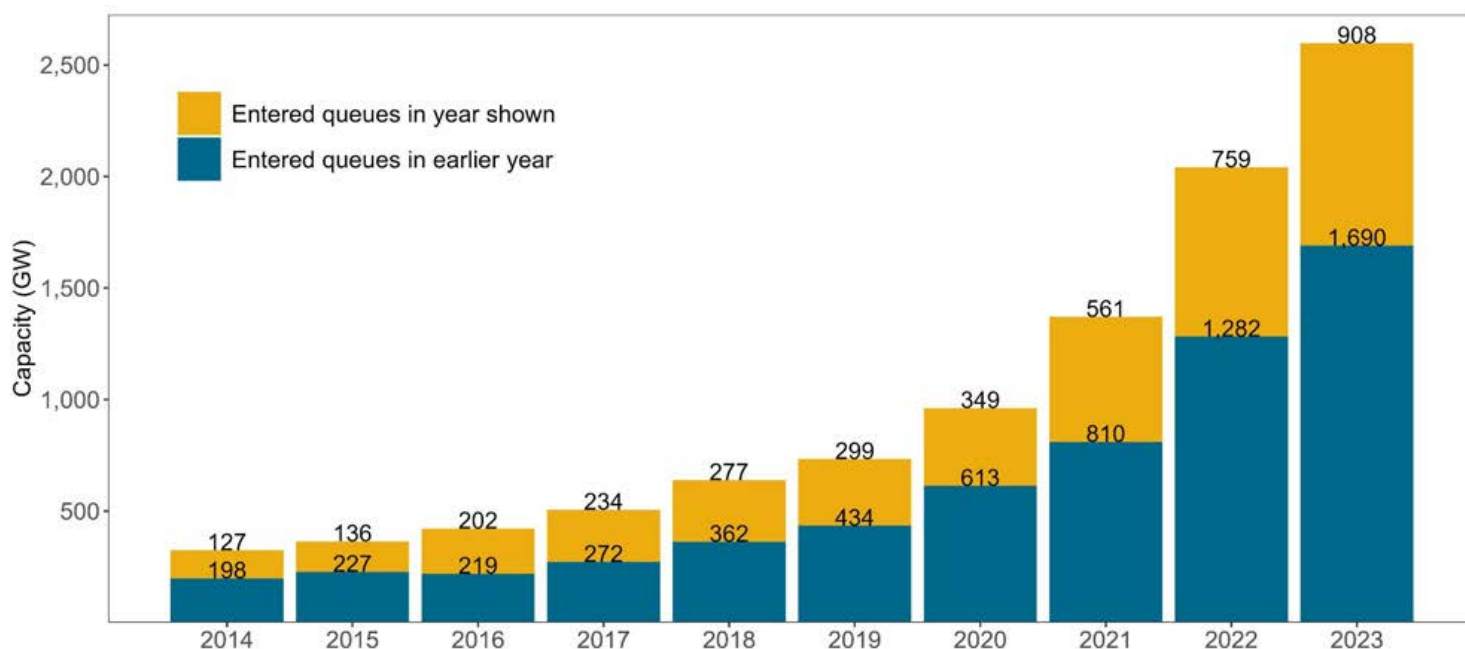
‘Chipping Away’

With RTOs and ISOs still formulating their plans for implementing Order 2023, significant change in interconnection processes and timelines will likely be incremental, Rand said.

He sees RTOs and ISOs facing “countervailing forces that are almost working against each other.” The “absolute splurge of developer interest in new clean energy ... [and] an unprecedented volume of new requests [is] overwhelming the system” while the changes by FERC and the RTOs are only “chipping away” at the backlog, he said.

“We’re hitting this point where we’re in need of more innovative reforms that are maybe a little bit more comprehensive, and they revamp things a little more deeply,” Rand said, pointing to more automation as an example. Most stakeholder sectors “seem to recognize that FERC Order 2023 is just a baseline, and more needs to be done.”

Rand is hoping FERC’s forthcoming rule on transmission planning will make a bigger dent. “I really look forward to doing this report next year,” he said. ■



New capacity entering interconnection queues has increased every year since 2014. | Lawrence Berkeley National Laboratory

FERC/Federal News



Grid Operators Report Reliable Operations During Eclipse

By Amanda Durish Cook

Grid operators reported zero issues managing the bulk electric system April 8 as a total eclipse briefly shaded solar panels across ISO-NE, NYISO, MISO, SPP and ERCOT.

MISO reported that it and its members “successfully managed” grid conditions as the solar eclipse moved through its footprint, cutting a path of totality over its offices in Little Rock, Ark., around 1:51 p.m. CT, and Carmel, Ind., at 3:06 p.m. ET.

The grid operator said it increased its short-term, 30-minute reserves, regulation reserves and ramp requirements to manage the eclipse’s impacts. MISO said prior to the eclipse, its solar fleet was producing nearly 4 GW, which dropped to just below 300 MW during totality and returned to about 3.8 GW afterwards.

“We accessed our increased regulation reserves to manage the rapid changes in system conditions,” MISO spokesperson Brandon Morris said in an emailed statement to *RTO Insider*.

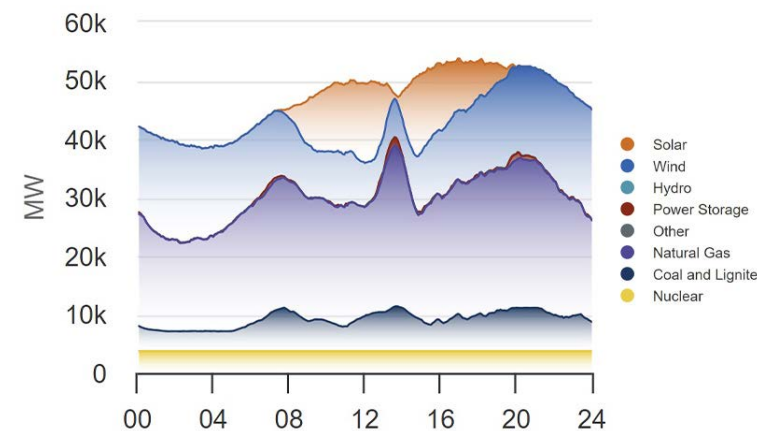
ERCOT said it operated normally through reduced solar generation. Its solar fleet slowed to about 800 MW around 1:30 p.m. CT. Fifteen minutes earlier, ERCOT recorded a 5-GW contribution from its solar fleet. By 2 p.m. CT, ERCOT’s solar production was back to 5 GW and spiked to more than 13 GW by 3 p.m. CT, supplying more than 25% of the fuel mix.



The total eclipse as viewed from Indianapolis | © RTO Insider LLC

Fuel Mix

Last Updated: Apr 9, 2024 15:39 CT



The ERCOT fuel mix on April 8 showed a drop in solar generation | ERCOT

ERCOT relied on a combination of natural gas, wind production and energy storage during the temporary darkness.

ISO-NE said operations went smoothly as the moon crossed in front of the sun in New England. Preliminary estimates from the system operator indicate the eclipse led to about a 4-GW reduction in solar production, with 3 to 3.5 GW coming from behind-the-meter sources and 650 MW from grid-connected installations.

“Our preparations paid dividends. The work done ahead of time to understand how the eclipse would impact the

regional power system was crucial to a smooth operating day,” said Steven Gould, ISO-NE’s director of operations.

NYISO said it maintained reliable operations while the sun’s corona was observable to crowds. Prior to the eclipse, NYISO said its front-of-meter and behind-the-meter solar resources collectively generated a little more than 3 GW. When New York went dark around 3:30 p.m. ET, solar output dwindled to just under 600 MW. By 4 p.m. ET, solar generation in NYISO had ramped back up to 1.2 GW.

NYISO said it dispatched thermal generation and hydropower to make up for the loss of solar output.

Before the eclipse, SPP said it expected no significant grid impacts and a dip in grid-connected and distributed solar generation no greater than 1 GW. It said it had ample output from other types of generation available to compensate. SPP said most of its footprint experienced 50 to 75% eclipse coverage. Afterward, SPP shared photos of the “mesmerizing” event captured by its employees on X. ■

Jon Lamson and Tom Kleckner contributed to this report.

CAISO/West News

Western RTO Group Floats Independence Plan for EDAM, WEIM Pathways Straw Proposal Outlines ‘Stepwise’ Process for Independent Governance

By Robert Mullin

Backers of an initiative to create an independent Western RTO that builds on CAISO’s markets have floated a plan to untangle the snag that’s hung up past efforts to “regionalize” the ISO: a lack of independent governance.

The plan is set out in West-Wide Governance Pathways Initiative’s highly anticipated *straw proposal*, which the group’s Launch Committee released April 10 along with an accompanying *stakeholder guidance* document and *legal analysis*. The latter was performed by law firm Perkins Coie, which the committee retained to examine state and federal legal issues.

It describes a “stepwise” approach for transitioning the oversight authority for CAISO’s Western Energy Imbalance Market (WEIM) and Extended Day-Ahead Market (EDAM) from an ISO board appointed by California’s governor to an independent entity representing stakeholders from across the Western Interconnection.

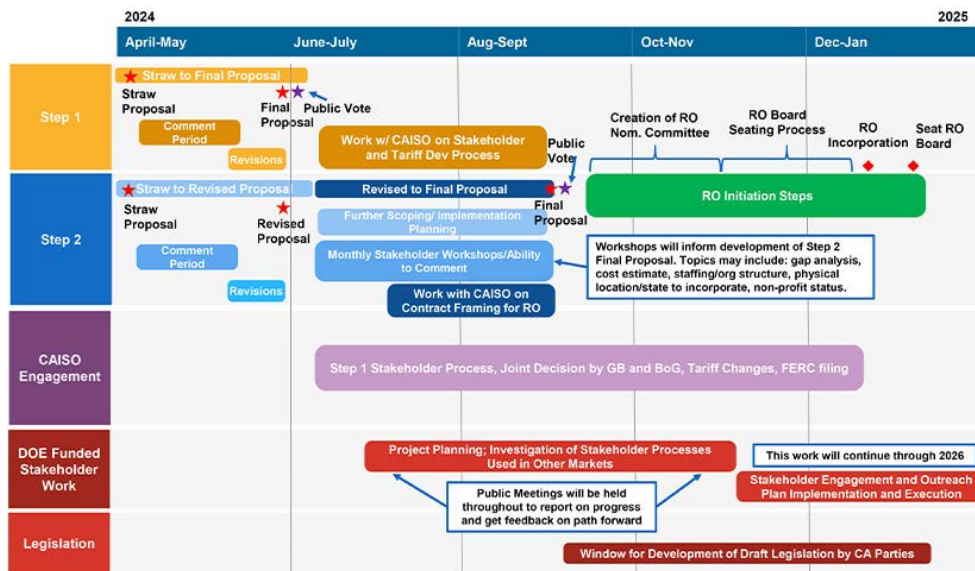
Effecting that transition has been the key objective of the Pathways Initiative, which utility commissioners from five Western states launched last July just as EDAM began to face mounting competition for participants from SPP’s Markets+ day-ahead offering. (See *West Entered Pivotal Period for RTO Development in 2023.*)

“This package presents the Launch Committee’s evaluation of options to achieve the original goal of the Pathways Initiative: the creation of a new, independently governed entity capable of offering an expansive suite of West-wide wholesale electricity market functions across the largest possible footprint,” the committee said in a statement accompanying release of the documents.

The proposal envisions three steps for progressively meeting that goal, but the plan released April 10 deals only with the first two steps, leaving the third for a future time once the effort has initial objectives.

Option 0

Step 1 of the proposal calls for making the existing WEIM/EDAM Governing Body as independent as possible “within the current CAISO structure in a way that presents little or no” risk to inciting challenges to the change based on California law.



Timing and workstreams reflect best information available at the time of publication and are subject to change based on stakeholder feedback.

Chart shows timelines for the various steps and processes associated with the West-Wide Governance Pathways Initiative. | *West-Wide Governance Pathways Initiative*

The action represents “Option 0” among the governance options the Launch Committee laid out during its December stakeholder update call and is expected to be workable without making changes to the California statute governing the ISO. (See *Western RTO Initiative Outlines Governance Options.*)

The step would entail giving the WEIM’s Governing Body “primary authority” over market-related matters in areas where it currently shares “joint authority” with the ISO’s Board of Governors, with disagreements being “channeled” into the existing dispute resolution process outlined in the WEIM charter, which falls under the CAISO tariff.

Step 1 also would include modifying the current dispute resolution process to allow CAISO to make a “dual filing” of both bodies’ proposals with FERC — “with no stated preference” — in the instances of unresolved disagreements over market rules, similar to the “jump ball” process between ISO-NE and NEPOOL in New England.

This step additionally would revise the WEIM charter to account for consumer and state interests in the market’s decision-making

process.

“This step also contemplates a continued advisory role for a Body of State Regulators (BOSR) in WEIM GB and CAISO BoG decision-making, and an active role in representing state interests, when necessary, in any ‘dual filing’ before FERC” the proposal says.

Under the plan, Step 1 would be triggered once EDAM implementation agreements have been executed by a “set of geographically diverse” WEIM entities outside CAISO representing load “equal to or greater than 70% of the CAISO balancing authority area (BAA) annual load for 2022.”

“Assuming all the entities who have expressed an intent to join EDAM as of April 10, 2024, execute implementation agreements, only one additional utility representing at least 10,000 GWh of load and located in the Southwest would be required to trigger the Step 1 governance transition” the proposal says.

The proposal says: “Step 1 is just the first step toward the full realization of the regulators’ vision of energy markets with governance independent of any single state, participant or

CAISO/West News



class of participants,” representing “a near-term incremental increase in independent governance that show commitment” to that vision. It also notes that Perkins Coie concluded the step could be completed within the scope to California law, but that FERC approval likely would be required.

RO, Not RTO

Step 2 in the straw proposal seeks to achieve the Pathways Initiative’s “primary goal” by “creating a durable governance structure with a fully independent board that has sole authority to determine the market rules for EDAM and WEIM, building incrementally on the movement toward greater independence in Step 1.”

The key action in the step is establishment of a new “regional organization” (RO) separate from CAISO that would become successor to the WEIM’s Governing Body.

“The Launch Committee envisions that the RO would begin with a relatively modest size, consisting of a board of directors and a small initial dedicated staff and legal counsel (internal or external),” the proposal says. “The board itself would meet FERC’s standards for independent governance of an RTO, including the absence of any financial conflicts of interest related to the energy markets and market participants.”

Step 2 would require winning passage of California legislation “to narrow the corporate scope of the CAISO and allow a complete transfer of some of its existing management responsibilities, while preserving the CAISO’s balancing authority responsibility” — the last being a key requirement for the support of California labor groups. (See [Former Opponents Shift Position on CAISO 'Regionalization'](#).)

The step also would see a much-reduced role for the WEIM Governing Body, with the group’s “primary authority” over WEIM/EDAM decision-making (established in Step 1) being transitioned to the “sole authority” of the new RO, “while possibly continuing some form of shared authority for a limited number of tariff provisions,” the proposal says. The step also contains the potential for Western stakeholders to use the RO as the governing entity for new services beyond the WEIM and EDAM, such as reliability coordination, resource adequacy, transmission “functions” and consolidation of balancing authorities.

The Launch Committee expects the WEIM’s BOSR, or “similar successor organization, would continue to have a significant role in reviewing and opining on policy proposals and actions of the RO to protect all affected consumers.”

The committee also realizes the launch of the RO could be an appropriate time to “re-evaluate” how the WEIM and EDAM engage with participants, raising the potential for more stakeholder-driven processes.

“The Launch Committee continues to evaluate how best to structure the stakeholder process for providing input into the RO’s consideration of market rules and any other matters under its authority. We expect the RO to be responsible for overseeing the stakeholder process associated with developing regional market rules,” the proposal says.

“Some elements of creating the RO and the overall Step 2 proposal can be implemented sooner than others, and this may argue for beginning implementation prior to consideration of further legislation in California. And regardless of further legislative change in California, the creation of an RO with the attributes described here may prove attractive on its own merits as a locus for future regional market initiatives,” according to the proposal.

‘Clear Line of Sight’

The straw proposal only briefly touches on Step 3, which would be the development of a full RTO, the design for which “goes beyond” the Launch Committee’s scope of work, although the proposal notes steps 1 and 2 were developed “with a clear line of sight” to the services of an RTO, for which membership would be voluntary.

“One guiding principle for the Launch Committee was to ensure that a governance structure could evolve to allow market participants to voluntarily participate in a regional transmission organization (RTO), but not to mandate that any entity join an RTO,” the committee said.

The Launch Committee expects to issue a final proposal for Step 1 and a revised proposal for the more complex Step 2 in early June, concluding Phase 1 of the committee’s work.

Phase 2, expected to run through early fall, would include implementing Step 1 and further refining Step 2. That would be followed by Phase 3, which would “finalize” implementation of Step 1 and complete the design and proposed timeline for implementing Step 2.

The Launch Committee will discuss the straw proposal during its next update call April 19.

‘Pragmatic Effort’

The straw proposal earned support from several energy companies and groups in the West, including many participating in the Pathways

Initiative effort.

“The Pathways Initiative is a pragmatic effort to ensure any new market entrant will reap the benefits of joining a West-wide market,” Vijay Satyal, deputy director of regional markets and transmission at Western Resource Advocates, said in a statement. “The process has been inclusive and transparent, with a focus on identifying requirements for independent governance to facilitate the largest possible market footprint in order to maximize consumer and public interest benefits.”

“This proposal marks a pivotal moment in our pursuit of a cleaner, more efficient energy future for the Western region,” said Kelsie Gomanie, Western markets advocate at the Natural Resources Defense Council. “As stakeholders rally behind a more expansive market, the vision of a grid with lower costs, lower emissions and stronger reliability becomes clearer and closer.”

“Montana has already gained \$74 million in benefits in less than three years of our utility’s participation in the EIM,” said Anne Hedges, co-director of the Montana Environmental Information Center. “The Pathways Initiative poses the best opportunity to grow those benefits, ensure reliability and help decrease the upward trend in customers’ rapidly rising electricity bills.”

“The proposal will build on the success of EIM and EDAM, preserve state authority over energy policy goals and offer a path to additional market services, capitalizing on the reliability and cost savings benefits of sharing resources across the largest possible footprint,” Advanced Energy United Managing Director Leah Rubin Shen said in a statement.

“We are very excited about the momentum happening in the West toward expanding CAISO’s successful EIM and building on top of that to have a day-ahead market,” said Mona Tierney-Lloyd, head of regulatory and policy at Enel North America. “Having a market structure in the West that covers the large footprint of the West is really important.”

“The fewer seams there are across the West, the fewer barriers in the market,” said Varner Seaman, director of legislative and regulatory affairs at Pattern Energy Group. “Intuitively, a market that is inclusive of California makes the most economic sense, but ultimately, whatever market will get the best economic outcome for consumers is the right choice. Every state has an interest in how we can work better together.” ■

CAISO/West News

Nev. RTO Proceeding Examines EDAM, Markets+ Design

PUCN Workshop Zeroes in on How Each Day-ahead Market Deals with RA

By Elaine Goodman

Two competing day-ahead markets from CAISO and SPP are taking different approaches to resource sufficiency and adequacy, according to presenters at a workshop included in an effort that will likely help shape NV Energy’s decision on which market to join.

The Public Utilities Commission of Nevada (PUCN) hosted the workshop April 10 to discuss regional market designs.

In CAISO’s Extended Day-Ahead Market (EDAM), balancing areas will undergo a daily resource sufficiency evaluation (RSE) ahead of the market’s 10 a.m. cutoff.

The balancing areas will work with their load-serving entities and suppliers to ensure sufficient resources and transmission are available to the market, said CAISO Chief Operating Officer Mark Rothleder. The resources must be enough to meet the demand forecast, plus an operating reserve and an imbalance reserve.

Resources from all participating balancing areas will then be optimized to meet demand across the market and minimize cost, Rothleder said. Entities that don’t pass the RSE will still be able to participate in the market but will be charged a premium.

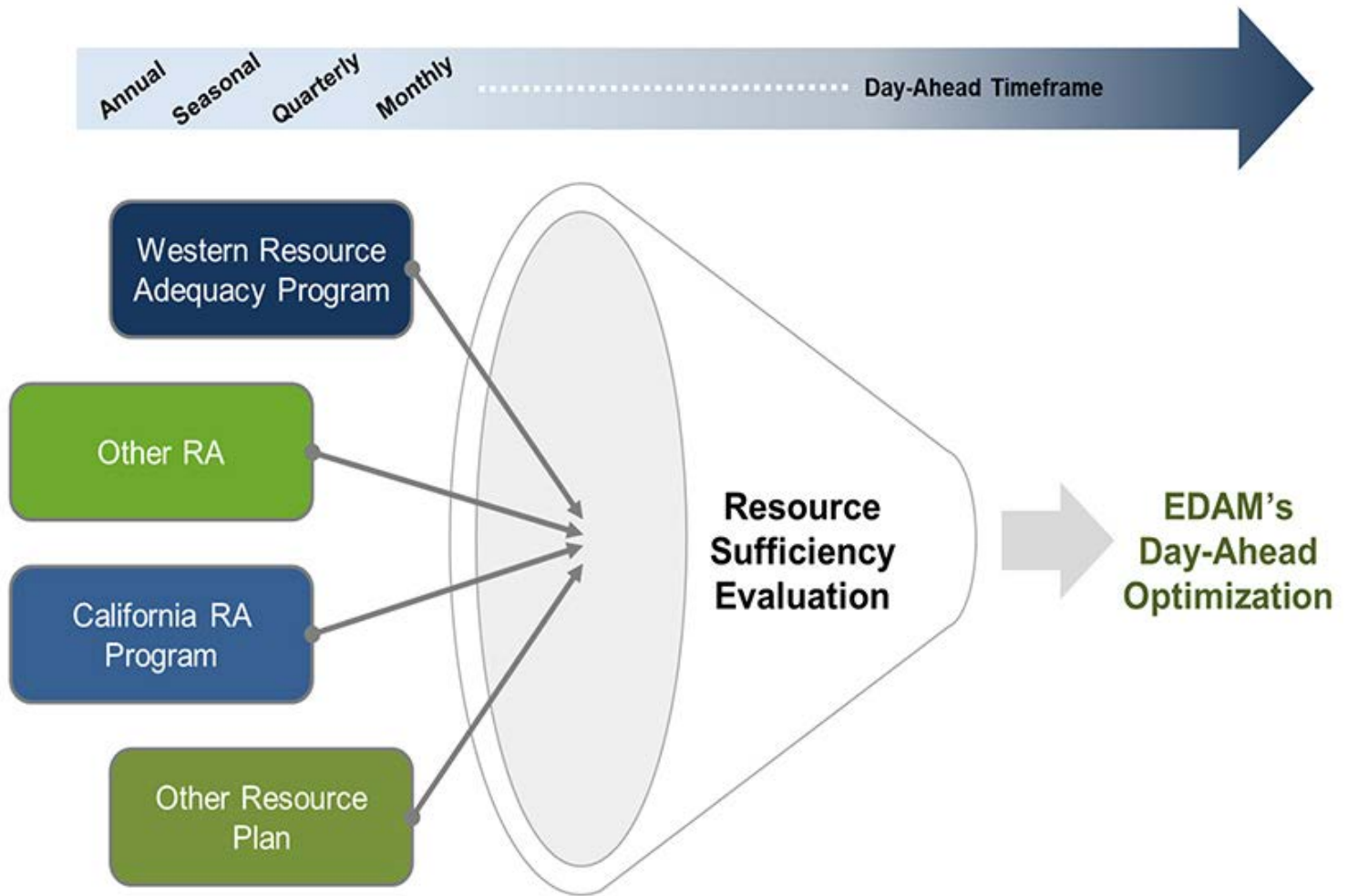
In contrast, SPP’s Markets+ day-ahead market

will not use a daily resource sufficiency test, said Carrie Simpson, SPP’s director of services development.

Instead, all load-serving entities in Markets+ must belong to Western Power Pool’s Western Resource Adequacy Program (WRAP), which SPP runs.

The WRAP includes a forward-looking component that will require participants to demonstrate they have sufficient capacity and 75% of the transmission needed to deliver it seven months before each summer and winter. Those who fail the requirement will face penalties.

Simpson said obligations coming out of WRAP



CAISO describes the resource sufficiency evaluation that’s part of its Extended Day-Ahead Market as a “universal adapter” for various resource adequacy programs. | CAISO

CAISO/West News



will inform a day-ahead market participant's must-offer requirement, "so that we ensure that we have sufficient generation offered into the market."

SPP "heard loud and clear" from entities participating in the development of Markets+ about the need for a uniform resource adequacy program, Simpson said.

"In Markets+, we have a uniform approach so everyone's on the same playing field," Simpson said. "To the extent that someone is short today, well, they're part of the larger program, and we'll have the capability to have someone else offer for them, and so you get that shared pooling advantage."

Rothleder, with CAISO, described EDAM's resource sufficiency evaluation as "a universal adapter" that can accommodate WRAP, California's resource adequacy requirements or other RA programs.

Resources developed under the RA programs can then be used to satisfy resource-sufficiency evaluations, he said.

"I am not suggesting resource adequacy programs are not important. They are very important," Rothleder said. "All I'm suggesting is that you don't have to have a one-size-fits-all resource adequacy program for a day-ahead market optimization to work."

The RSE may even be a way to compare different resource adequacy programs, Rothleder suggested.

"To the extent that the resource adequacy program is performing less than another resource

adequacy program, that will be tested by the resource sufficiency evaluation," he said.

Competition Heats up

The workshop was part of PUCN's efforts to find ways to evaluate a utility's choice of a regional market or RTO. An April 3 workshop focused on studies of day-ahead market benefits. (See *Nev. RTO Effort Turns Focus to NV Energy Day-ahead Studies.*)

NV Energy and other utilities across the West are drawing closer to decisions on which day-ahead market to join. Some have already chosen.

PacifiCorp, the Balancing Authority of Northern California (BANC) and Portland General Electric are among the entities pursuing EDAM membership. CAISO is aiming to launch EDAM in 2026.

Bonneville Power Administration staff tentatively recommended this month that the agency go with Markets+. (See *BPA Staff Recommends Markets+ over EDAM.*)

NV Energy hasn't revealed publicly its day-ahead market choice. The utility was among more than three dozen entities that participated in developing tariffs and protocols for Markets+, in a process SPP calls Phase 1, but a recent study by The Brattle Group found the utility would realize greater financial benefits from joining EDAM. (See *NV Energy to Reap More from EDAM than Markets+, Report Shows.*)

Phase 2, expected to start next year, will begin Markets+ implementation, with a go-live date

projected for early 2027.

Antoine Lucas, SPP's vice president of markets, said SPP is asking its Phase 1 participants to indicate this quarter whether they'll be moving forward with Markets+, even if their commitment is nonbinding at this point.

"I know there is some level of ... participants looking to each other to see what they might do," Lucas said during the workshop.

When asked what level of participation would be needed to make Markets+ feasible, Lucas said Phase 1 participants decided that 150 TWh of net energy for load annually and two contiguous balancing areas would be enough to move forward.

WEIS' Role Clarified

Some entities that join Markets+ might now be participating in CAISO's real-time Western Energy Imbalance Market (WEIM). In that case, they would leave the WEIM and instead participate in a real-time market that is bundled with the Markets+ day-ahead market.

The real-time market associated with Markets+ is different from SPP's Western Energy Imbalance Service (WEIS), a real-time market now in operation, SPP officials noted during the workshop.

Current WEIS participants, mainly from Wyoming and Colorado, are expected to join Markets+ or SPP's planned Western RTO expansion, known as RTO West. At that point, SPP expects to discontinue the WEIS, Simpson said. ■

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CAISO/West News



Virtual Power Plants Could Save Calif. \$750M a Year, Study Shows

Brattle, GridLab Study Explores How Consumer Technologies Could Increase RA, Cut Costs

By Ayla Burnett

California could save more than \$750 million a year in power costs through increased use of virtual power plants (VPPs), according to a new study by The Brattle Group and GridLab.

The study found that more than 7,500 MW of VPP capacity could be cost-effectively deployed across California over the next decade, accounting for more capacity than the state's largest power plant or the peak demand of Los Angeles.

"By 2035, California's VPP potential will exceed 15% of [statewide] peak demand. That's five times the existing capability," the study, which examines VPP deployment potential by 2035, reads. "By providing these services to the power system, VPPs can make significant contributions to grid reliability while directly compensating those consumers who participate."

Changing weather conditions, increasing loads, dependance on intermittent generation and growing demand for electrification are just some of the factors that have stressed California's ability to meet its resource adequacy requirements in a timely and cost-effective manner, the report said.

VPPs use an aggregated network of distributed energy technologies such as batteries and electric vehicle chargers to feed power back

into the system and provide financial incentive to participating customers. The idea is that, in addition to increasing reliability, virtual systems will reduce reliance on fossil fuels during times of peak demand.

Almost all the state's VPP capacity is traditional demand response, only a fraction of which is used to provide resource adequacy, the study says. But California is pushing for the increased adoption of VPPs with *Senate Bill 1305*, which would require the state's Public Utility Commission to establish a VPP capacity procurement requirement by March 2026.

And new technologies are emerging. Last year, Sunrun, a residential solar installer, partnered with Pacific Gas and Electric to enroll 8,500 residential battery owners in a VPP that provided nearly 30 MW of power during summer evenings. Also last year, the Sacramento Municipal Utilities District partnered with Ford, BMW and GM to develop a pilot that manages the charging of participating EVs to minimize costs to the power system.

Study Scope

Researchers focused the study on five dispatchable consumer technologies: smart thermostat-based air-conditioning control, behind-the-meter batteries, residential EV charging, grid-interactive water heating, and automated demand response (auto-DR) for large commercial buildings and industrial

facilities.

The study employed a FLEX model, designed by The Brattle Group to assess load flexibility potential, to determine that all five technologies will contribute to peak demand reduction. Batteries, EVs and electric water heating could aid in load shifting, while smart thermostats and auto-DR could reduce energy consumption and save money.

Roughly \$550 million in system savings would be retained by customers, the study found. Broken down, VPPs would avoid \$417 million in generating capacity, \$194 million in transmission, \$107 million in energy and \$37 million in distribution. A household participating in all four residential VPP options considered could receive participation payments of \$500 to \$1,000 per year.

While not quantified in the study, researchers also found that VPPs could help to reduce lengthy resource interconnection delays and "unprecedented uncertainty" in load forecasting.

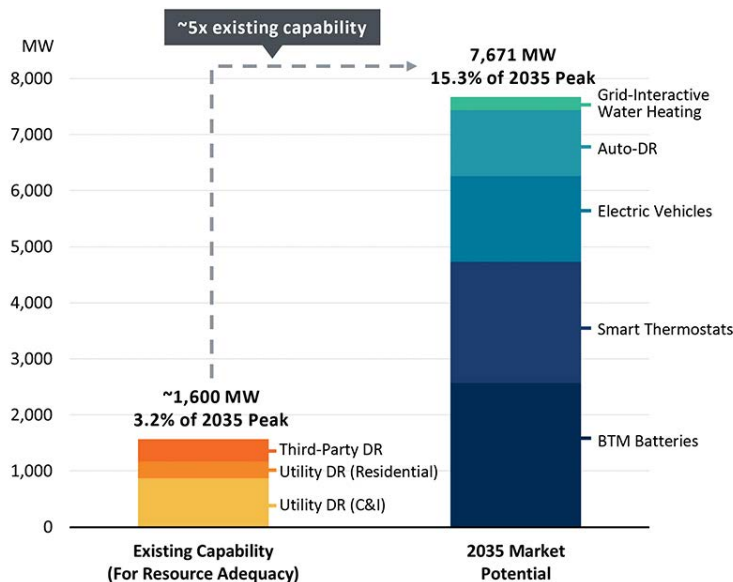
The Brattle Group also pointed to VPP options not considered in the study that could increase capacity potential, including vehicle-to-grid technologies, targeted energy efficiency, smart panels and thermal energy storage.

The advancement of VPPs will rely on customer participation.

"The share of customers that adopt flexible technologies such as EVs, batteries and smart thermostats over the next decade will establish the foundation for VPP program eligibility. The state will need a persistent focus on advancing policies that promote adoption in these areas for our potential estimates to materialize," the report reads.

Greater reliance on VPPs will also require more frequent use of said resources. Achieving 7,500 MW of net peak demand reduction will require 114 hours of VPP dispatch per year, six consecutive hours of dispatch on the peak day, and five months of the year, the study estimated.

"By improving the utilization of distributed energy technologies, VPPs reduce the need for new grid resources that otherwise would sit unused for many hours of the year," the study reads. "If this vision is achieved, the result will be a reliable and more affordable power grid for Californians." ■



A new study by Brattle Group and GridLab found that more than 7,500 MW of virtual power plant capacity in California could be deployed over the next decade. | Brattle Group

CAISO/West News

Stakeholders Seek Clarity on CAISO Interconnection Process Plan

More Information Sought on Zonal Approach, Scoring Criteria

By Ayla Burnett

Stakeholders still are seeking clarity on details in CAISO’s plan to streamline its interconnection process after the ISO released its final proposal to address the issue after 10 intensive months.

“I know it’s been a long haul and has felt a little bit like an endurance sport for a little while, and we’re not done,” Danielle Mills, CAISO principal of infrastructure policy development, said during an Interconnection Process

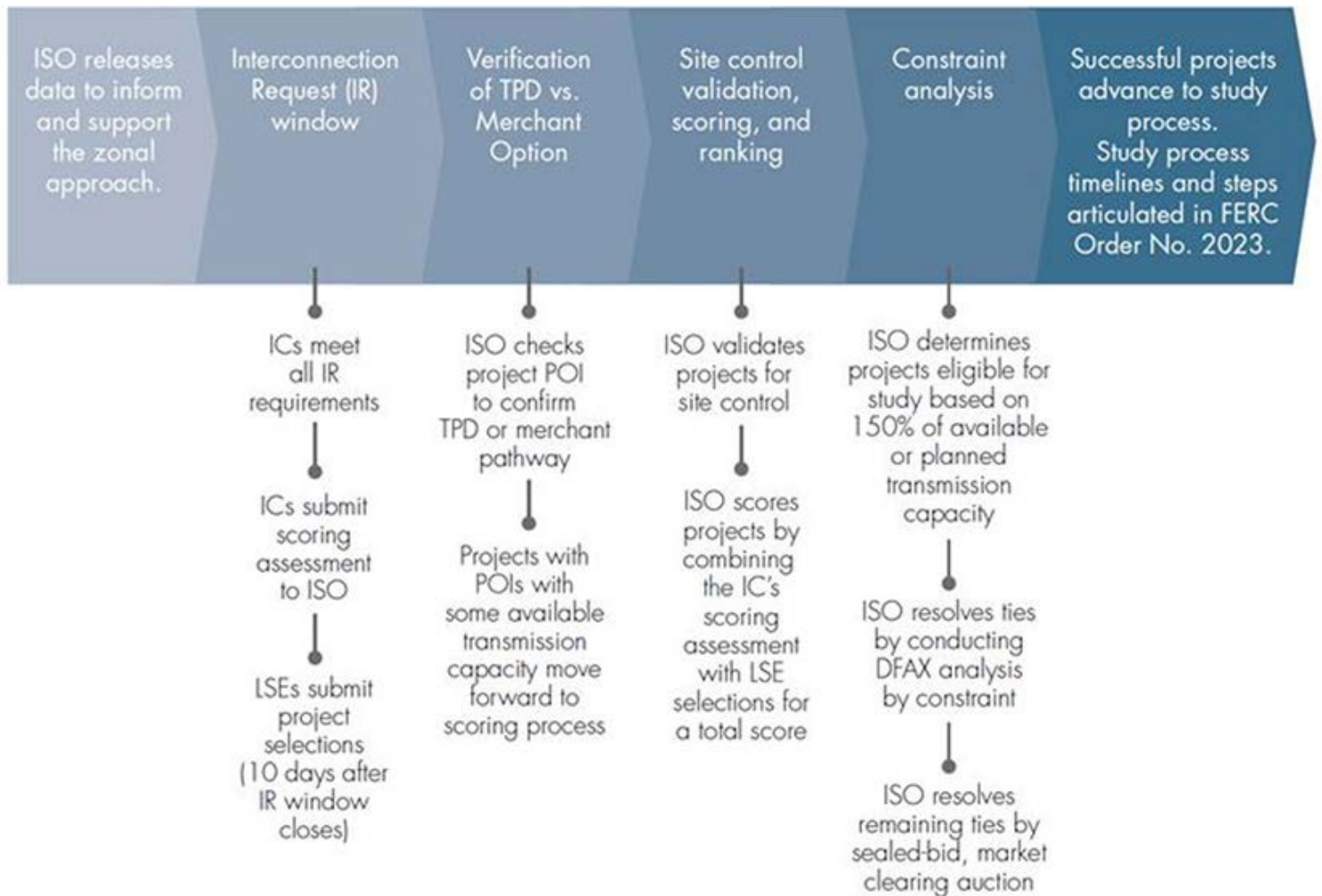
Enhancements working group meeting April 4. “But we’re getting to a point where we’re ready to propose this set of reforms as the final proposal.”

The *2023 Interconnection Process Enhancements final proposal* is designed to deal with the “unprecedented volume” of interconnection requests the ISO received last year by reducing the number it will have to study. It will complement — but not replace — the ISO’s compliance filing for FERC Order 2023, which requires transmission providers to revise their inter-

connection rules.

CAISO released the plan March 28, one day before it received FERC approval to close this year’s interconnection request window to allow it more time to study Cluster 15 applications. (See *CAISO Can Close 2024 Interconnection Window, FERC Rules.*)

But stakeholders participating in the April 4 meeting sought clarity over a few key aspects of the proposal before it goes to a vote by the ISO’s Board of Governors, particularly around



CAISO staff and stakeholders are still working through the details of refining the ISO’s interconnection process. | CAISO

CAISO/West News



the plan's "zonal approach" and the scoring criteria used to rank interconnection requests.

Zonal Approach

A key feature of the CAISO proposal is its zonal approach, which prioritizes the interconnection of resources seeking to use available transmission capacity in areas where planned capacity additions were approved in the ISO's 2022/23 transmission plan as determined by state and local regulatory authority resource planning portfolios.

Zones are defined by available capacity based on constraints and the California Public Utilities Commission's resource planning portfolio. A zone with at least 50 MW of available transmission capacity is identified as a Transmission Plan Deliverability (TPD) zone, while a zone with zero available capacity is called a "Merchant option" zone, indicating it could be available for interconnection by merchant projects.

CAISO is defining zones based on available and planned capacity from the previous year's transmission plan base portfolio, using the portfolio to calculate overall systemwide capacity. But some stakeholders have struggled to understand how the ISO determines available capacity and evaluates projects in each zone.

Sushant Barave of Clearway Energy Group questioned how projects would be evaluated if an applicant is in a TPD zone but with a point of interconnection (POI) with no available capacity.

"If a project is seeking to be studied in a zone that has available capacity, one of the tests we're going to do is check the POI of the project to determine if it has available capacity or not," said Bob Emmert, senior manager of interconnection resources at CAISO. "And if the answer is you're in a TPD option zone but your POI is actually behind constraints that have no capacity to make your project deliverable, then your project will not be studied."

Mills emphasized that the amount of capacity identified for each zone doesn't need to be exact.

"This is really just a way of gauging relative LSE interest to align with their portfolios," she said.

Scoring Criteria

The ISO also is working on implementing scoring criteria to rank projects based on factors including project readiness, LSE interest and non-LSE — or commercial — interest.

Stakeholders are concerned the scoring

system gives an unfair advantage to projects backed by LSEs.

Under the system, LSEs can award projects points based on a 1-to-100 scale, with the points representing the percentage of capacity the LSEs would assign to the projects, but non-LSEs can award only a maximum of 25 points. The primary reason for the difference, the ISO said, is that LSEs must meet specific resource adequacy and procurement requirements while non-LSEs have no such obligations, although they might be serving a commercial interest.

"We've had a lot of stakeholder comments about different weighting factors that we should apply to the scores and how much influence the LSE or commercial interest should have on the scoring process as a whole," Mills said. "The scoring process, and particularly the commercial interest process, is really intended to be a way of getting a ranking of projects that can be processed."

In an interview with *RTO Insider*, Chris Devon, director of energy market policy at Terra-Gen, questioned if the scoring process was open and transparent given LSE influence. In particular, he highlighted that CAISO's proposal calls for FERC-jurisdictional LSEs to outline how they would award points in their tariff.

"I believe that it would be more appropriate to see the CAISO outline some guidelines and requirements within their tariff. But the final proposal lacks any detail on how those LSEs would need to administer those processes to award the points, other than just kind of indicating the time frame," Devon said. "We would like to see that be more clearly defined to ensure that there is no negative impact to competition and open access."

Additionally, if projects aren't local or long-lead time, such as offshore wind or geothermal energy, they will have to compete for megawatt allocation with LSEs, which are given priority, Devon said, potentially reducing competition.

"We have seen the benefits of competition in California, where there's a robust number of independent developers that have been able to develop projects cost-effectively in a manner that keeps cost borne by ratepayers down and kind of shares in the benefit of diversity of supply," he said.

Margaret Miller, director of government and regulatory affairs at ENGIE North America, also expressed concern LSEs were given too much influence.

"I know there are a lot of competing interests in this category, and I appreciate what the ISO

has done to try and balance the concerns here on the scoring criteria," Miller said during the April 4 meeting. "But when I look at the scoring criteria, for project viability as a developer, I just don't see a lot of actionable steps we can take to show our project is viable outside of LSE interest, which leads me to believe if we don't get LSE interest we're not going to be studied. We're really struggling with this because I think there's some commercially viable, good projects that just won't get into the queue at all."

Emmert responded, emphasizing the role of LSE interest in ranking projects.

"If we didn't have a scoring mechanism, and if we got rid of this and what's left of the scoring mechanism without a load-serving entity component, we think we'd have so many [scoring] ties that we'd have basically a process for auctions," Emmert responded, noting that the proposed rules call for the ISO to conduct a market-clearing, sealed-bid auction for the right to be studied in a specific zone in the case of a tie in scoring points.

"If we don't have scoring, well, then we go to auction, and we heard pretty darn clearly that nobody wants an auction, not even the load-serving entities."

Stakeholders also expressed concern LSEs can pursue multiple projects, while non-LSE off-takers can submit only letters of interest for one.

"LSEs can allocate their points to any number of projects and in fact, multiple smaller projects, as long as they don't exceed their points ... but here, you're imposing a limitation on non-LSEs," said Susan Schneider of Phoenix Consulting. "There isn't any apparent reason why they shouldn't be allowed also to sponsor several smaller projects."

Mills said non-LSEs aren't given priority because they fall outside the CPUC portfolio.

"These non-LSE off-takers are not incorporated into the portfolios that we're talking about here. We're talking about basing a lot of this on available capacity and portfolios and where there is available transmission. The non-LSE off-takers are sort of outside that process," Mills said. "This is an opportunity for them to participate and express any interest in going beyond those procurement needs, but it's also not as central to the need for us to bring on resources to meet reliability needs."

The ISO expects to submit its Order 2023 filing in late April or early May. Starting January 2025, the ISO will begin evaluating interconnection requests based on proposed criteria. ■

CAISO/West News

26 Western Entities Signal Continued Support for Markets+ Letter to SPP's CEO Outlines 'Preferred Aspects' of RTO's Day-ahead Market

By Robert Mullin

More than two dozen Western electricity sector entities sent a letter to SPP expressing support for the continued development of the RTO's Markets+, which is competing for participants with CAISO's Extended Day-Ahead Market (EDAM).

The April 12 letter from the 26 entities, addressed to SPP CEO Barbara Sugg, arrived nearly three weeks after the RTO filed the Markets+ tariff with FERC and two weeks after Bonneville Power Administration staff issued a tentative recommendation that the federal agency choose Markets+ over EDAM. (See [SPP Files Proposed Markets+ Tariff at FERC](#) and [BPA Staff Recommends Markets+ over EDAM.](#))

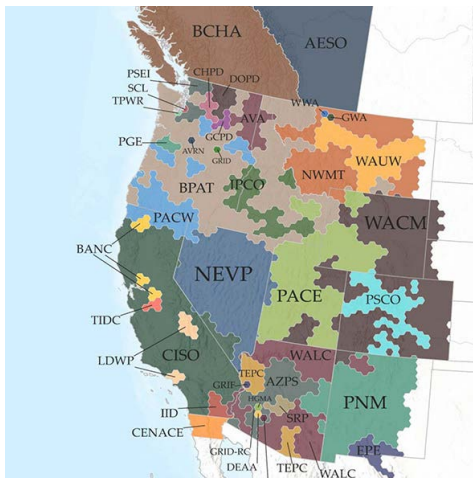
"We collectively appreciate the effort and process that has resulted in the filing of the Markets+ tariff, and we look forward to participating in the ongoing development of the protocols and other market details," the organizations said.

SPP noted that the signers include organizations from the Pacific Northwest, Desert Southwest and Mountain West and represent about 57 GW of peak demand across 10 states and one Canadian province.

"SPP is proud to receive support from a broad and diverse group of stakeholders across the Western Interconnection for the continued development of Markets+," Vice President of Markets Antoine Lucas said in a [statement](#) issued April 15.

Twelve of the U.S.-based signatories represent balancing authorities that will face a choice between the two day-ahead market offerings. They include Arizona Public Service, Avista, BPA, NorthWestern Energy, Public Service Company of Colorado, Puget Sound Energy, Salt River Project, Tacoma Power, Tucson Electric Power, and the Chelan, Douglas and Grant county public utility districts in Washington state. Another, Powerex, is the marketing arm for BC Hydro, the BA for the province of British Columbia.

The other signers consist mostly of publicly owned utilities in the Northwest, most of which are in BPA's BA area, as well as Tri-State Generation and Transmission Association, whose members span four states, three of which are in the Western Interconnection.



The signers of the April 12, letter to SPP included representatives of 13 balancing authorities in the Western U.S. and Canada. | WECC

The letter highlighted the "preferred aspects" of Markets+ for the signatories. Key among them is the market's "independent, inclusive and robust governance structure," a point BPA staff heavily emphasized in its recommendation.

"As most of us were Phase 1-funding participants of Markets+, we have seen firsthand the benefits and importance of the Markets+ governance structure. Critically, Markets+ has had independent governance from Day 1, including the establishment of an Interim Markets+ Independent Panel," the organizations said.

They also lauded SPP's "stakeholder-driven decision-making" process, for which RTO staff provide a supporting role but do not lead. Some Northwest stakeholders have criticized CAISO for its more staff-driven stakeholder process, saying it creates a bias in favor of California's interests.

"We believe that the Markets+ framework would provide a level playing field for participants at the outset," they said.

WRAP Integration

The organizations also praised the fact that Markets+ will require participants to take part in a common resource adequacy framework, the Western Power Pool's Western Resource Adequacy Program.

"This requirement would help ensure that there are adequate resources to reliably serve load throughout the footprint and that such

resources are installed and/or secured well ahead of market operations. It would also ensure that all market participants are equitably contributing to the reliability of the market footprint and that no participants are systemically leaning on others," they said.

They also noted that many of them "express specific support for the concept of the Markets+ design choice to deliver congestion rents to those participants with monthly or longer firm transmission rights, including both network service and point-to-point transmission rights."

The congestion rent mechanism would provide two benefits, they said.

"First, it could help ensure equitable outcomes for firm transmission customers by providing the appropriate revenues (or hedges) to each customer on a path-specific basis. Second, it could create an appropriate ongoing investment incentive for firm transmission service, which helps protect transmission providers' main source of revenue, preventing cost shifts between customers," they said.

They pointed favorably to other aspects of the Markets+ tariff, including "a must-offer requirement ensuring resource sufficiency that supports market liquidity and reliability," treatment of greenhouse gases "that supports state requirements" and "prioritization of load service inside the Markets+ footprint over low-priority exports."

"We're glad to see Western entities base their support on characteristics of our market design that we think make Markets+ a wise choice for the West, including enhanced system reliability, the affordability of wholesale energy, support for goals related to sustainability and equity in everything from governance to market pricing," SPP's Lucas said.

The letter did not indicate financial commitments for the second phase of developing Markets+.

"Each of us have different requirements around our decision process regarding moving forward with participation in a day-ahead market, and some of the undersigned stakeholders do not expect to make decisions about funding and joining a day-ahead market until the end of this calendar year," the signatories wrote.

Thirty-six entities participated in Phase 1 of Markets+. ■

ERCOT News



ERCOT, PUC Face Huge Tx Needs in Permian

ISO Says 1,235 Miles New, Upgrade Lines Necessary

By Tom Kleckner

ERCOT told Texas regulators their initial reliability study of the Permian Basin, the *nation's largest oil production field*, indicates “substantial amounts” of local transmission projects are needed to meet the 24 GW of load projected to be added by 2038.

During the Public Utility Commission’s open meeting April 11, the grid operator’s Kristi Hobbs *said* it will have to add about 565 circuit miles of new 345-kV lines, eight new 345/138-kV substations with 18 new 345/138-kV transformers and about 344 miles of new 138-kV lines. ERCOT also needs to upgrade about 326 miles of existing 345-kV lines ([55718](#)).

None of that includes “significant” regional upgrades needed to transfer power across the ERCOT system. The grid operator said it will begin identifying import paths into the Permian.

“There is not a lot of generation within the Permian Basin region to serve all the additional load that is being forecasted,” Hobbs, vice president of system planning and weatherization, told the commissioners. “We will continue looking at revising the plan for the local region as well as coming to you ... for what is going to be needed for imports across the state into the region.”

Hobbs said 58% of the nearly 12 GW of expected non-oil and gas load is composed of crypto mining facilities. Green hydrogen represents 22% of the coming load, with commercial industrials accounting for 12% and data centers 8%.

“This is just one example of what we’re going to continue to see throughout the rest of the state as we look at reliability plans,” Commissioner Lori Cobos said.

The PUC last year directed ERCOT to develop a reliability plan for the Permian Basin, a response to [legislation](#) passed earlier in 2023 to address the region’s rapidly increasing demand for power. The commission prioritized the plan’s development as it addresses the state’s population and economic growth.

Saying he senses ERCOT conducts its various modeling studies in silos, Commissioner Jimmy Glotfelty asked Hobbs whether staff could combine some of that analysis.

“I think this will have an impact on inverter-



The Permian Basin, home of the nation’s largest oil-producing region, expects at least 24 GW of additional load by 2038. | [XTO Energy](#)

based resources [in the Permian],” he said. “It will have [an] impact on what we can import to that area and export out of that area, and I just think we need to have a better picture with all of those things modeled together.”

Hobbs said one of ERCOT’s key goals is evolving the transmission planning process. Staff already are studying 765-kV transmission lines and their integration into the grid. Hobbs promised a report will be delivered to the commission this summer.

“We’re moving on a fast timeline,” she said. “We recognize the tremendous load growth on the system. We also recognize that the types of resources that are being added to this system are not the traditional resources that we want to plan for. We are looking at ways that we can continue to evolve the process to meet the needs for the fast-growing state.”

The Permian Basin encompasses 66 counties in southeastern New Mexico and western Texas. It produces nearly 40% of the nation’s oil and roughly 15% of its natural gas, according

to the Federal Reserve Bank of Dallas.

Other Business

In other actions during the open meeting, the PUC approved a 150-MW El Paso Electric (EPE) solar facility ([54929](#)) and Xcel Energy subsidiary Southwestern Public Service’s (SPS) rate case ([54634](#)).

EPE’s Texas Solar One is composed of two components: a 50-MW portion the utility plans to dedicate to a voluntary subscription program and a 100-MW portion to serve retail customers. [Under an agreement](#) with the city of El Paso, the Office of Public Utility Counsel and Texas Industrial Energy Consumers, EPE will place a capital cost cap on the facility and add a performance guarantee and a commitment to credit its customers with 100% of Texas Solar One’s production tax credits.

The commission [signed off](#) on an unopposed agreement between SPS and various parties that provides for a \$65 million increase in the utility’s Texas retail revenue requirement. ■

ERCOT News



ERCOT to Host Summit on Grid Transformation

By Tom Kleckner

ERCOT has attracted a full house for its first *Innovation Summit*, featuring thought leaders in energy research and innovation exploring “solutions that use innovation to impact grid transformation.”

The grid operator says in-person attendance has been filled for the May 21 event in Austin, Texas. However, *streaming* is available.

ERCOT CEO Pablo Vegas said the summit is necessary to address the grid’s rapid transformation and changes to the resource mix, decentralization of generation, electrification, emerging prosumers and digitization.

“The summit is an opportunity for stakeholders from Texas and around the country to collectively discuss these transformation opportunities and challenges,” he said in a *news release*.

Panel discussions will feature industry executives and subject matter experts on essential reliability services, demand flexibility, uncertainty management, energy storage resources, transmission planning and technology trends. The summit is open to ERCOT market participants, vendors, grid operators, academia and research labs interested in understanding how the transformation is shaping the grid’s future, the ISO said.

“The summit will be an invaluable opportunity for stakeholders wanting to immerse in discussion, network with industry peers and brainstorm solutions for using innovation to impact transformation,” said Venkat Tirupati, ERCOT’s vice president of DevOps and grid



The ERCOT Innovation Summit will explore solutions to the grid transformation's changes. | © RTO Insider LLC

transformation.

More Time on CPS Shutdowns

ERCOT *said* April 10 it needs additional time to conduct its reliability analysis of CPS Energy’s planned retirement of three aging gas-fired units in 2025.

The grid operator’s protocols require it to complete a reliability assessment when an

entity notifies staff that it intends to shut down a resource. Market participants had until April 3 to submit comments on the utility’s proposal.

The San Antonio municipality notified ERCOT in March that it intended to “indefinitely suspend operations” of three steam turbines at its V.H. Braunig facility. The units have a combined summer seasonal net maximum sustainable rating of 859 MW. (See *CPS Energy Plans to Retire 859 MW of Gas Resources*.) ■

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ISO-NE News

Still More Work for ISO-NE on Order 2222 Compliance

FERC on April 11 accepted ISO-NE's fifth Order 2222 compliance filing while requiring the RTO to make additional changes detailing deadlines for distributed energy resource aggregators to submit metering data (ER22-983-007).

Order 2222 aims to enable DER aggregations to participate in regional wholesale markets. FERC wrote that ISO-NE's proposal met the requirements to make DER aggregators responsible for providing required metering information to the RTO, and to create standards for aggregators that work with host utilities to share these data.

However, the commission concluded that ISO-NE did not meet the requirement to change its tariff to specify data submission responsibilities and deadlines, disagreeing with its contention that these should instead be included in the RTO's manuals.

"ISO-NE fails to address adequately the commission's finding in the Nov. 2 order [the RTO's third compliance filing] that the meter data submission deadline is a key component of metering practices for DER aggregators that should be included in the basic description of metering practices in the tariff," FERC wrote.

ISO-NE in February 2022 submitted its first compliance filing to Order 2222, issued in November 2021. FERC directed additional changes, which the RTO submitted in three batches last year. The commission accepted the second and fourth filings without requiring any changes, but it ordered another round in response to the third. (See [FERC Accepts ISO-NE Order 2222 Compliance Filing.](#))

ISO-NE has 60 days to submit its sixth filing. ■

— Jon Lamson



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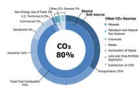
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ISO-NE News

NEPOOL Markets Committee Briefs

By Jon Lamson

ISO-NE continued work on resource capacity accreditation (RCA) changes at the Markets Committee on April 9 and 10, outlining how changes to the overall resource mix could affect the reliability value of different resource types.

Dane Schiro of ISO-NE [detailed](#) additional results related to the RCA impact analysis. ISO-NE in February presented the analysis' initial results, which showed how the RCA changes would affect the amount of accredited capacity for different resource types. (See [NEPOOL Markets Committee Briefs: Feb. 6, 2024.](#))

Building on the impact analysis, ISO-NE conducted sensitivity analyses looking at the effects of three scenarios changing the resource profile: the addition of renewables, the replacement of oil capacity with renewables and the replacement of coal capacity with renewables.

The RTO in March presented the first phase of these analyses to the MC, focusing on how the scenarios would affect overall system reliability. (See [NEPOOL Markets Committee Briefs: March 13, 2024.](#)) At the April MC, Schiro outlined how the scenarios would affect the seasonal reliability benefits of different resource types.

While the reliability contributions of resources including gas, oil and hydro remained consistent throughout the scenarios, wind, solar and

energy storage varied significantly.

For energy storage, reliability value increased in the summer in every scenario, with the greatest increase shown when renewables replaced oil resources, the scenario with the greatest reliance on renewables.

Schiro noted that the value of energy storage is "closely related" to the duration of reliability risk events, increasing as the events get shorter. The addition of renewables in the summer reduced the length of risk periods by delaying the onset of the risks, Schiro said.

In contrast, replacing coal and oil with renewables hurt the value of energy storage in winter because the duration of reliability risk events generally increased in these scenarios.

The analysis also showed scenarios with greater renewable penetration hurt the value of wind resources. Wind resources typically all have high output at similar times, reducing the likelihood that periods of high wind generation face reliability risks, Schiro said. Therefore, the modeling found that adding wind capacity would produce diminishing reliability benefits.

The modeling showed a similar reduction to the reliability benefits of solar resources as solar generation increased, Schiro added.

Accreditation Calculation Updates

ISO-NE also provided [additional details](#) on its plans to calculate the accredited capacity of demand resources. For active demand capacity

resources (ADCRs), the RTO will construct a "seasonal energy profile that represents their historical hourly availability over the last three years' real-time offer data in the energy market."

ISO-NE then will use this profile to assess ADCRs' performance during periods with reliability risks. Unlike passive demand resources (PDRs), ADCRs will have an annual opportunity to challenge their energy profile.

The accreditation values of PDR resources will be based on "a single, common system-wide profile (different for each month) that represents the demand reduction associated with a given hour," and will use reconstitution data from the previous five years, Christopher Parent of ISO-NE said.

For energy storage resources, duration and round-trip efficiency will be the key factors in accreditation, Parent said. Market participants with energy storage resources will have one opportunity to challenge these values.

Stakeholder Proposals

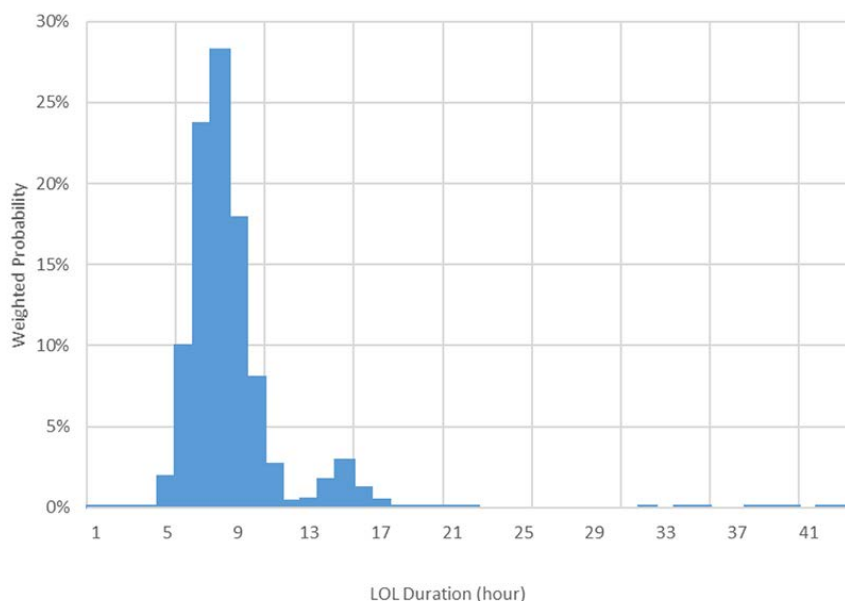
Tom Kaslow of FirstLight [expressed concern](#) that ISO-NE's accreditation proposal may overvalue gas resources that lack firm fuel contracts.

Kaslow said ISO-NE should consider increasing the daily operating hours requirement from 12 hours to 16 for gas resources. This would increase the amount of firm gas a resource would need to procure to receive its maximum possible accreditation value, and would reduce the value of nonfirm gas, Kaslow said.

Meanwhile, Ben Griffiths of LS Power proposed changes to how ISO-NE is proposing to model resource outages. Griffiths argued that relying solely on historical data to estimate future outage rates could cause prolonged outages from abnormal equipment failures to have outsized impacts on individual resources' accreditation values.

"Resources can have equipment-related outages of extended duration that, once resolved, should not be expected to occur again," Griffiths said. "In these instances, historic performance is a poor predictor of future performance. ... Nevertheless, the ISO's current proposal will include that outage for three to five years."

To prevent these distortions, Griffiths said a resource that deals with an extended, abnormal outage "should be able to challenge its default value and propose a substitute that better reflects expected output." ■



Annual weighted probability of loss-of-load durations | ISO-NE

ISO-NE News

FERC Approves Decrease in ISO-NE FRM Offer Cap

By Jon Lamson

FERC has approved a proposal by ISO-NE reducing its Forward Reserve Market (FRM) offer cap from \$9,000/MW-month to \$7,100/MW-month and delaying the publication of offer data from about four months to a year after each auction ([ER24-1245](#)).

ISO-NE designed the market changes in response to concerns raised by its Internal Market Monitor (IMM) that recent summer FRM auctions had been “structurally uncompetitive” and that future auctions could be susceptible

to market power.

FRM auctions, held twice annually to procure reserve capacity, will be replaced by ISO-NE’s new day-ahead ancillary services market in March 2025. (See [FERC Approves ISO-NE’s Day-Ahead Ancillary Services Initiative](#).)

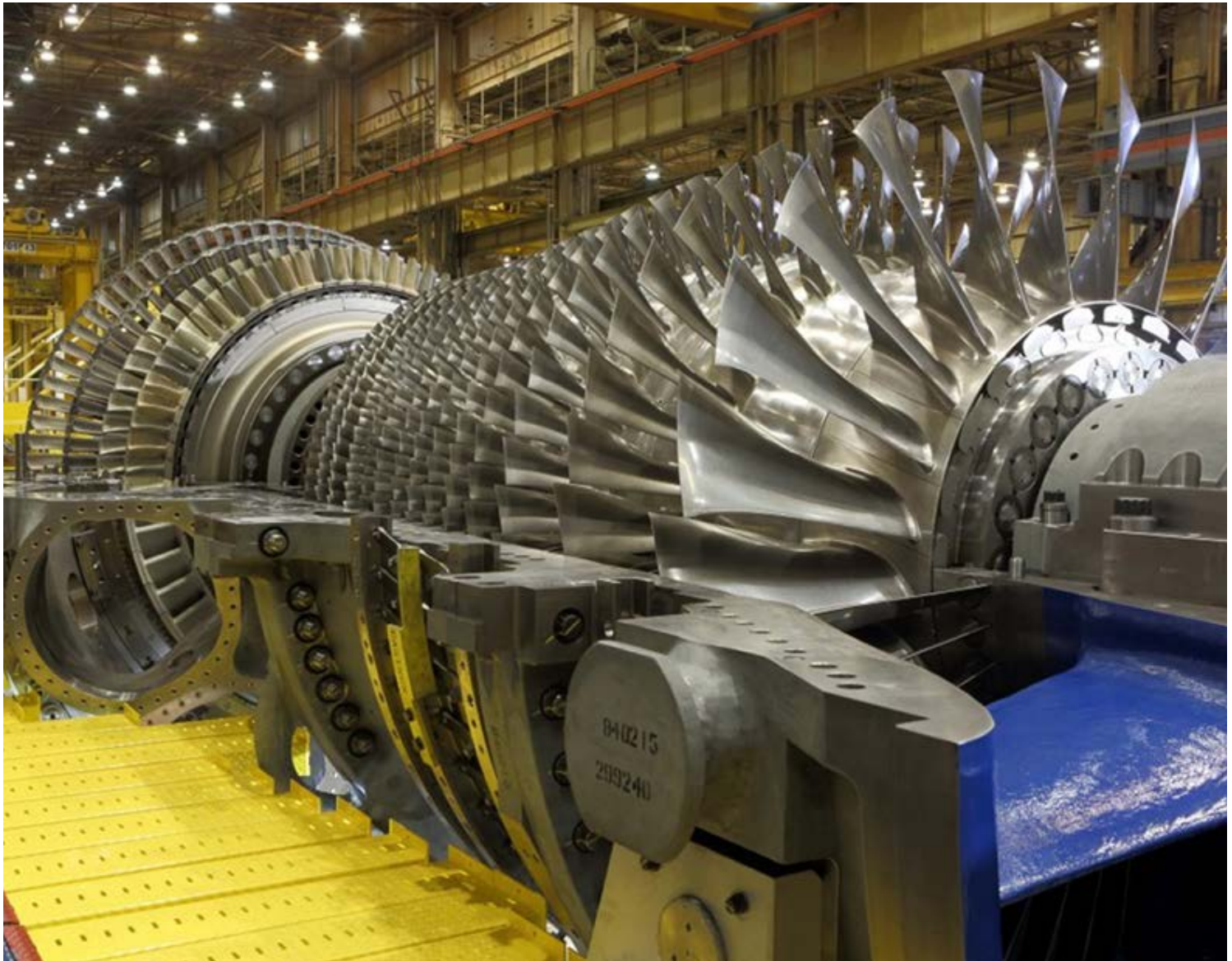
The IMM *concluded* the previous \$9,000 offer cap “substantially overstates a reasonable upper bound on competitive forward reserve supply offers,” while the shorter timeline for offer publication “may provide strategic information to participants” in subsequent auctions.

In an April 12 order, FERC found that the offer

cap reduction provides “sufficient flexibility for resources to participate at their expected costs within the upper end of a competitive offer, while also providing protection from the potential exercise of market power.”

Then commission also found the delay of offer data publication “balances the need for market transparency with the need to limit the possibility that market information may lead to noncompetitive outcomes.”

The changes take effect on April 15, 2024, in time for the *opening* of the first 2024 FRM auction April 17. ■



| General Electric

MISO News

MISO Offers 2-stage Plan for DER Aggregations in Markets

By Amanda Durish Cook

MISO hopes it can use a two-step approach to Order 2222 compliance, first using a demand response category in 2026, with full market participation of aggregations of distributed resources still on the RTO's original 2030 timeline that FERC refused last year.

MISO revealed at an April 11 DER Task Force teleconference the near-final revised Order 2222 compliance plan it intends to file with FERC.

The RTO has divided its plan to allow DER aggregations in its markets into two parts. First, it plans to use an existing demand response resource participation category to get aggregations of distributed resources participating sooner, albeit on a limited basis. MISO said it can begin registering DER aggregations under its demand response resource participation model by Sept. 1, 2026, and begin participation by June 1, 2027.

For demand response participation, DER aggregations must be at least 1 MW and MISO would commit them for either energy or contingency reserves.

A few years later, MISO would roll out its comprehensive Distributed Energy Aggregated Resource model at the beginning of 2030. It plans to register aggregations beginning June 1, 2029, allow DER aggregations to participate in its energy and ancillary services by Jan. 1, 2030, and finally open capacity market participation to aggregations by June 1, 2030.



© RTO Insider LLC

MISO's Marc Keyser said though stakeholders might think MISO's deadline remains unchanged from the one FERC rejected last year, this proposal has MISO working on the necessary changes to its settlements system this year to incorporate aggregations. (See *FERC: MISO's 2030 Finish Date on Order 2222 Compliance not Soon Enough; Stakeholders Ask MISO to Share New Order 2222 Go-live Date ASAP.*)

However, MISO would not adopt a wide-ranging, multinodal approach for aggregation. Aggregations would be limited to multiple nodes within a single load-balancing authority and a single load-serving entity, as they are today under MISO's demand response resource

model.

"Adding more locations adds complexity," MISO's Kim Sperry said. She said the complexity is not limited to MISO, but seeps into aggregators and distribution utilities' processes.

Sperry said MISO keeping its DER aggregation locational limits in line with its demand response resource rules allows MISO to not take on "too much too fast."

"We're not trying to bring something brand new to the stakeholder community," she said.

Some stakeholders questioned why MISO needs three years of prep work to employ an existing resource model for DER aggregations.

MISO DER Program Manager Paul Kasper said MISO needs time to complete a new, "foundational" settlement system tool to accept DER aggregations.

Other stakeholders said the 1-MW size minimum seemed restrictive and pointed out that some states in MISO's footprint prohibit aggregators from providing demand response and effectively would be shut out of the markets until 2030.

MISO no longer accepts stakeholders' written opinions on its revised Order 2222 implementation plan and has until May 10 to file its new compliance. It will present its final compliance plan to stakeholders at the April 18 Market Subcommittee.

MISO will not hold another DER Task Force meeting until Nov. 18. ■

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MISO News

City Council Vote Stalls Planned Wisconsin Gas-fired Plant

Nemadji Trail Plant Faces Additional Delays After Losing Zoning Change Vote

By Amanda Durish Cook

The planned 625-MW gas-fired Nemadji Trail Energy Center in Wisconsin encountered another hitch after the Superior City Council refused to move ahead on zoning changes necessary to break ground on the plant.

At its April 3 [meeting](#), the council voted 5-4 on a roll-call vote to set public hearings required by state law to make land use changes from suburban to heavy industry and vacate streets to allow for the nearly \$1 billion gas plant. But the motion, which required six votes to pass per city code, failed, stalling the plant's development.

Plant co-developer Minnesota Power had requested the land use changes, which would have altered the city's comprehensive plan.

Construction on the Nemadji Trail plant and associated transmission line has yet to [begin](#), according to a quarterly filing with the Wisconsin Public Service Commission by project partners Minnesota Power, Dairyland Power Cooperative and Basin Electric Power Cooperative.

The vote against the plant appeared to be motivated by a groundswell of opposition from Superior residents. Several people attending the city council [meeting](#) spoke out against the plant before the vote, expressing worries over wetland habitat loss, air quality, greenhouse gases that will worsen climate change and stranded asset costs.

Multiple residents expressed disbelief at the U.S. Department of Agriculture Rural Utilities Service's [final supplemental environmental assessment](#), which found the plant "would not cumulatively contribute to significant adverse air quality impacts." They also contended that the plant fundamentally contradicts the



15-year-old Milo Peterson speaks at the April 3 Superior City Council meeting | Superior City Council

city's 2040 [comprehensive plan](#), which calls for waterfront cleanup, preservation and tourism opportunities, among other goals.

Jadine Sonoda, of the Sierra Club's Wisconsin chapter, said the plant will be "expensive and dangerous decades down the line."

"Gas has no place in our transition to clean energy, and I really want to underscore that," Sonoda said.

Milo Peterson, a 15-year-old Superior resident, said, "To put it simply, this project goes against my values ... and doesn't seem like a very considerate thing to do for the environment."

"I'm asking you to think of my future," he asked council members.

Superior Mayor Jim Paine said it's "extraordinary risky" to develop the plant on undeveloped wetland near the banks of the Nemadji River, as the potential for erosion is high.

However, Superior Councilor Brent Fennessey said the city council shouldn't have used residents' opposition to the plant to deny an opportunity for a public hearing on land use changes. He said he didn't think Superior was giving Minnesota Power a fair process.

Paine said allowing hearings would have signaled that Superior was open to rezoning changes to host the plant.

Councilor Jenny Van Sickle said she took exception to Minnesota Power insinuating the plant could be used for hydrogen when the plant's partners haven't made any design changes to accommodate the fuel. She also said the design remains out of step with EPA's suggestion for a form of carbon capture.

'Disappointed'

Last year, Nemadji Trail's developers said pushback from environmental groups was partly responsible for delaying the plant's expected commercial operation date from 2027 to 2028. Construction was set to begin this month — but that was before the city council refused to begin zoning procedures. (See [Wisconsin Gas Plant Delayed as Enviros Still Try to Block Project.](#))

Environmentalists maintain the plant is unnecessary and will increase emissions at a time when utilities need to scale back on polluting resources. They've also raised concerns about



Artist rendering of the Nemadji Trail Energy Center | Nemadji Trail Energy Center

the plant's location near wetlands.

In 2022, Wisconsin's Dane County Circuit Court rejected arguments from the Sierra Club and Clean Wisconsin that the Wisconsin PSC didn't sufficiently consider the full environmental impact of the plant when it granted it a certificate of public convenience and necessity. The plant has yet to secure permitting approvals from the U.S. Army Corps of Engineers.

Minnesota Power, which will build and operate the plant, has pledged to close its two remaining coal-fired power plants by 2035, generate more than 70% of its energy from renewables by 2030, achieve an 80% reduction in carbon emissions by 2035 and produce only carbon-free energy by 2050. (See [Minnesota Power IRP Pledges End to Coal by 2035.](#))

Minnesota Power has framed Nemadji Trail as a vital supply of backstop power when renewables aren't available during the clean energy transition.

The utility did not respond to *RTO Insider's* request for comment about its plans following the council's vote. Spokesperson Amy Rutledge previously told local news outlets in a statement that Minnesota Power is "disappointed by the lack of transparency and communication surrounding the hearing, and with the city's disregard for conducting a fair process involving all interested parties."

Rutledge said Minnesota Power is evaluating next steps with partners Dairyland and Basin Electric "to ensure we meet our commitment to safe, reliable and affordable power in this clean energy transformation."

In 2022, MISO wrote a letter to the Rural Utilities Service in [support](#) of a loan for Nemadji Trail. The grid operator asked the federal agency to consider its looming generation shortfalls, grid reliability and the plant's potential role in the RTO's resource adequacy. ■

MISO News

Cardinal-Hickory Creek Developers Appeal Injunction on Line's Final Mile

By Amanda Durish Cook

Two of the developers behind the embattled Cardinal-Hickory Creek transmission line have appealed to lift an injunction on the last mile of the project that will intersect a wildlife refuge in Wisconsin and Iowa.

ITC Midwest and Dairyland Power Cooperative filed last week with the 7th U.S. Circuit Court of Appeals to rescind a preliminary injunction on the 345-kV line issued in the U.S. District Court for Western Wisconsin.

The decision last month halted a land swap between the utilities and the U.S. Fish and Wildlife Service (FWS) to trade more than 35 acres in Wisconsin for almost 20 acres of the Upper Mississippi River National Wildlife and Fish Refuge in Iowa, which will be cleared for construction of the line's final 1.1 miles. (See [Judge Pauses Final Mile of Controversial Cardinal-Hickory Creek through Wildlife Refuge.](#))

Line developers ITC Midwest and Dairyland are asking the court to expedite treatment of their request.

The utilities said lifting the injunction and allowing construction on the last mile of the line "would replace existing lines now located in a much more environmentally sensitive area" of the Upper Mississippi River Wildlife and Fish Refuge. They also argued that the injunction lacked sound reasoning and relied on previously vacated findings and that the district court "erroneously presumed entitlement to injunctive relief."

The two also said plaintiffs Driftless Area Land Conservancy, Wisconsin Wildlife Federation and National Wildlife Refuge Association have overstated the impact of construction on the refuge. ITC and Dairyland said the area where the final swath of towers will be erected is "already fragmented by an existing road, maintains little to no wildlife or habitat value, is difficult to maintain and contains invasive reed canary grass."

ITC and Dairyland said that as a consequence of the preliminary injunction, Cardinal-Hickory Creek cannot meet its anticipated June 28 in-service date, and a revised date cannot be set until "further developments occur in the pending litigation, including a termination of the injunction, allowing for closing on the land exchange with the U.S. Fish and Wildlife Service." The two said once the land swap occurs and a new construction schedule is established, the line could be in service with-



The Cardinal-Hickory Creek line under construction | ATC and ITC Midwest

in four to six months.

"As long as the orders remain in place, the improved reliability and reduced electricity costs MISO envisioned will be foregone," the two wrote, referring to Cardinal-Hickory Creek's inclusion as part of MISO's 2011 multivalue transmission portfolio.

The utilities continue to assert that the parcel exchange will "provide significant net benefits" to the Upper Mississippi River National Wildlife and Fish Refuge.

"We have a responsibility to get the Cardinal-Hickory Creek project in service as soon as possible so it can begin providing significant economic benefits for electricity consumers. The latest litigation and the preliminary injunction only serve to further increase costs

for customers," ITC Midwest President Dusky Terry said in a statement. "We strongly assert that the federal agencies that granted the land exchange and issued permits for the project acted within their legal authority under federal law and their environmental review complied with the National Environmental Policy Act (NEPA). Just as in prior litigation, we are confident that we will ultimately prevail in this case and move forward with project completion."

Dairyland COO Ben Porath emphasized that Cardinal-Hickory Creek's completion will mean the utilities can remove an existing 161-kV transmission line in the refuge that crosses the Mississippi River. He said the "shifts in infrastructure will reduce the electric transmission footprint in the refuge and replace existing structures with low-profile structures using an avian-friendly design." ■

New York Energy Summit

NY Energy Officials Optimistic About Transition, Despite Slow Progress

Energy Summit Speakers: Need to Build More, and Quickly

By John Copley

ALBANY, N.Y. — Regulators, state officials and industry were upbeat about New York's efforts to decarbonize its grid at the annual New York Energy Summit, staged by Infocast on April 8-10, even as they repeatedly noted that much work needs to be done — namely, building more renewable resources and transmission lines.

Like many states, New York has committed to expanding generation and transmission capacity while simultaneously reducing emissions. For professionals in the field — whether their motivation is profit, the planet or some combination of factors — the Empire State is a target-rich environment. But the targets are not easy to meet.

Once again, state leaders have missed their March 31 budget deadline. As of press time, the state still had no 2024-2025 spending plan and therefore no clear indication which policy initiatives will be baked into it, including the proposal by Gov. Kathy Hochul (D) to speed up transmission siting. (See *NY Gov. Proposes Streamlined Transmission Review, Permitting.*)



John O'Leary, the governor's deputy secretary for energy and environment | © RTO Insider LLC

John O'Leary, Hochul's deputy secretary for energy and environment, delivered a keynote overview of the state's energy transition but could not give summit attendees any insight on proposals that would affect their business strategies.

"In the parlance of New York state budget making, you might say today is not in fact April 8 but instead March 39," he said. "We're certainly into extra innings."

Vennela Yadhati, vice president of renewable project development for the New York Power Authority, said Hochul's transmission streamlining proposal — the Renewable Action Through Project Interconnection and Deployment (RAPID) Act — is critical to the state meeting its statutory targets for decarbonization. The first milestone, 70% renewable energy by 2030, is just six years away, and New York is still far short.

"I'm sure that you all agree with me that we



Attendees listen to a presentation at the New York Energy Summit in Albany, N.Y., on April 9. | © RTO Insider LLC

need this legislation enacted if New York is going to meet its goals," Yadhati said.

Faster and Smoother

The RAPID Act would place environmental review and permitting of transmission projects under the purview of the state Office of Renewable Energy Siting (ORES), which in its four years of existence has greatly accelerated the application process for large-scale renewables.

The ORES pre-application process can be lengthy, but it yields an application that is complete and can withstand the close review to which it will be subjected. ORES so far has permitted 15 projects totaling 2.3 GW, the majority of them in less than eight months, Executive Director Houtan Moaveni said.

"It takes longer to get a heated pool permit in Westchester County than a 500-MW solar project in New York state," he added.

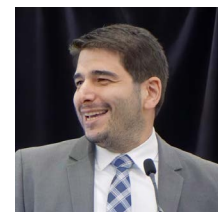
An ORES permit is an important milestone, but

it is just one piece of a large puzzle. With the impending retirement of more fossil fuel-fired plants, New York needs more generation and transmission capacity immediately, Moaveni said.

"I'm preaching to the choir," he told the room. "We really, really have to accelerate the pace of development in New York state."

The choir had some prominent members, including the federal and state energy regulatory agency heads and NYISO CEO Rich Dewey.

FERC Chair Willie Phillips waved the flag for the commission's own efforts. "We took the best parts of interconnection reform from every part of the country, and no one part of



Houtan Moaveni, N.Y. Office of Renewable Energy Siting | © RTO Insider LLC

New York Energy Summit



NYISO President Rich Dewey | © RTO Insider LLC

the country is doing ... everything that we're requiring in Order No. 2023," he said.

Dewey said NYISO had a head start on Order 2023 compliance and spoke proudly about the ISO's improvement in managing its queue.

"When Order 2023 came out, we welcomed that, because we had already been at it for about a year in terms of trying to get our processes fine-tuned," he said. "We're happy to report that our SRIS [system reliability impact study] process last year took an average of 132 days. The average of the three years preceding that was 420 days."

When asked what differentiated NYISO's transmission planning from those of other grid operators, Dewey touted the ISO's "very, very robust" process for identifying reliability needs and New York's Public Policy Transmission Needs process, in which the state solicits projects and the ISO evaluates and selects the best solution.

"In the middle of that, we have our economic planning process, and I think that's where our gaps have been," he continued. NYISO's System & Resource Outlook lays out multiple scenarios that might unfold over the next two decades and identifies pathways through them, he said.

It is not an action plan, however. "We don't have a means to act on that today; it's more informational," Dewey said. (See *NYISO 20-Year Forecast Highlights Generation, Tx Hurdles to Climate Goals*.)

But the present practice of building transmission one interconnection at a time as needed is neither efficient nor effective, Dewey said. Measures such as proactive infrastructure construction and New York's new Coordinated Grid Planning Process (CGPP) will address this, he said. (See *NY Creates Coordinated Grid Planning Process*.)

Zeryai Hagos, of the state Department of Public Service, explained that the CGPP will attempt to integrate the distribution, local transmission and bulk transmission planning processes on a repeating cycle to identify upcoming infrastructure needs.

New York Public Service Commission Chair Rory Christian spoke of the imperative to think beyond interconnections and conductors when developing the grid of the 21st century.



N.Y. Public Service Commission Chair Rory Christian | © RTO Insider LLC

If demand-side management isn't used, that grid must be overbuilt or overused to handle peak load, with a proportionally greater impact on equipment, the environment and ratepayers.

"Addressing the rise in peak load ... is central to the commission's ability to ensure affordable, safe, secure and reliable access to utility services and just and reasonable rates," he said. "Our ability to control the peak gives us flexibility that we would otherwise not have. This is the challenge the grid of the 21st century is being designed to meet."

NYISO's Yachi Lin said the ISO's upcoming report on capacity and transmission constraints



Yachi Lin, NYISO | © RTO Insider LLC

will predict a need for 100 to 130 GW of installed capacity in New York in 20 years. This compares with approximately 37 GW of existing generating capability identified by the NYISO Gold Book in April 2023.

Glenn Haake, vice president of regulatory affairs at Invenergy, applauded the PSC for creating the CGPP and for greenlighting billions of dollars' worth of transmission projects after decades of minimal investment.

John Howard, who recently completed a term as a PSC commissioner, said transmission investments have long been trimmed when utility regulators review rate cases. As a result, he said, some conductors in New York are as old as he is.

"It's certainly something that commissions knew was dropping off the table," Howard said.

Christian and many others have spoken of this problem as a way of easing customers' sticker shock over the costs of the energy transition: The nation's grid would need extensive and expensive investments even without an energy transition.

Energy transition challenges notwithstanding, the grid does function well, NYISO COO Emilie Nelson said.

"One of the things that we do have in New York is we've invested in a lot of capability through the years. Our interconnected grid — our ability to move power across each and every border of New York to the neighboring areas — serves us well." ■

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New York Energy Summit

NY Won't Meet Renewable Target, Industry Says at Summit

Developers Appreciate State's Support but Lament Local Opposition

By John Cropley

ALBANY, N.Y. — Industry speakers at the 2024 New York Energy Summit told attendees the state has already missed its goal of 70% renewable energy by 2030 even as state officials maintained their optimism.

Attendees at the Infocast event April 8-10 keyed on New York having some of the nation's highest clean energy targets and a tough environment for reaching those milestones, which includes 100% zero-emission electricity by 2040.

Less often mentioned is that the state is starting from a low baseline, has not estimated cost or fully identified a source of funding for the transition, pledges to give full consideration at every step to fractious stakeholders and has a constitution that empowers local governments to slow or block progress.

This dichotomy was a frequent point of discussion at the three-day event.

State officials at the summit spoke of the importance of the looming 70-by-30 milestone, but not about the likelihood of reaching it.

Private-sector attendees were not so reticent.

Timothy McClive, director of energy policy and regulation at Central Hudson Gas & Electric, pointed to the math.

"Renewable has to go from 25% currently up to 70%," he said. "That would require about a 90 to 95% reduction in the amount of power coming out of gas and oil plants by 2030. That is a huge lift."

At the start of a discussion on ramping up onshore wind and solar development, one panelist after another said 70-by-30 is out of reach.

"We won't hit it," said Paul Curran, chief development officer of CleanCapital, "but I don't think that's a bad thing, because we'll have a goal, and the goal is aspirational."

"The resource that we don't have a lot of right

now is time — we're out of time. Everybody is just managing time, and we're not doing it very effectively right now," said Keith Silliman, chair of the Alliance for Clean Energy New York's board.



Stephane Desdunes, EDF Renewables North America | © RTO Insider LLC

"I don't think we have a large enough labor pool to build that many megawatts in the six construction seasons we have left, and there's not enough transmission capacity," said Stephane Desdunes, vice president of grid-scale power development at EDF Renewables North

America. He predicted the state would be able to contract the renewables by 2030 but not get them built by then.

But time is not the only hurdle.

"There are a lot of issues in New York that we have not thoroughly thought out on this clean energy transition," said Gavin Donohue, CEO of the Independent Power Producers of New York (IPPNY), whose members provide more than 75% of in-state power generation.

John O'Leary, the state's deputy secretary for energy and environment, acknowledged industrywide challenges. Contracts totaling more than 10 GW of renewable capacity were canceled in New York as the terms became untenable in 2023. But the projects themselves were not canceled, and many were bid into the expedited solicitation process that followed.

"I'm confident that the rapid rebid process that is underway with [the New York State Energy Research and Development Authority] will yield projects that can move forward into construction around the state this year. I'm very excited about that," O'Leary said. "It's no question that renewable energy has been dealt some major setbacks and experienced a market reset in the past two years, but we are navigating through these challenges."

NYISO CEO Rich Dewey told *RTO Insider* the state presents advantages and challenges to the grid operator.

"Cost allocation in the multistate jurisdictions tends to be the really contentious issue that ends up bogging down a lot of projects, and the failure to agree on that tends to be the death



Attendees at the New York Energy Conference take a break to look at the eclipse in Albany, N.Y., on April 8. |

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New York Energy Summit

of a lot of them,” he said.

“In New York, being a single-state ISO, it’s a much easier task. You still have the upstate-downstate [split] — exactly which customer is going to pay [and] who really benefits, and there’s a careful consideration of that — but I think it definitely makes it easier,” Dewey said. “It’s probably the biggest reason we’ve been so successful with our FERC Order 1000 projects so far.”

On the flip side, New York has a strong home-rule tradition, and local governments are not shy about exercising it.

“Siting is hard,” Dewey said. “Siting specifically downstate is much more difficult because of the geography and the nature of the population density. A lot of jurisdictions have local opposition to certain types of development projects.”

The state’s creation of the Office of Renewable Energy Siting has helped streamline this process, Dewey added, but not smoothed out all bumps.

Local Opinion

ORES has a delicate choreography to perform: usurping local authority on large-scale projects while still incorporating local input and meeting all the state mandates placed on renewable energy development.

“For folks here in this room that have built or developed large-scale renewables in New York state, they know that [it’s] more than science, it’s art,” ORES Executive Director Houtan Moaveni said. “It is not easy; it is very challenging work; and it takes a lot of commitment to balance multiple issues at the same time in a

parallel path.”

One after another, speakers raised the same point as Dewey: local opposition to renewable energy construction.

New York Solar Energy Industries Association Executive Director Noah Ginsburg said small-scale developers wish for something like ORES.

“We really see New York favorably, based on the sustainability and longevity within the market that we believe exists,” said Zachary Muzdakis, director of market development for Madison Energy. “I think there’s a few areas where we can target improvement,” naming punitive local zoning restrictions and moratoria, and a desire to place generation closer to load centers.

Dan Voss, senior director of project management at Kearsarge Energy, said New York is a great market. While interconnection has been an issue in other states, siting is the bigger challenge, he said. “We’re finding some inconsistencies from a permitting perspective. Moratoriums, they’re difficult. We’re fortunate to be able to play the long game, but many developers can’t do that.”

Other Observations

CleanCapital’s Curran said the specificity of New York’s mandates and the commitment behind them have their own benefits.

“When you go to a bank and you talk about a New York project, they understand what VDER [Value of Distributed Energy Resources] means; they understand the goals going forward,” he said. “Having certainty is an enormous help when you’re trying to explain



Paul Curran, CleanCapital | © RTO Insider LLC

what you’re trying to do. And that’s a big advantage New York has over other places in the country.”

ACE NY’s Silliman said he appreciates the commitment of New York’s agencies promoting or enabling clean energy construction but wishes

es they had greater coordination and a better understanding of how their individual roles fit into the larger whole.

Richard Bratton, director of market policy and regulatory affairs at IPPNY, said New York has some of the strongest climate mandates in the nation, but that is not enough to foster the renewable energy development the state wants. Developers also need to see market price indications that the private sector can profit.

Joshua Feldman, vice president of investments at Generate Capital, made the case for state and local incentives for projects.

“It is important for the state of New York to consider the fact that this is true everywhere in the United States and that we are essentially faced with this decision on a recurring basis of, is New York state the best place for us devote our capital? And New York is not the easiest place to do business in. I think having local incentives to make sure that the industry stays focused on New York is critical.”

John Howard, whose term on the New York Public Service Commission recently ended, said the state’s interconnection queue is better than most. “While it is a nightmare everywhere else, it is some nights just a bad dream here.” ■

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New York Energy Summit

Summit Attendees Receive Updates on NY Renewable Energy Efforts State Pushing Forward with Offshore Wind, Solar, Storage, Hydrogen

By John Cropley

ALBANY, N.Y. — Development of potential fossil fuel replacements was a recurring focus of the 2024 New York Energy Summit.

Presentations at the Infocast event April 8-10 focused on alternate energy sources individually and collectively.

Offshore Wind

Offshore wind is potentially one of the largest components of New York's energy transition, with multiple wind farms envisioned to provide several hundred megawatts each of emissions-free electricity.

But it is also the most problematic, relying on limited or nonexistent domestic manufacturing capacity and infrastructure and getting buffeted by macroeconomic trends. The state's roster of contracted offshore projects was all but erased as rising costs rendered the contracts untenable in 2023, guaranteeing that already huge costs will jump even higher.

The most recent provisional contract awards carry a weighted average all-in lifetime development cost of \$150.15/MWh. (See [Sunrise Wind, Empire Wind Tapped for New OSW Contracts.](#))

However, with each project carrying a budget in the billions, and billions more in ecosystem investments expected, industry interest is keen. New York's offshore wind reset was a topic through multiple presentations at the summit.



Gregory Lampman, New York State Energy Research and Development Authority | © RTO Insider LLC

Gregory Lampman, offshore wind director for the New York State Energy Research and Development Authority, reaffirmed what is widely known: New York remains fully committed to offshore wind, not just as a source of carbon-free electricity, but as a new industry with its own ecosystem. It just may take longer than expected to come to fruition.

"I think we're all realizing that our aspirations and the goals and timelines that we had in mind were pretty exceptional," he said. "The goals are still really massive, and we're on track to do some really great things over the next couple of years."

Adaptation will be key, Lampman said. The state cannot just write contracts for projects; it must work with industry to move projects forward.

Peter Lion of NYSERDA and David Whipple of Empire State Development said the state's willingness to provide seed money — with more than \$1 billion in grants — has helped advance the new sector.

"Private industry is unable to do this on their own, from what we've seen, and New York is happy to be a public investor," Lion said.

Rubiao Song, managing director of energy investments at JPMorgan, said that from a tax equity perspective, the top concerns for investors are supply chain constraints, shortage of vessels and lack of a robust insurance market.

"Hurricane risk is a real issue here," he said. "We need a significant presence from the insurers."

Sergio Garcia, executive director of project finance in the Americas for Rabobank, said he believes the wind energy projects proposed off the New York coast will obtain their needed financing.

"I think the expectations have to change a little bit. They're not going to be financed the same as Vineyard Wind," he said, referring to the 800-MW facility being built off Massachusetts, which in 2023 became the first major U.S. offshore wind project to put "steel in the water."

"I think at that point, banks were overly excited [and] extremely optimistic, and we saw what happened."

Yet the willingness to finance these projects endures, Garcia said, despite the slow pace of development and dearth of critical infrastruc-

ture such as ports and ships. "It's not as fast as we would like it to be, but yes, there is appetite for those types of assets."

Aude Schwarzkopf, Equinor's East Coast head of commercial development, said an important piece of infrastructure began to take shape in April as construction started on an offshore wind operations and maintenance port at the South Brooklyn Marine Terminal. Equinor is developing the site for its Empire Wind project but intends it to be a resource for other projects as well.

"From the developer perspective, 2023 was hell, so it can only get better from here," Schwarzkopf said. "At least that's what I hope."

Equinor started 2023 with three contracted New York projects and ended the year with none, she explained. But in late 2023, Empire Wind was greenlit by federal regulators, and in early 2024, it won a conditional new contract from New York state.

"I think that this more stable time is the time that the industry needs to focus on building the supply chain," Schwarzkopf said.

Brian O'Boyle, director of transmission development at National Grid Ventures, spoke of Community Wind, his company's joint venture with RWE. It's in a much earlier stage than Empire Wind, so it has a long road ahead.

"I think we're holding the course" in the face of the industry's challenges, O'Boyle said. "A lot of it is building the supply chain up more than it is building the individual project, which in itself is a herculean undertaking."

Fred Zalcman, director of the New York Offshore Wind Alliance, said some momentum has been lost: Almost every East Coast state with offshore wind contracts saw cancellations in 2023.

"Is it fatal? No. Absolutely not. And I think in large measure the credit goes to state policymakers," Zalcman said, noting that NYSERDA took just three months to issue a rush solicitation for offshore wind proposals after existing contracts became untenable in 2023.

New York's three previous solicitations had taken 14 months on average to prepare.

Solar

Discussion of solar energy development at the summit veered between appreciation for New

New York Energy Summit

York's support of community solar projects and dismay at increasing local opposition to construction.

Nicola Armacost, mayor of Hastings-on-Hudson in Westchester County, discussed the village's success streamlining its solar permitting process. It is hardly a microcosm of New York state — a small, progressive-minded village with many preservationists among its populace — but the process has helped it gain recognition as a clean-energy community.

"There isn't a lot of resistance on either the residential side or on the municipal side, and I think that makes it much easier," Armacost said.

Not so in other parts of the state. Resistance to solar and other renewable energy installations is firm, and it is spreading.

Noah Ginsburg, executive director of the New York Solar Energy Industries Association, said he asked his members to identify municipalities that have enacted restrictions, then had to send out another email telling them to stop because he had enough names to make his point.

"Mayor Armacost, please come and run for mayor in many other towns across New York state that are banning solar," he said. "It's easier in many parts of New York state to get a permit for a 100-MW solar facility than a 5-MW solar permit."

Solar installations of less than 5 MW have been the majority of those installed in the state and are the majority of those proposed, he said, but they do not qualify for the expedited review the state Office of Renewable Energy Siting provides to larger projects.

A subset of small solar installations — community solar — has done very well in New York thanks to supportive state policies. In 2023, the state surpassed 2 GW of installed community solar, the most of any state.

Max Joel, director of NY-Sun at NYSERDA, said the state is on track to meet its distributed solar targets: 6 GW by the end of 2025 and 10 GW by 2030.

"The residential solar space has been a mainstay," he said. "I think like everywhere in the country, we do have that doughnut hole in large rooftop commercial and industrial. Not that we don't have plenty of that, but it hasn't grown in proportion to the other sectors."

Storage

Energy storage is a necessary complement to the intermittent offshore wind, onshore wind and solar generation New York envisions.

Solar is particularly fickle, with a capacity factor that shrivels to the single digits during the short, cloudy days that mark a New York winter. But wind lulls can be problematic as well.

State leaders have appropriately ambitious goals for storage, but buildout is off to a slow start.

Long-duration storage is not available at scale; the present market structure is not favorable for short-term storage; the industry is waiting for the state to finalize a revised roadmap for deployment; and a spate of highly publicized fires has galvanized local resistance to siting.

William Acker, executive director of the New York Battery and Energy Storage Technology Consortium, said the need and opportunity for intraday energy storage is pressing and the need for longer-duration storage is looming.

"We've got to get going on those things," he said. "Getting projects built [faces] a number of barriers in New York state, and the roadmap identifies those barriers, creates programs to knock them down and to develop projects. To us this is one of the most important things that needs to happen right now."

David Sandbank, NYSERDA's vice president of distributed energy and transportation, said there is about 12 GW of storage in interconnection queues. NYSERDA itself has contracted 1.3 GW, but less than 300 MW of that is operating or under construction.

"It's not a lot. And the 1.3 is about 1.1 right now because of some bulk storage projects canceling," he said. "I think what you're going to see in the very near future is a lot of retail 5-MW, four-hour battery storage projects getting built in New York City. There's about 150 MW right now that are shovel ready."

MD Sakib, National Grid's director of future of electric, repeated that New York now has 250 MW of the 6 GW that the revised roadmap calls for by 2030.

"Let that sink in," he said. "There's a lot that we need to do, and I think there's a lot of outreach and education that needs to happen."

Projects are stalling in the application and review phases, and costs have soared, Sakib said.

"I think we have the right roadmap in place. ... It's just a matter of getting down to it and making sure we execute those things."

Hydrogen

Haiyan Sun, hydrogen and clean fuels program manager at NYSERDA, said hydrogen remains



Attendees mingle at the New York Energy Summit in Albany, N.Y., on April 9. | © RTO Insider LLC

a key part of the state's decarbonization strategy, even after the U.S. Department of Energy did not award New York and its New England partners the hydrogen hub they were seeking.

"It will play an instrumental role," Sun said. "What New York needs to do for hydrogen long term is not going to be affected by whether we have a DOE hub or not. It affected the short-term momentum, certainly, but we respect DOE's decision. We did not get an answer [on] why we were not selected."

Hydrogen will help decarbonize hard-to-electrify sectors, Sun continued. "Hydrogen will also play a critical role in [stability and reliability] of the New York grid while we march along to 70-by-30 and especially when we try to reach zero emissions by 2040."

Plug Power Chief Technology Officer Tim Cortes said New York's support for manufacturing has been an important part of the growth enjoyed by the company, which is headquartered only a few miles north of the capital.

The proposed federal 45V tax credit rules have given the company pause, however. Much of the hydrogen industry is gnashing its teeth over the draft guidance, Cortes said.

Jeffrey Goldmeier, director of the global hydrogen value chain for GE Vernova, said technology is not likely to be the sticking point for hydrogen adoption. A greater challenge is likely to be the infrastructure supporting it, he said, recalling a 2021-2022 hydrogen combustion demonstration project at a New York Power Authority peaker plant that was dictated by the availability of green hydrogen, several tanks of which were trucked in each day.

There is a potential geographic split between where hydrogen is generated and used, Sun said, as well as a seasonal split between the greatest need for green hydrogen and the greatest availability of renewable energy to generate it. ■

PJM News



FERC Approves Cost Allocation for \$5B in PJM Transmission Expansion

By Devin Leith-Yessian

FERC on April 8 approved PJM's cost allocation for a \$5 billion slate of transmission upgrades aimed at resolving reliability violations posed by growing data center load in Northern Virginia and generation retirements in Maryland (ER24-843).

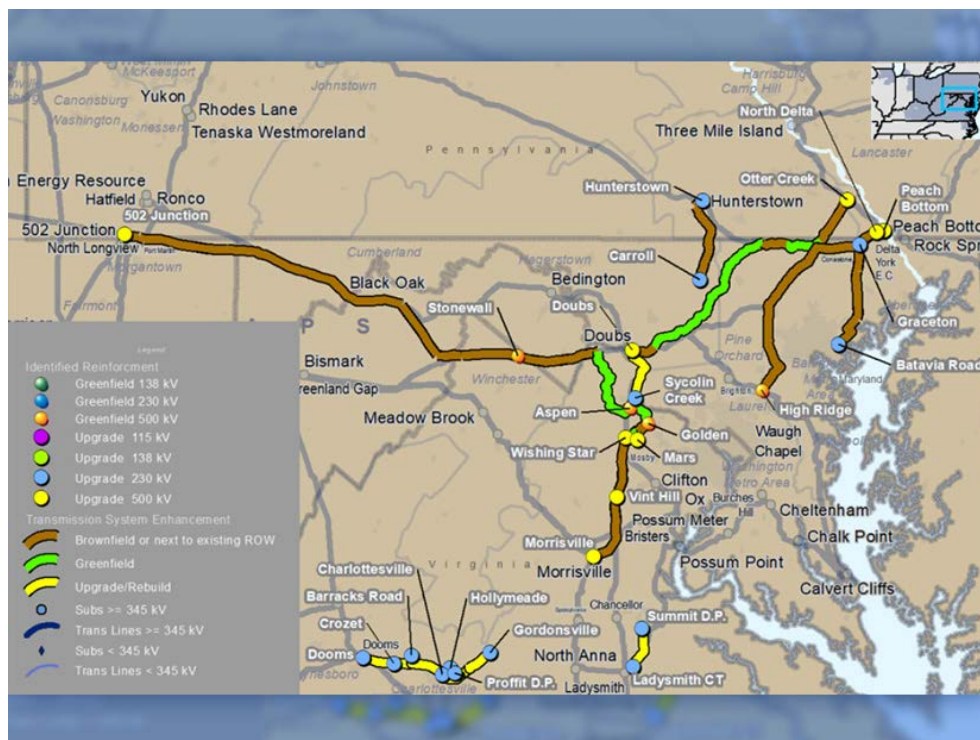
The commission dismissed as out-of-scope protests filed by the Maryland ratepayers and the state Office of People's Counsel that Virginia should bear the full cost of transmission upgrades to serve data center load. The OPC argued that the proliferation of data centers in Loudoun County and the surrounding area — known as Data Center Alley — has been fueled by incentives provided by Virginia and that the transmission needed should therefore be classified as a public policy objective with the costs fully assigned to that state.

Several Maryland residents urged the commission to initiate a proceeding under Section 206 of the Federal Power Act to consider whether the PJM cost allocation process remains just and reasonable, also arguing that the data centers are the result of Virginia's policy objectives. They also argued that the stakeholder process is unfriendly to the participation of average consumers.

The PJM Board of Managers approved the projects to become part of the RTO's Regional Transmission Expansion Plan (RTEP) on Dec. 11, greenlighting new lines from the 502 Junction and Otter Creek substations in Pennsylvania, through Maryland and into Northern Virginia. Additional lines will supply power to the Alley from Dominion Energy's Morrisville substation in Southern Virginia, and from the Peach Bottom substation in Pennsylvania to the Baltimore area to resolve violations related to the retirement of the 1,295-MW Brandon Shores coal generator. (See [PJM Board Approves \\$5 Billion Transmission Expansion](#).)

The commission said its review of the cost allocation for RTEP projects is limited to whether PJM correctly applied its tariff. The issues raised by the OPC and ratepayers around the mechanisms by which PJM determines cost allocation are beyond the scope of its review and would be more appropriately considered through a separate complaint that the RTO's tariff is not just and reasonable.

Even were a complaint to be filed, the commission expressed skepticism regarding the concept of assigning states the cost of



PJM's proposed package of transmission projects for the third window of the 2022 Regional Transmission Expansion Plan | PJM

constructing transmission to serve growing load, even that which may be the result of state incentives. It said the State Agreement Approach is the only structure for assigning transmission costs to an individual state and only if it voluntarily agrees to pay those costs to facilitate its public policy objectives.

Commissioner Allison Clements wrote a concurrence going further, arguing that determining which transmission needs are the result of discrete state policies for the purpose of cost allocation would run contrary to the principles of regional transmission planning and would be "impractical and unworkable."

The OPC's "argument also overlooks the reality that myriad state and local (and, for that matter, federal) public policies affect either the demand for or supply of electric power," Clements wrote. "Virginia is certainly not the only state with economic development policies that are increasing the demand for power. Likewise, every state makes policy and/or regulatory decisions that affect which generating facilities provide supply to meet demand. Assigning transmission costs by attempting to parse countless public policies to determine whether and how each contributes to the need for transmission by affecting demand or supply in

the power system is an impractical task that is not required by the Federal Power Act."

Commissioner Mark Christie also concurred, as PJM followed its tariff, but he argued that there may be merit to deeper consideration of how state policies affect RTOs' transmission planning.

"I believe that the time has come for this commission to take the lead in its convening role to initiate a proceeding, such as a Notice of Inquiry, a series of technical conferences or by initiating an FPA Section 206 proceeding outside this docket, posing such important questions, among others, as: What is the proper definition of a public policy transmission project? Does the definition of public policy transmission project need to be changed for purposes of regional cost allocation? How should public policy transmission projects be cost allocated in a multistate RTO?" Christie wrote.

"In my view the states themselves need to be at the forefront of deciding these questions, as it is their own state policies that are largely making these questions unavoidable, as these two recent PJM RTEP cases graphically illustrate," he said. ■

PJM News



Scandal-ridden Former PUCO Chair Sam Randazzo Found Dead Coroner's Office Confirms Randazzo Died by Suicide

By Robert Mullin

Former Public Utilities Commission of Ohio Chair Sam Randazzo, who faced multiple criminal counts for taking millions of dollars in bribes from FirstEnergy, died by suicide April 9, according to multiple news reports.

The Franklin County, Ohio, coroner's office said Randazzo, 74, was found dead just before noon Central Time in a Columbus warehouse he owned, the Columbus Dispatch *reported*.

Local NBC news affiliate WCMH *said* the coroner confirmed the death was by suicide. WCMH said the building where the former PUCO chair was found was owned by Sustainability Funding Alliance of Ohio, a Randazzo-owned consulting firm cited as a shell company in court documents in state charges filed against him.

Randazzo became caught up in one of Ohio's biggest political scandals in history after the FBI raided his home in November 2020, prompting his resignation from the commission shortly after. In July of that year, FirstEnergy had entered a deferred prosecu-



Samuel Randazzo (center), former chairman of the Public Utility Commission of Ohio | WKRC

tion agreement in which it admitted to bribing Randazzo and former Ohio House Speaker Larry Householder. Householder is serving 20 years in federal prison.

Randazzo avoided prosecution for years but was indicted on federal bribery charges in November. (See *Former Ohio PUC Chair Charged with Bribery*.)

According to that indictment, before assuming the top role at PUCO in 2019, Randazzo

solicited \$4.3 million in bribes from former FirstEnergy CEO Charles Jones and Michael Dowling, the company's former senior vice president of external affairs, in exchange for helping the company win a \$1 billion bailout for its financially distressed nuclear plants.

Randazzo allegedly arranged the payment after meeting with the two executives at his home in December 2018. The executives then lobbied for his appointment to the commission. The indictment included messages between the executives and Randazzo.

The federal indictment also alleged Randazzo embezzled at least \$1 million from an industry group representing large industrial energy users in Ohio through Sustainability Funding Alliance of Ohio going as far back as 2010.

Randazzo was indicted a second time in February by the state of Ohio, along with Jones and Rowling. The indictment covered 27 charges, including bribery, engaging in a pattern of corrupt activity and money laundering, WCMH reported.

If convicted, Randazzo faced a potential 20-year prison sentence. ■

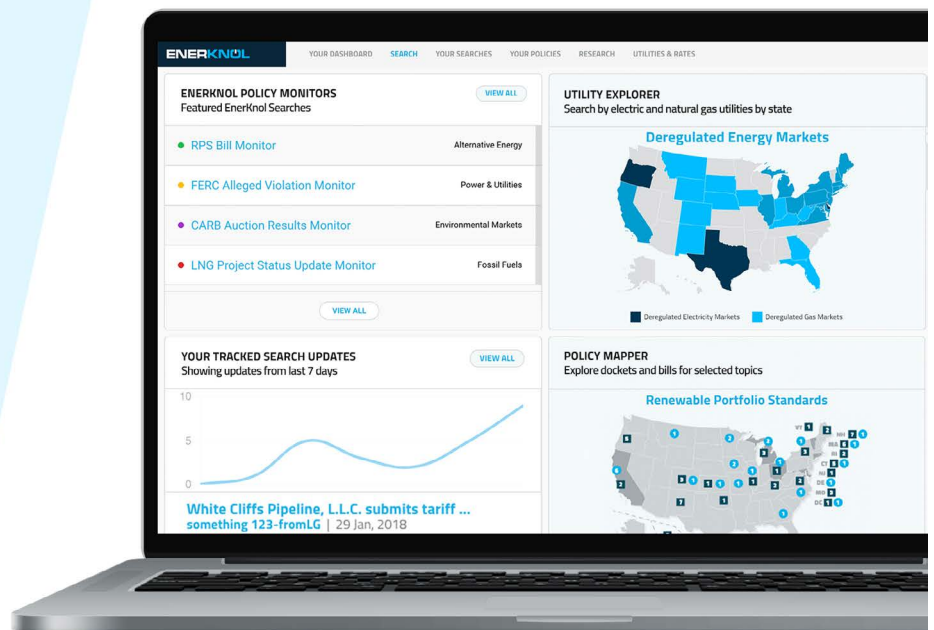
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SPP News



MISO, SPP Preparing Joint Tx Study's Scope

MISO and SPP staff have alerted their stakeholders that they have completed the annual issues review process and are developing the 2024 coordinated system plan's study scope as they try once again to find a mutually suitable interregional joint project.

In an email to stakeholders last week, the grid

operators said their representatives had concluded two joint planning committee meetings reviewing feedback from stakeholders on "issues potentially benefiting" from interregional studies. The RTOs also gathered feedback from the Interregional Planning Stakeholder Advisory Committee (IPSAC) in February. (See

MISO, SPP to Conduct Interregional Study in 2024.)

MISO and SPP will review the 2024 CSP's study scope with stakeholders during an upcoming IPSAC meeting yet to be scheduled.

The grid operators' joint operating agreement requires them to conduct a joint study every two years. Five previous studies have failed to produce any joint projects over differences in how to allocate costs. (See *MISO, SPP Fall Short in 5th Try for Interregional Projects.*)

Ex-SPP Director Joins PUD Board

Former SPP Director Phyllis Bernard has been chosen to fill a commissioner's unexpired term on a Washington county utility's board. She will be sworn in May 1.

Bernard will fill the remainder of Jim Waddell's term on the *Clallam County Public Utility District's* three-member Board of Commissioners. That term expires after Clallam County's November general election is certified. The county is near Olympic National Park, northwest of Seattle.

Waddell, the PUD's commission chair since 2023, died in February.

Bernard retired from SPP's Board of Directors in 2019 after 16 years of service. (See "Last Meeting for Eckelberger, Skilton, Bernard," *SPP Board of Directors/MC Briefs: Oct. 29, 2019.*)

She has served as the Olympic Medical Center's at-large representative to the PUD commission since July 2023. ■

— Tom Kleckner



MISO and SPP are taking another crack at finding a joint interregional project they both can agree upon. | Southwire

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Company Briefs

Corporate Climate Plans Improving, but Still 'Critically Insufficient'

The 2024 Corporate Climate Responsibility Monitor, a report by the European nonprofit Carbon Market Watch and NewClimate Institute, found that many of the world's biggest companies are making climate pledges that are improving, but still fall short of reductions needed to limit the planet's warming.

The report finds that 51 major companies' climate plans would, collectively, only reduce emissions about 30% below 2019 values by 2030 — far short of the 43 to 48% scientists say the world must achieve to limit global warming to 1.5 degrees Celsius.

The companies analyzed span four sectors — automobiles, fashion, electric utilities, and food and agriculture — and account for about 16% of the world's greenhouse emissions.

More: [Grist](#)

Nexamp Gets \$520M to Build Community Solar Across US

Nexamp, a community solar developer and

project owner, announced April 10 it has secured \$520 million from investors to install solar arrays in as many as 19 states.

About 6.5 GW of community solar have been installed in the U.S. through the first three months of 2024, according to the Solar Energy Industries Association. Nexamp has 1.5 GW of assets that are operating or in the final stages of construction.

More: [Canary Media](#)

Amazon Becomes Largest Private EV Charging Operator in US



In a little more than two years, Amazon has installed more than 17,000 chargers

at about 120 warehouses around the U.S., making it the largest operator of private EV charging infrastructure in the country.

At the same time, Amazon has backed away from a vow to make half of all deliveries with zero carbon pollution by 2030, saying that initiative was superseded by broader climate goals. The company also says its operations emitted about 71 million metric tons of carbon dioxide equivalent in 2022,

up by almost 40% since Jeff Bezos's 2019 vow that the company would eventually stop contributing to greenhouse emissions.

However, Amazon is on track to purchase as much electricity produced by solar, wind and other carbon-free sources as it uses to power its operations.

More: [Bloomberg](#)

Former Exelon CEO Crane Dies at 65

Chris Crane, who was Exelon's president and CEO before retiring in 2022, died April 13. He was 65.



Crane joined Exelon in 1998 and became chief nuclear officer in 2004. He was later named president of Exelon Generation in 2007.

Crane held several key industry roles throughout his career, including chairing the Edison Electric Institute, the Institute of Nuclear Power Operations and the Nuclear Energy Institute.

More: [Exelon](#)

Federal Briefs

EIA: Key Bridge Collapse to Reduce Monthly Coal Exports by 33%



The Energy Information Administration has reduced its forecast for U.S. coal exports this month by about a third following the closure of the Port of Baltimore due to the collapse of the Francis Scott Key Bridge.

As a result of the closure, the EIA reduced

its coal export forecast by 33% for April and 20% for May. It also cut its 2024 coal export projections, which it expected to rise 1% from 2023, but it now projects will decrease 6%.

More: [The Hill](#)

Inaugural LDES Summit Takes Place on Same Day as Solar Eclipse

The inaugural Long Duration Energy Stor-

age (LDES) Summit took place April 8 in D.C.

The Department of Energy, the Edison Electric Institute's Institute for the Energy Transition, the Electric Power Research Institute and the LDES Council convened LDES specialists and offered views on how non-lithium-ion storage technologies could be deployed at commercial scale.

More: [DailyEnergyInsider](#)

National/Federal news from our other channels



[Feds Cut Renewable Costs, Boost Fossil Costs on Public Land](#)

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[Bill Would Exempt Md. Data Centers with Fossil Fuel Backup from PSC Approval](#)

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State Briefs

COLORADO

Gov. Polis Orders PUC to Explore Reforms Following Xcel Power Shutoffs



Gov. **Jared Polis** (D) on April 9 directed the Public Utilities Commission to explore reforming Xcel Energy's public safety power shutoffs.

Starting the weekend prior, and as blackouts rolled into April 8 and 9,

customers impacted by the shutoffs complained about Xcel's communication. Many said they were in the planned shutoff areas but never received prior notification that they were going to lose power.

Polis asked the PUC to investigate ways to protect customers during future shutoffs by notifying the public and providing timelines for deactivation and restoration.

More: [CPR News](#)

CONNECTICUT

Electric Shut-off Moratorium to End May 2

Starting May 2, Eversource Energy and United Illuminating will restart service shutoffs for customers, regardless of financial status.

Connecticut is the last state to approve ending its COVID-19 shutoff moratorium, Eversource officials said.

More: [New Haven Register](#)

FLORIDA

FPL Asks Supreme Court to 'Expedite' Rate Appeal



Florida Power & Light on April 8 asked the state Supreme Court to speed up consideration of a renewed fight about a 2021 settlement that increased the utility's base electric rates.

FPL asked the justices to "expedite" an appeal filed by a coalition of groups challenging the Public Service Commission's approval of the rate settlement. The commission approved the settlement in 2021, and rate increases began in 2022, but the Supreme Court last year sent the case back to the

commission to speed up consideration of a renewed fight about a 2021 settlement that increased the utility's base electric rates.

PSC, saying it had not shown why the settlement "is in the public interest and results in rates that are fair, just and reasonable."

The PSC responded in March by issuing a more extensive order backing the settlement. That led the coalition, made up of the groups Florida Rising, the Environmental Confederation of Southwest Florida and the League of United Latin American Citizens of Florida, to appeal the new order to the Supreme Court.

More: [WFOR](#)

MICHIGAN

Consumers Energy to Power 44 Walmarts with clean Energy



Consumers Energy and Walmart on April 10 announced an agreement for the utility to power 44 of the retailer's 94 state-wide locations with wind and solar power. Walmart also agreed to match 90% of the energy it uses across the locations with renewable energy from future Consumers Energy projects.

More: [The Detroit News](#)

OKLAHOMA

State Sues Gas Companies over Price Spikes During 2021 Winter Storm

The state of Oklahoma on April 10 sued natural gas companies ET Gathering & Processing and Symmetry Energy Solutions for fraudulently reducing gas supplies and drastically increasing prices.

Both lawsuits seek actual and punitive damages, as well as a share of any profits that resulted from wrongdoing. Attorney General Gentner Drummond said his office intends to pursue additional litigation against other companies that may have engaged in market manipulation.

More: [The Associated Press](#)

OREGON

Kotek Signs Bill Ordering Treasury to End New Investments in Coal

Gov. Tina Kotek (D) signed a bill April 4 directing the state Treasury to end new state investments in thermal coal and phase out its holdings in coal stocks.

The legislation will require the \$98 billion Oregon Public Employees Retirement Fund, Tigard, to divest up to \$1 billion in coal-related holdings.

Oregon is the third U.S. state to pass a fossil fuel divestment policy, joining Maine and California.

More: [Pensions&Investments](#)

PENNSYLVANIA

Equitrans Faces \$1.1M Penalty for Cambria Country Well Blowout



Equitrans Midstream on April 10 agreed to pay \$1.1 million to settle violations alleged by state environmental regulators investigating a massive release of gas from a storage well in November 2022.

On Nov. 6, 2022, the well began to vent high volumes of natural gas and it took the company nearly two weeks to finally get it under control. During that time, more than a billion cubic feet of gas escaped into the air.

More: [Pittsburgh Post-Gazette](#)

TEXAS

Solar Supplied More Electricity Than Coal in March

Solar energy generated 3.26 million MWh onto the ERCOT grid in March while coal-fired facilities generated 2.96 million MWh, according to the Institute for Energy Economics and Financial Analysis.

Solar's share of the ERCOT market topped 10% in March, exceeding for the first time coal's market share, which fell below 10% for the first time to 9.1%.

More: [Houston Chronicle](#)

VIRGINIA

Youngkin Sends SMR Charge Bills Back to Legislature



Bills that would allow Appalachian Power and Dominion Energy to seek approval to charge ratepayers' development costs for small modular nuclear reactors (SMRs) were sent back to the General Assembly on April 8 with amendments from Gov. Glenn Youngkin (R).

The amendments would restrict Dominion from recovering costs before July, and only 80% of development costs could be collected until an SMR is in operation. Meanwhile, Appalachian Power could request permission from the State Corporation Commission to charge for development costs no earlier than July 1. Beginning July 1, 2025, the utility could file annually to recover project costs for an SMR provided the annual revenue requirement doesn't exceed \$25 million and the project development costs don't exceed \$125 million.

The Senate Democratic Caucus, led by Sen. Louise Lucas, blasted the amendments, calling them "shortsighted and not in the best interest of the commonwealth."

More: [Cardinal News](#), [Virginia Business](#)

Youngkin Removes RGGI Mandate from Budget

Gov. Glenn Youngkin (R) on April 8 released 233 amendments to the state budget passed by the General Assembly, including the removal of language mandating the state's future participation in the Regional Greenhouse Gas Initiative.

Virginia joined RGGI in 2021, but at the

end of 2023 stopped participating after the state's Air Pollution Control Board voted to repeal the legislation under Youngkin. The legislature's budget amendments passed in March would have brought the state back into the RGGI.

The state Senate and the House of Delegates must either vote to pass the governor's amended budget as is or vote to reject it and leave the state without a 2024-26 budget unless both sides come to an agreement by June 30.

More: [Virginia Business](#)

WEST VIRGINIA

PSC Approves Solar, Storage Facility

The Public Service Commission on April 10 approved a 100-MW solar plant with an accompanying 200-MWh battery storage system in Mineral County.

The PSC said no letters of protest were received concerning the plant, which will be located on 650 acres formerly used for strip mining.

More: [WTRF](#)

WISCONSIN

We Energies to Convert Oak Creek Plant to Natural Gas by 2028



We Energies' natural gas plant in Oak Creek is expected to be running by summer 2028, according to a new filing with the Public Service

Commission.

We Energies announced plans in February to spend \$1.2 billion at its Oak Creek Power Plant to convert the facility from a coal-fired power plant to a natural gas plant. The utility plans to spend \$200 million to build a liquefied natural gas storage facility, \$280 million to install gas-fired reciprocating internal combustion engines near the Paris Generating Station in Kenosha County, and around \$183 million for a 33-mile pipeline to connect the two facilities. The projects still need to be approved by the PSC.

The Oak Creek natural gas operation will generate 1,100 MW via five 220-MW turbines. The utility plans to retire its final coal units at Oak Creek at the end of 2025.

More: [Wisconsin Public Radio](#)



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