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# RTO Insider

Your Eyes and Ears on the Organized Electric Markets  
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# 1 Top 10 Most Read Articles from RTO



## PJM Capacity Prices Spike 10-fold in 2025/26 Auction

### Load Growth, Deactivations, Risk Modeling Changes Cited as Causes

By Devin Leith-Yessian | Originally Published: 7/30/24

PJM capacity prices increased nearly tenfold in the 2025/26 Base Residual Auction (BRA) as a trifecta of load growth, generation deactivations and changes to risk modeling shrank reserve margins.

The clearing price for most of the RTO jumped to \$269.92/MW-day, far above the \$28.92/MW-day for the 2024/25 auction. Two regions surged to their price caps, reaching \$466.35/MW-day in the Baltimore Gas and Electric (BGE) zone and \$444.26/MW-day in the Dominion zone. (See [PJM Capacity Prices Jump in 5 Regions](#).)

“The significantly higher prices in this auction confirm our concerns that the supply/demand balance is tightening across the RTO. The market is sending a price signal that should incent investment in resources,” PJM CEO Manu Asthana said in a July 30 [announcement](#) of the BRA results.

PJM forecasts a peak load of 153,883 MW for the 2025/26 delivery year, up 3,243 MW from the previous year. The auction procured 135,684 MW of capacity at a record \$14.7 billion to serve that load, with an additional 10,886 MW supplied through fixed resource requirement (FRR) plans.

The total installed capacity was around 182 GW, resulting in an 18.5% reserve margin, just over the 17.8% installed reserve margin (IRM) target. The Dominion and BGE zones landed just under their reserve requirement and are transmission-constrained, causing prices to jump to the zonal cap.

PJM Executive Vice President of Market Services and Strategy Stu Bresler said the auction procured adequate supply and sent a signal that investments in capacity are needed for future delivery years. He cautioned that capacity costs remain just one component of consumers’ bills and the results should not be read as causing a multifold increase in retail rates.

“Auction prices were significantly higher in this auction and those steep increases, we believe, do signal the need for investments,” he said during a press conference July 30.

The auction followed a yearslong trend of declining supply, with around 6.6 GW retiring or being approved for a must-offer exemption, which signals their intent to deactivate. Bresler

### Why This Matters

The auction results send a clear signal that investments in capacity are needed for future delivery years. PJM is searching for solutions to speed the generation interconnection process to facilitate new resource development. The results should not be read as causing a multifold increase in retail rates.

said the tension between supply and demand demonstrates the reliability concerns the RTO highlighted in a February 2023 Energy Transition in PJM [white paper](#). (See “PJM White Paper Expounds Reliability Concerns,” [PJM Board Initiates Fast-track Process to Address Reliability](#).)

Bresler said PJM is searching for solutions to speed the generation interconnection process to facilitate new resource development; however, 38 GW of resources have cleared the generation interconnection process but have yet to enter commercial operation.

“Interconnection process reform is proceeding, but hurdles remain for many projects outside of our process,” Bresler said in the announcement accompanying the auction results. “We are considering ways to accelerate those who can successfully overcome those challenges and build.”

In addition to tighter supply and demand, Bresler said the cost increase was driven by a shift in how PJM models reliability risks and matches them with resources accreditation ([ER24-99](#)). (See [FERC Approves 1st PJM Proposal out of CIFP](#).)

The changes use PJM’s marginal effective load-carrying capability (ELCC) framework to accredit all resources, except energy efficiency, and rely on its hourly probabilistic modeling to calculate capacity needs through the reserve requirement study. The new approach concentrated reliability risk into the winter and led to several resource classes seeing reduced accreditation. (See “Revised Reserve Require-

ment Study Values Endorsed,” [PJM MRC/MC Briefs: March 20, 2024](#).)

### Auction Conducted After Several Delays

The timing of the auction has been repeatedly delayed from the original May 2022 schedule to implement several market changes, including reversing an order establishing a forward-looking energy and ancillary services (EAS) offset, followed by the CIFP changes. (See [FERC Approves PJM Capacity Auction Date Changes](#).)

An additional delay approved in February pushed the opening of the auction from June 12 to July 17 to grant market participants additional time to understand how the RTO will calculate effective load-carrying capability (ELCC) ratings to accredit the capacity resources can provide. (See [FERC Approves PJM Capacity Auction Delay](#).)

### EPSA Says Increased Prices Reflect Increased Risks, Manufacturers Skeptical

Electric Power Supply Association (EPSA) CEO Todd Snitchler said the increased capacity prices are an encouraging first step in meeting the mounting reliability risks PJM has identified.

“While there is still work to be done, these price signals recognize the situation PJM faces and should begin to incentivize the investment needed to deliver a reliable system in PJM and in other U.S. markets,” Snitchler said in a statement. “Reliability watchdogs, regulators, policymakers and PJM itself have been sounding the alarm that the misalignment of power resource retirements and additions poses a serious reliability risk to the grid — especially in the face of rising demand spurred by data center and manufacturing growth among other factors like electrification, extreme weather and policy choices.”

Ryan Augsburger, president of the Ohio Manufacturers’ Association, said in a statement that auction delays will translate to higher capacity costs for consumers.

“Markets work — but after years of delay of PJM’s critical capacity auction, prices are rising to attract generation in a hurry. PJM’s capacity auction will yield billions more for generators that locate in its territory to serve healthy customer electric load, but customers will bear the brunt of PJM’s costly auction delays,” he said. ■

## 2 Top 10 Most Read Articles from RTO



# Trump's Victory and Its Implications for FERC and Power Markets

By James Downing | Originally Published: 11/6/24

The ramifications of President-elect Donald Trump's victory are going to be bigger elsewhere, but FERC and the industries it regulates will see their share.

Independent regulatory agencies are never at the top of campaign debates, and it is unclear how much Trump will pull from the plans the Heritage Foundation made for him in the so-called Project 2025, which included changes proposed for the commission by former Trump FERC appointee Bernard McNamee. (See [Plan for GOP President: Cut Climate Programs, Re-Examine RTOs](#).)

FERC is partisan by design, with members appointed from both parties by the president. This article is focused on Republican appointees, since they will be setting the tone for the next few years. "I think people are feeling that they're being treated inequitably," said former FERC Commissioner Nora Mead Brownell. "I think the economic divide grows wider, and I think that gave people a reason to ignore the [misogynistic], racist comments and buy into a promise that we know from the previous administration will never come to be. And on the flip side, Biden stayed too long, and I don't think that they ever got their economic message out sufficiently. That's what people cared about."

Brownell was appointed to FERC by President George W. Bush, but she is no fan of Trump

and spoke to us from London, where she went to escape the elections. She said the results are "mind boggling."

One of the biggest questions facing the agency is whom Trump will pick for chair. It has a full slate of commissioners with two Republicans: Mark Christie and Lindsay See. Sources favor See, but the question remains open.

Another key question for the future composition of FERC is whether Chair Willie Phillips will step down once the gavel is taken away from him, opening a seat for Trump to fill. Chairs tend to leave after a demotion, but Cheryl LaFleur did not, so there is precedent for Phillips remaining. FERC did not respond Nov. 6 to questions about Phillips' future.

"They could appoint a chairman, and they could try and steer away from power markets," Brownell said.

Utilities, however, have benefited from organized markets, so that would run into opposition, but FERC can exert significant control over the RTOs, and a new commission might try to expand to help the new administration's policy priorities, she added. It is unclear which way that will go because in a two-party system, the Republicans still have plenty of internal policy debates, she said, adding that she wonders whether traditional GOP "conservatives" or "Trumpers" will win out.

Brownell put R Street Institute in the former category and its Director of Energy & Environ-

### Why This Matters

President-elect Trump can pick a new FERC chair as soon as he takes office, who will be able to set the agenda for the agency. A key question is whether Chair Willie Phillips stays on after that, opening the door for a Republican majority on the regulator sometime next year. His term expires in 2026.

mental Policy Devin Hartmann, a former FERC staffer, told us a lot of the future depends on Phillips' decision and the makeup of the Senate.

"There's a few things that I think that Chairman Phillips has worked on that he wants to see through, and so I'm curious to see if he wants to sort of realize that his legacy could still be executed by sticking around," Hartmann said.

That would be a new situation for FERC with a majority of the party not in the White House until Phillips' term expires in 2026. When it comes to the Senate, whether the GOP's majority stays in the low 50s or reaches in the mid-50s would have implications for how easily Trump appointees can be confirmed, Hartmann said.

A narrow majority would give the most moderate Republicans on the Energy & Natural Resources Committee, like Lisa Murkowski (R-Alaska), more sway, while a wider margin would allow more conservative voices to take on that role. Hartmann pointed to Sen. Mike Lee (R-Utah) as an important voice with a larger majority.

"Senator Lee is a very principled conservative, and while some of the rhetoric on FERC specifically has raised eyebrows, he really believes in executing its role fairly and not favoring certain industries," Hartmann said.

That has been demonstrated in some of the debates around permitting reform where Lee did not want to carve out policies that favor oil and gas exclusively, favoring technology-neutral approaches instead, he added.

Cato Institute Director of Energy and Envi-



FERC headquarters in D.C. | © RTO Insider LLC

## 2 Top 10 Most Read Articles from RTO



ronmental Policy Studies Travis Fisher said his think tank aims to be bipartisan, but his experience includes working on Commissioner McNamee's personal staff and being the lead author of the Department of Energy's 2017 *Staff Report to the Secretary on Electricity Markets and Reliability*. (See *FERC's Independence to be Tested by DOE NOPR*.)

"From my point of view, the odds of getting good free market policy out of the [Democratic] Party — that seems slim," Fisher said. "So, I'm optimistic that we might have generally more free market policy. But of course, there's things to not like about each party."

One campaign promise Trump made that implicates FERC is to cut utility bills in half, and one way the commission could try to address affordability is to investigate why years of low wholesale power prices, driven by cheap natural gas, have not lowered bills for retail consumers.

"I've put in a few filings at FERC, but you know, it's one thing to say you're creating savings at the wholesale level, but they have not really shown how that passes through to actual savings for people paying retail bills," Fisher said. "And I suspect the crossover between federal and state jurisdiction is going to get a little bit more scrutiny."

One issue we brought up with everyone was whether the second Trump administration would try to put its thumb on the scale for coal, as it did with a notice of proposed rulemaking Energy Secretary Rick Perry filed with Fisher's involvement. He said he doubted that would happen again but declined to discuss it in detail.

That effort was rejected unanimously by FERC, including three of his appointees — then-Chair Kevin McIntyre and Commissioners Robert Powelson and Neil Chatterjee. Whether the agency gets independent-minded commissioners under Trump depends on who is nominated, Fisher said.

### The Fate of Transmission Reform

A focus of FERC under President Joe Biden has been to reform transmission planning, which led to Order 1920. That was passed along partisan lines of the three-member commission this summer, with Commissioner Christie arguing that the Democrats were favoring the growth of wind and solar above other concerns.

The majority on the House Energy & Natural Resources Committee made its views known, sending letters to FERC and other agencies to

stop any "partisan" policymaking.

"The results of the 2024 presidential election are now apparent, and leadership of ... FERC will soon change," House Energy and Commerce Committee Chair Cathy McMorris Rodgers (R-Wash.) wrote. "As a traditional part of the peaceful transfer of power, FERC should immediately stop work on any partisan or controversial item under consideration, consistent with applicable law and regulation. There are many bipartisan, consensus items that FERC could pursue to fulfill its mission before the end of your tenure. I urge you to focus your attention on these matters."

Grid Strategies President Rob Gramlich has been one of the biggest supporters of Order 1920 and he argued the rule still would benefit Trump's agenda, which is heavy on expanding cryptocurrency and artificial intelligence.

"I think the tech investors and executives are really going to want to see a grid expanded to accommodate power demand growth," Gramlich said. "And, of course, power demand growth is a key part of Order 1920."

FERC could still issue its rehearing order on the rule in the next couple of months, but the change in leadership has implications for how the rule will be implemented and will likely mean a "retreat" from Biden-era policies, he added.

A big part of the future of transmission reform depends on where Commissioner See comes down, said R Street's Hartmann. While a lot of the political discourse around the rule has pitted it as trampling states' rights (one of her top issues), the technical aspects of its changes have been embraced by state commissioners.

"I think the big question mark will be whether she can decipher the technical merits of Order 1920 from some of the political posturing that we've seen from certain states and recognize that actually the states that have been more engaged on transmission issues really do respect the core aspects of Order 1920," he added.

Fisher said he was not against expanding the grid as needed, but he doubted it would remain a priority under Trump.

"We should be candid that the grid might need some transmission, but really the need and the main cause for new transmission is wind and solar, especially wind," Fisher said.

If you can characterize transmission expansion as a low-cost option for meeting new demand, then it will get some focus, but FERC will not be mandating grid planning to enable the

energy transition or universalizing the costs of state clean energy and climate policies, he added. Arguments about needing to expand the grid to ensure reliability going forward are overblown, he said.

"It seemed to me to be sort of a false front, that it was just a reason to try to get the right-of-center on board with building more transmission," Fisher said.

### The Election's Impact on Resource Adequacy Issues

Reliability is likely to going to be a common theme at FERC under Trump, as it has been under Chair Phillips. There may be differences in how to get there

President Trump will terminate EPA's power plant rule, which Fisher noted drew concerned comments from some of the organized markets over its implementation. (See *RTOs Seek More Flexible Compliance in Appeal of Power Plant Rule*.)

The end of the power plant rule means that states will not be forced to shut down existing dispatchable generation too early, said Competitive Enterprise Institute Research Fellow Paige Lambert. Coal will not be making a comeback due to cheap shale gas, regardless of Trump's policy priorities, but the new administration means existing plants will run longer.

"The focus there really should be on not prematurely closing any existing capacity that we have because prematurely closing reliable capacity like the power plant rule was going to do is going to really undermine reliability in a pretty damaging way," Lambert said.

While keeping more coal and natural gas units will add more supply to the resource adequacy equation, the change in policies from the election can also have an impact there.

MISO did not want to weigh in deeply on the election, as it strives to be nonpartisan, but during a Nov. 6 Resource Adequacy Subcommittee meeting, Director of Strategic Initiatives and Assessments Jordan Bakke briefly invoked the results when discussing the upcoming Regional Resource Assessment, which attempts to project MISO's resource profile and capacity needs over the next 20 years. He said the differing policies of presidential administrations complicate a clear view of the future generation mix.

"That and a lot of other things are making [members'] resource planning more challenging," Bakke said. ■

*Amanda Durish Cook contributed to this article.*

### 3 Top 10 Most Read Articles from RTO



# FERC's Christie Warns of 'Very Dark Place'

## Commissioner Again Cautions Against Loss of Baseload Generation

By Tom Kleckner | Originally Published: 3/10/24

NEW ORLEANS — FERC Commissioner Mark Christie brought his message of grid reliability to the Crescent City on March 4, near the site of what he says is the best college football atmosphere in the country: LSU's Tiger Stadium at night.

"When the sun goes down, that Tiger Stadium is a rocking environment," Christie said. Hands down, he said, it beats the atmosphere at Alabama, Michigan, Notre Dame, Southern California and Texas.

Dispensing with pleasantries, Christie tended to the business at hand with his keynote address to the Gulf Coast Power Association's MISO-SPP Forum.

"In America, we're heading for a very dark place. We're heading, as Franklin Roosevelt said, to a rendezvous with destiny," he said. "Well, we're heading, in terms of the reliability of our power grid, for a rendezvous with reality. And you can't escape reality because ultimately, reality will track you down. And reality is tracking us down and we need an honest conversation about why we're heading for a reliability crisis."

Christie has been making the rounds with his warning that dark times — figuratively and literally — lie ahead for the nation.

Last May, he told the U.S. Senate's Energy and Natural Resources (ENR) Committee that the grid is facing "potentially catastrophic consequences." During an SPP forum on resource adequacy in September, he ran through a list of capacity shortfalls that grid operators are expecting and explained his use of the adjective "catastrophic." ("Multiple-day outages [are] ... catastrophic by any definition.") (See *Senators Praise Phillips, FERC's Output at Oversight Hearing, Nation's Grid Faces 'Rendezvous with Reality'*.)



FERC Commissioner Mark Christie shares his thoughts on the need for dispatchable resources to Gulf Coast Power Association attendees. | © RTO Insider LLC

### 3 Top 10 Most Read Articles from RTO



"It's arithmetic. We are subtracting dispatchable resources at a pace that's not sustainable, and we can't build dispatchable resources to replace the dispatchable resources we're shutting down," he said.

Christie said the problem is not necessarily the massive additions of intermittent wind and solar resources in many parts of the country, but rather the pace of thermal resources' retirement.

"We're pushing [dispatchable resources] off the grid far too quickly for any replacement resources to take up the slack," he said. "That's why we're heading for crisis. Its simple subtraction."

He bolstered his case by linking George Orwell and Vladimir Lenin to fellow revolutionaries MISO's John Bear and NERC's Jim Robb.

Bear and Robb?

"If you've ever met John Bear, he doesn't look like a revolutionary. If you've ever met Jim Robb, he doesn't look like a revolutionary," Christie said. Referencing a quote often attributed to Orwell — "In a time of deceit, telling the truth is a revolutionary act." He said the two CEOs are performing revolutionary acts.

"Because why? Because they're telling the truth," Christie explained. "They're telling the truth, that we are forcing dispatchable resources off the grid at a pace that simply is unsustainable, and it is going to affect our reliability."

Robb told the Senate ENR Committee in June that the grid's increasing reliance on renewable resources as baseline resources retire will likely lead to "more frequent and more serious disruptions." In MISO's latest *Reliability Imperative report* released in February, Bear called for facing "some hard realities" because of "immedi-



Andrew French, KCC | © RTO Insider LLC

**"It's arithmetic. We are subtracting dispatchable resources at a pace that's not sustainable, and we can't build dispatchable resources to replace the dispatchable resources we're shutting down."**

—FERC Commissioner  
Mark Christie

ate and serious challenges" to the region's grid reliability. (See *Robb Warns of 'Serious Disruptions' from Grid Transition, MISO Publishes Call to Action to Bypass Danger in Reliability Imperative Report.*)

"What to do? Well, this didn't come from Lenin, but it comes from where I grew up in West Virginia," Christie said. "It's called the first rule of holes, and the first rule of holes is when you're in one, stop digging. So, if we're digging a hole deeper because we're shutting down dispatchable resources at a pace we can't sustain, let's stop doing it."

Christie's remarks were received positively by several regulators in the audience.

Andrew French, chair of the Kansas Corporation Commission with a background in environmental science, said he couldn't disagree with anything Christie said.

"I'm an environmentalist. I come from a perspective of wanting to transition as much clean energy onto the grid as we can," French told *RTO Insider*. "But, also, as a state regulator that is obviously concerned about both cost and absolutely reliability, I can't really disagree with anything."

"As Commissioner Christie has said before, it's not the addition of [renewable] resources that's the problem. It's the subtraction of the attributes associated with some of the traditional resources that is the issue. That is the



Marcus Hawkins, OMS | © RTO Insider LLC

issue we have to solve," he added.

Marcus Hawkins, executive director of the Organization of MISO States and jaded by years of projected shortfalls that failed to materialize, shared a more nuanced perspective of Christie's comments.

"In MISO-land, we have a 'boy who cried wolf' problem" with projected shortfalls, he said. Hawkins noted OMS surveys over the past decade of the RTO's members have consistently found shortfalls three or four years out.

"It's different this time. There's load growth that's complicating this. You need context. You can't just go and say, 'Eight gigawatts short in 2028,' because that's been the story since 2015," he said.

Hawkins said he agreed with Christie's comments that MISO states with vertically integrated utilities give regulators a lot of power to address reliability issues.

"That's what we've seen these last 10 years. We've had the gaps projected and you see the regulators work with their utilities and fill that gap," he said. "I think we're in a great position to continue to do that and MISO is providing more useful information to the regulators to make decisions, and that's helpful."

Christie urged those listening to repeat the actions taken by Bear and others sounding the alarm on energy shortfalls.

"You have got to be brutally honest with your state regulators, your federal regulators and policymakers about the direction that we're heading in and the rendezvous with reality that we're facing," he said. "If our power supply doesn't keep up with load, it goes out. That's not an engineering marvel. That's just the way it works." ■

4 Top 10 Most Read Articles from RTO



# Crypto Load on MISO-SPP M2M Constraint Draws FERC Complaint from Montana-Dakota Utilities

By Amanda Durish Cook | Originally Published: 1/24/24

Montana-Dakota Utilities Co. has filed a complaint against MISO and SPP over a market-to-market flowgate chronically congested by a new cryptocurrency mining operation in SPP.

The utility said the RTOs are violating their joint operating agreement by conducting “unwarranted” and “unjust” M2M congestion coordination on the Western Area Power Administration 230-kV Charlie Creek-Watford line in North Dakota (EL 24-61).

Montana-Dakota Utilities — a MISO member — said its customers have been overcharged about \$18 million for congestion on Charlie Creek-Watford. It said FERC should order a

stop to MISO and SPP’s M2M coordination on the line, direct SPP to refund payments MISO made to it for M2M coordination and order refunds for “duplicative payments made by Montana-Dakota for M2M coordination.”

The company also said FERC should pronounce MISO and SPP’s interregional coordination process unreasonable because it allows MISO or SPP to “insist on continued coordination of a flowgate” even when the coordination is not shown to reduce congestion. MISO and SPP should be conducting M2M coordination only when it’s effective at cutting congestion, Montana-Dakota argued.

Montana-Dakota maintained the RTOs’ interregional coordination process never should have been enacted in the case of Charlie

## What’s Next

FERC in September 2024 denied MISO and Montana-Dakota Utilities Co.’s separate complaints over the Charlie Creek flowgate. MISO has asked FERC to reconsider its decision, arguing the North Dakota cryptomining facility burdening the line is SPP’s responsibility alone.

Creek-Watford because the constraint “was of local, not regional, concern.”

“SPP’s decision to enact and maintain M2M coordination for the local issue of congestion on the Charlie Creek-to-Watford City line violated and continues to violate [the JOA] and constitutes an unjust and unreasonable practice,” the utility told FERC. If SPP “continues to insist on use of M2M coordination for the Charlie Creek-to-Watford City line congestion issues, then Montana-Dakota and its customers will continue to be unfairly and unjustly assessed overlapping congestion charges.”

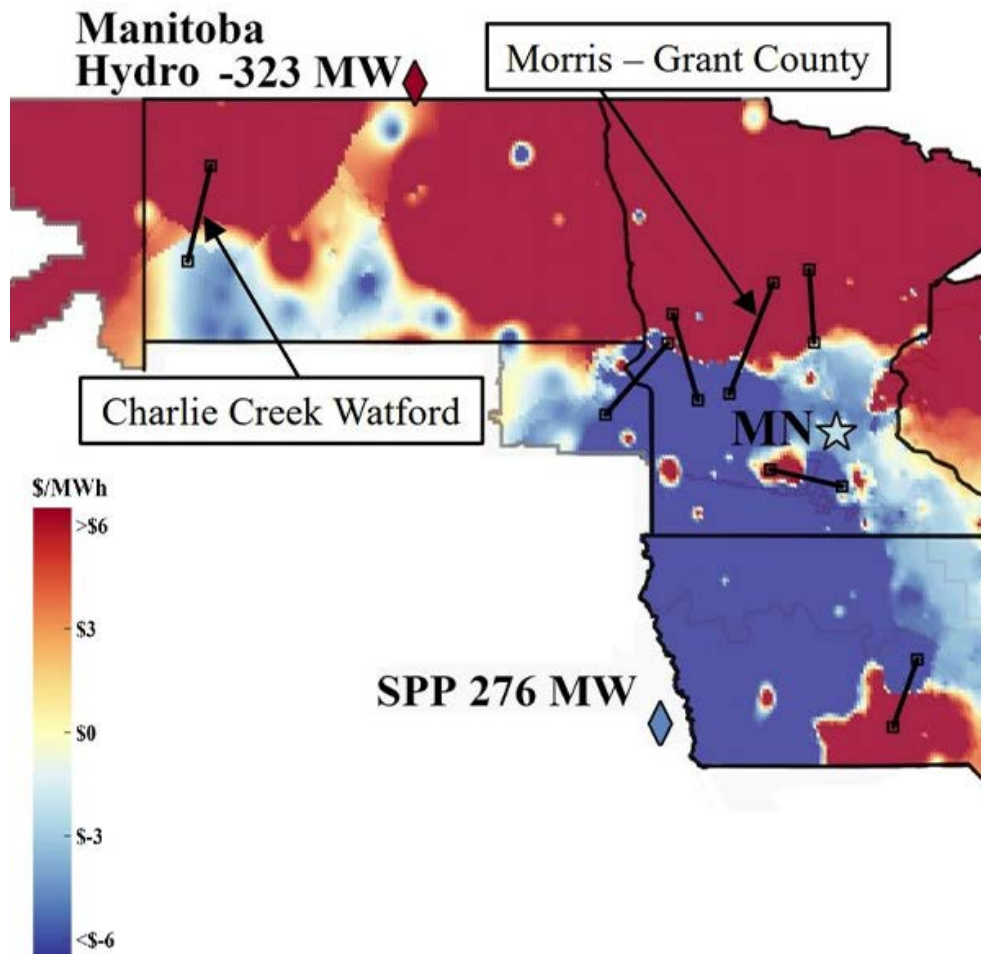
MISO’s Independent Market Monitor late last year called attention to the flowgate as a major source of congestion since the line began delivering power to 220 MW in new load from a cryptocurrency mining operation. (See *MISO and IMM: M2M Flowgate Issue with SPP not Sustainable, May Require Litigation.*)

MISO IMM David Patton said MISO and SPP should revoke Charlie Creek-Watford’s status as an M2M constraint because MISO can offer little congestion relief for the line and it’s costing MISO millions in payments.

MISO staff said new load was allowed to be activated in an already-constrained SPP load pocket with planned transmission upgrades for the area not in service yet.

MISO itself hasn’t ruled out litigation with SPP over the overworked flowgate.

In mid-January, MISO deputy general counsel Kristina Tridico confirmed that MISO pursued alternative dispute resolution with SPP over the constraint and is at the “beginning stages” of negotiations. ■



The MISO IMM’s heat map of congestion problem areas over fall 2023, including the Charlie Creek-Watford flowgate | Potomac Economics



## 5 Top 10 Most Read Articles from RTO



# \$11B Transmission + Generation Plan Canceled in NY

*Clean Path New York Would Have Developed Wind and Solar, Built HVDC Line to NYC*

By John Cropley | Originally Published: 12/2/24

An \$11 billion package of *transmission and renewable energy investments* planned in New York has been canceled.

The Clean Path New York (CPNY) renewable energy certificate (REC) *contract with the state was terminated* Nov. 27, and one of the partners in the venture said Dec. 2 the project itself has been abandoned.

No reason was stated for the cancellation, but CPNY likely encountered the same delays and cost escalations that have bedeviled other energy projects in New York.

CPNY was envisioned as a way to break the densely populated New York City region's heavy reliance on aging fossil fuel power generation.

It was to transmit 3.8 GW of power from 23 new solar and onshore wind projects in rural upstate New York south to the New York City area via a 175-mile underground HVDC line.

Public- and private-sector officials *announced in November 2021* that CPNY and the Champlain Hudson Power Express had been chosen for *the new Tier 4 RECs* designed to help decarbonize the downstate grid.

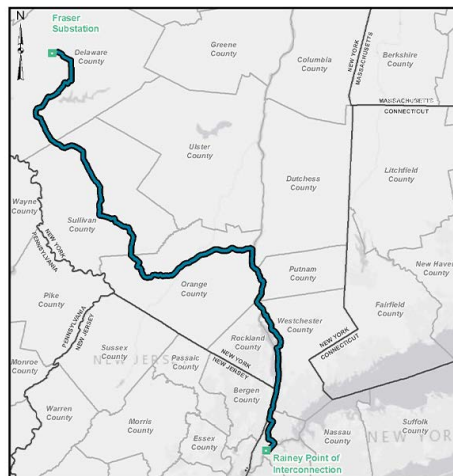
After more than a decade in development, and with a sharply higher price tag, Champlain Hudson is under construction. (See *Champlain Hudson Power Project Receives Landmark Delivery.*) CPNY, which had expected to start construction in 2024 and enter service in 2027, had not yet been approved.

CPNY was a public-private collaboration of the New York Power Authority (NYPA) and Forward Power, which is a joint venture of energyRe and Invenergy.

New York State Energy Research and Development Authority (NYSERDA) notified the Department of Public Service on Nov. 27 that it and CPNY by mutual agreement had terminated the Tier 4 REC contract (*Case 15-E-0302*).

The three-sentence notice provided no details, and neither did NYPA or Forward.

NYPA Vice President of Corporate Communications Lindsay Kryzak said Dec. 2 via email: "The Clean Path project was a public-private collaboration in response to the Tier 4 RFP by NYSERDA. We worked alongside energyRE



The proposed route of the Clean Path New York underground HVDC transmission line is shown. | *Clean Path New York*

and Invenergy to continue moving Clean Path forward in the face of changing conditions related to the economics of the project. NYPA will continue to work on modernizing the grid and addressing New York State's transmission needs to support its long-term goals."

Forward Power spokesperson Amy Varghese said via email: "energyRe and Invenergy remain committed to New York's energy transition. As we continue to advance our portfolio of renewable energy projects across the state, we will evaluate solutions for addressing the largest transmission bottlenecks facing New York's electric grid in order to deliver reliable and affordable power, good-paying jobs and clean air for the Empire State."

CPNY is the latest in a long series of casualties in New York's legally mandated effort to green its grid.

In June 2023, the developers of most of New York's large-scale onshore and offshore renewable energy proposals sought to renegotiate their REC contracts because the cost of construction had soared after they locked in their compensation with the contracts. (See *OSW Developers Seeking More Money from New York.*)

CPNY followed up with a *petition for more money* as well, arguing that it was facing the same economic pinch: 14 of the proposals that made up the generation side of the portfolio already held *Tier 1* REC contracts, and the other nine were *Tier 1*-eligible. (See *Clean Path NY Joins Calls for Inflation Adjustment.*)

### Why This Matters

The cancellation is the latest fallout from cost escalations and the latest setback in New York's attempt to decarbonize its grid.

The Public Service Commission rejected the developers' request to renegotiate the contracts in October 2023 and CPNY subsequently *withdrew its petition*. (See *NY Rejects Inflation Adjustment for Renewable Projects.*)

Developers soon canceled the bulk of the REC contracts New York had signed. They were allowed to rebid their projects into subsequent solicitations, but the state's portfolio of contracted renewables remains stunted a year later, and state officials expect to miss the 70% renewables by 2030 mandate, perhaps by a wide margin. (See *NY Expects to Miss 2030 Renewable Energy Target.*)

Varghese did not provide a requested update on the status of the 23 generation proposals.

They were not a batch of new proposals drawn up for CPNY. Rather, they were a collection of pre-existing proposals gathered into the CPNY portfolio. And cancellation of a REC contract does not mean cancellation of the project itself, though it almost certainly pushes back the timeline.

Meanwhile, the complex Tier 4 mechanism itself is gradually taking shape. NYSERDA *submitted an implementation plan* Oct. 11, four years after Tier 4 was added to the state's Clean Energy Standard.

And a new state law gave NYPA a new role as a renewable energy developer in mid-2023, more than a year after its CPNY collaboration was chosen for a Tier 4 contract.

NYPA is finalizing a strategic plan for 3.5 GW of wind, solar and storage capacity that it would develop on its own or in collaboration with the private sector. It has said the 40 proposals in the plan likely would suffer the same attrition rate as seen in the industry — 80 to 85% for early stage proposals and 30 to 60% for more mature projects. (See *NYPA Enters Renewable Development with 3.5-GW Plan and NYPA Urged to Do More in New Renewables Role.*) ■

## 6 Top 10 Most Read Articles from RTO



# PJM Market Participants React to Spike in Capacity Prices

By Devin Leith-Yessian | Originally Published: 8/5/24

Generation owners point to the nearly 10-fold increase in capacity prices seen in the 2025/26 Base Residual Auction (BRA) results announced July 30 as the price signal they need to invest in new development. Meanwhile, consumer advocates say they worry a compressed auction schedule and backlogged interconnection queue will limit the ability for market participants to react.

The clearing price for most of the RTO jumped to \$269.92/MW-day and two regions surged to their price caps, reaching \$466.35/MW-day in the Baltimore Gas and Electric (BGE) zone and \$444.26/MW-day in the Dominion zone. The “rest-of-RTO” price in the previous auction was \$28.92/MW-day. (See related story, [PJM Capacity Prices Spike 10-fold in 2025/26 Auction.](#))

PJM said the increase was driven by tightening supply as generation resources retire, increased demand as data center load is expected to come online and a shift in how PJM forecasts reliability risks and determines the capacity contribution for resources.

Nearly half of the capacity that cleared the auction was supplied by gas generation, at 48%, followed by 21% nuclear and 18% coal. Demand response made up 5% of cleared capacity. Hydro fell to 4% and wind and solar were at 1%.

“The significantly higher prices in this auction confirm our concerns that the supply/demand balance is tightening across the RTO. The market is sending a price signal that should incent investment in resources,” PJM CEO Manu Asthana said in a July 30 [announcement](#) of the BRA results.

### Consumer Advocates, Envisors: Sluggish Planning and Market Design

Illinois Citizens Utility Board Executive Director Sarah Moskowitz said PJM has been slow to adapt and failed to design a capacity market that sparks new generation investments without creating a windfall for developers.

“The power grid operator’s compressed auction schedules mean generators can’t build and come online quickly enough to respond to prices and bring down costs. Just as concerning, PJM has dragged its feet on interconnection and long-term transmission policy reforms that could speed up its approval process and bring needed clean, affordable energy online more

quickly. Similarly, we have concerns about the accuracy of PJM’s load forecasting, as detailed in a recent [letter](#) from consumer advocates to PJM,” she said.

Susan Bruce, representing the PJM Industrial Customers Coalition (ICC), said the auction results differ significantly from simulated results PJM presented in the stakeholder process and it remains unclear what led to that gap.

“Regardless, the auction results will have a serious impact on customers. Given the timing of the auction relative to the 2025/2026 delivery year, customers have little to no opportunity to take action to minimize the cost consequences. And with delays in the interconnection queue, there is real concern about what may happen in the next auction,” she said. “Focused and dedicated efforts must be undertaken — post haste — to ensure that PJM market design can both facilitate new entry and retention of resources, without market power being exercised, better accommodate single point load integration, and properly reflect the value of non-weather sensitive customers’ demand response capability.”

Tom Rutigliano, of the Natural Resources Defense Council, said the price jump is the result of a reliance on fossil fuel generation at the expense of designing a market and grid set up to facilitate the development of clean energy. Gas-fired resources in particular, he said, have failed to live up to the promise of delivering reliability at low cost.

“Make no mistake: This was foreseeable and preventable. This is what happens when regulators sideline a wealth of historically affordable clean energy resources waiting at their doorstep and the transmission needed to bring them online. For years, the largest grid operator in the eastern U.S. has all but refused to diversify its resource mix and bring new energy online, and instead opted to depend excessively on an aging fossil fuel fleet while ignoring its reliability failures. This sticker shock is a direct result of recent regulatory changes made to address those reliability failures.”

He argued the cure to high capacity costs lies in the renewable energy projects pending in PJM’s interconnection queue.

“Diverse power grids are critical for reliability, and now we see just how critical they are for affordability. With wind and solar only making up an abysmal 2% of resources in this auction, but the overwhelming majority of PJM’s



Manu Asthana, PJM CEO | © RTO Insider LLC

project queue, it is clearer than ever that PJM needs to rapidly scale up new energy resources to protect customers and resilience,” he said. “The cost of PJM’s interconnection delays has now reached billions of dollars. Leaders in PJM states must demand accountability and solutions from their grid operator before they have to pay billions more in the next auction just five months from now.”

PJM spokesperson Dan Lockwood said the RTO is in the process of implementing a FERC-approved reworking in how it conducts generation interconnection studies, which uses a cluster-based approach to determining any necessary network upgrades and allocating costs. He said that approach is expected to process 72 GW of resources in 2024 and 2025.

“Today, about 38,000 MW of resources that have already cleared PJM’s interconnection process have not been built due to external challenges that have nothing to do with PJM, including financing, supply chain and siting/permitting issues. PJM remains concerned with this slow pace of new generation construction and is considering ways to accelerate those who can successfully overcome those challenges and build,” Lockwood said.

### Transmission Owners See Regulated Generation as Solution

During the utility’s July 31 earnings call,

## 6 Top 10 Most Read Articles from RTO



FirstEnergy CEO Brian Tierney said the high capacity prices and sluggish resource development suggest state administered capacity procurements may have a part to play in augmenting PJM's marketplace, pointing to those run by the New York State Energy Research and Development Authority (NYSERDA) and New York Power Authority (NYPA).

The utility has limited ability to own capacity assets in many states. However, conversations about permitting it to develop dispatchable generation with a regulated return could allow it to respond to price signals when other market participants are not. In states where FirstEnergy does own generation, like West Virginia, he said that could take the shape of new combined cycle gas resources, while in Pennsylvania, that would take legislative changes.

"There are people that get upset and say, 'You're going back to regulation.' I don't think you have to go back to regulation. I think you can still have energy markets. I think you can still have retail choice where you have it today. But I also think you could have constructs like NYSEDA or NYPA where they could buy on behalf of the state's residents. And that doesn't have to be an end to competition," Tierney said. "And they can even have auctions where all people could participate in that: utilities, independent power producers and others. So, for the people that say it has to be one or the other, I just don't think that's a valid premise."

Part of the difficulty Tierney outlined is the disparity between the amount of time it takes to plan and develop new generation resources, compared to how quickly new loads can come onto the grid. He said new resources built in response to the higher prices could take as long as six years to come online, falling toward the end of the period PJM said it's concerned about resource adequacy in a February 2023 [white paper](#). (See "PJM White Paper Expounds Reliability Concerns," *PJM Board Initiates Fast-track Process to Address Reliability*.)

While he said new resources with a regulated return could be part of the solution, Tierney said developing new competitive generation is off the table.

"The thing we wouldn't be willing to do would be start competitive generation of our own. That's something that we've recently come out of. We paid a heavy price for that. We've rebuilt our balance sheet in the wake of that, and that's not a place that we're going to be going back to. But other things, other opportunities that could benefit our customers have the capacity that they need be responsive from

### What's Next

PJM is in the process of implementing a FERC-approved reworking in how it conducts generation interconnection studies, which uses a cluster-based approach to determine any necessary network upgrades and allocate costs. That approach is expected to process 72 GW of resources.

a price standpoint are all things that are on the table and are all things we're talking to our states about," he said.

In a statement, Exelon said the results show a need for new generation and transmission assets, particularly within the constrained BGE zone. In its announcement of the auction results, PJM said the higher zonal prices for BGE and Dominion were the result of insufficient generation within the zones and limited transmission to import from other regions.

"The recent PJM auction results underscore a critical need for strategic investments within the Exelon footprint, particularly in our BGE service territory in Maryland. The elevated price levels in this area, as well as others, reflect both a scarcity of resources and transmission constraints. Even with Exelon's ongoing investments, including \$34.5 billion over the next few years to upgrade the energy grid, additional transmission projects are still needed to ensure the strength and reliability of the energy grid now and in the foreseeable future," the utility said.

During Exelon's Aug. 1 earnings call, CEO Calvin Butler said all options are being pursued in response to a question asking whether the utility is looking at authorization for including peaker generation in rates.

"We're working with our commissions on all types of scenarios. We shouldn't take anything off the table because we need to address this issue and ensure affordability and equity [are] at the forefront of all discussions," he said.

### Generators Say Auction Delivers Needed Investment Signal

Enel North America Head of Energy and Commodity Management Roberto Rosner said the auction tells generation developers that now is

the time to build new capacity resources.

"The signal from the auction is unmistakable: PJM needs more clean generation and more flexible demand-side resources. Power producers like Enel are eager for PJM to implement its interconnection reform so we can add more clean, affordable megawatts to the grid. As load forecasts rise from electrification and data center buildout, the value of demand response for maintaining reliability has never been clearer. It's also clear that the substantial derate of capacity through ELCC ratings had a meaningful impact on the outcome."

Voltus President Matthew Plante said the results were predictable given the number of generation retirements and PJM's load forecasts. However, shifts in resource accreditation also had a large impact on the amount of supply able to offer into the auction. PJM's shift to marginal effective load carrying capability (ELCC) and reworked risk modeling led to the focus on when resources can perform shifting from summer to winter.

"As the grid changes, we're no longer in a situation where peaks are always during the summer months. In fact, the last time PJM dispatched the emergency load reduction program was December 2022 ... so now it's more likely that PJM will need these resources in the winter than in the summer," he said.

For demand response, that led to a 25% derate in the capacity resources could offer, reducing DR supply by about 3,000 MW. Nonetheless, Plante said the high price point is likely to turn around a yearslong decline in DR participation in PJM's capacity market. Asset-backed DR resources — such as smart thermostats, batteries or anything requiring a capital investment — are especially likely to be buoyed by the high prices.

"It's hard to find a customer that doesn't want to take advantage of the value proposition that now exists," he said.

Technological barriers have limited DR participation in the past, but most of those have been alleviated in recent years, Plante said. PJM and DR providers are working on addressing remaining regulatory barriers. He called the ELCC derate a "sledgehammer solution" and said the whiplash of frequent rule changes could affect market participation.

"I think regulators need to understand that there's sometimes we change the rules too frequently and are reactive to things, and yes, a whiplash on rules in particular leads to volatility in the number of megawatts enrolled," he said. ■

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# On the Road to NIETCs, DOE Issues Preliminary List of 10 Tx Corridors

*DOE Process for NIETC Designation will not be Affected by FERC Tx Planning Rule*

By K Kaufmann | Originally Published: 5/8/24

The U.S. Department of Energy is looking to boost interregional transmission with its announcement May 8 of 10 proposed National Interest Electric Transmission Corridors (NIETCs), where projects could be eligible for a share of \$2 billion in federal loans and special permitting under FERC's backstop permitting authority.

DOE defines a NIETC as a geographic area where "it is determined that consumers are harmed, now or in the future, by a lack of transmission in the area and the development of new transmission would advance important national interests for that region, such as increased reliability and reduced consumer costs."

The list was compiled based on DOE's 2023 *National Transmission Needs Study* and public input, according to a senior DOE official speaking on background during a May 7 media briefing. Issued in October, the study specifically identified potential interregional transmission needs across the country. (See *DOE Signs up as Off-taker for 3 Transmission Projects.*)

But beyond those findings, the department looked at "factors such as reliability, resilience, congestion, very importantly consumer costs and future generation demand growth, which

is a very important issue right now," the official said. "And for some of these also, we're looking at what ultimately unlocks clean energy and allows for clean energy resources to interconnect to the grid."

Energy Secretary Jennifer Granholm said the preliminary list includes areas that "are high priority for more transmission buildout. ... This program is going to help us build out transmission capacity quickly and efficiently for the people who need it most without compromising on the quality of environmental reviews or community outreach."

The list includes corridors as narrow as 0.3 miles across and as wide as 345 miles east to west, for example:

- the New York-New Jersey corridor, 4 miles wide and 12 miles long, providing an interregional connection between PJM and NYISO, as well as interconnection points for offshore wind projects;
- the Plains Southwest corridor, running 345 miles east to west and 220 miles north to south, covering portions of Kansas, New Mexico, Oklahoma and Texas; and
- the Mountain-Northwest corridor, 0.3 miles wide and 515 miles long, running from Oregon to Nevada.

Some corridors also stretch over multiple

parallel or adjacent sections, such as the Mid-Atlantic corridor, covering parts of Maryland, Pennsylvania, Virginia and West Virginia with parallel lines 2 miles across and up to 180 miles long.

These and the other corridors on the list all have one or more potential transmission projects under development, which a NIETC designation could help accelerate, according to the DOE announcement.

Other considerations include co-location with an existing highway or transmission right-of-way, and the potential to get more renewable energy online and increase transmission capacity between the Eastern and Western interconnections. The longest potential NIETC, the Midwest-Plains corridor, runs 780 miles, beginning in Kansas, crossing Missouri and Illinois and ending in Indiana.

The proposed corridors on the list could be reconfigured through further public and industry input, DOE officials said. But projects located within any NIETC corridor are eligible for federal loans drawn from a \$2 billion fund set up by the Inflation Reduction Act.

NIETC projects could also be eligible for permitting through FERC's backstop authority, established in the Infrastructure Investment and Jobs Act, allowing the commission to permit projects in a corridor if state regulators don't have permitting authority or have delayed project approvals.

FERC has yet to decide if and how it might use the backstop permitting option, but the issue is on the commission's agenda for May 13, when it is expected to vote on its long-awaited transmission planning and cost allocation rule.

The senior DOE official stressed that the NIETC designation process is separate from any FERC decision on its backstop permitting authority but said the backstop authority can only be used for a project in a NIETC.

### 'A Few Backyards'

The NIETC announcement was the latest in a string of initiatives DOE has rolled out in recent weeks expanding transmission capacity across the country and streamlining the permitting process. On April 25, DOE launched its Coordinated Interagency Authorizations and Permits (CITAP) program, which is intended to cut environmental permitting time for transmission projects to two years.



DOE has proposed 10 potential NIETCs, with a special focus on increasing capacity for interregional transfers of power between the Eastern and Western interconnections. | DOE

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DOE is also standing up artificial intelligence tools to streamline and accelerate permitting for transmission and other clean energy projects, announced April 29. (See *DOE: AI Critical to US Clean Energy, Grid Modernization Goals.*)

Even more strategically, the release of the preliminary NIETC list comes less than a week before FERC is scheduled to vote on its long-awaited transmission planning rule, which administration officials again stressed is separate from the NIETC program, which may not be directly affected by the decision.

“We’re looking forward to a rule that will ... give people certainty and stronger tools to make sure these projects get built,” John Podesta, White House senior adviser on international climate policy, said at the May 7 briefing. “[FERC] will at the end of the day render their judgment about how far to go in that regard, but I think it’s another important step to ensure we have the ability to cut through the red tape.”

The need for an acceleration of transmission planning and permitting remains pressing. About 2.6 GW of projects, mostly solar, wind

and energy storage, are sitting in RTO and ISO interconnection queues across the country, according to Lawrence Berkeley National Laboratory’s 2024 *Queued Up* report.

To meet President Joe Biden’s 100% clean power goals by 2035, “we need to more than double our current transmission capacity,” Podesta said. “The truth is, if we can’t build critical clean energy projects through a few backyards, then no one will have a backyard.”

The May 8 announcement marks the beginning of the second of four phases of NIETC designation as outlined in the *guidelines* DOE issued in December. In the first phase, which ran from mid-December to early February, DOE gathered input from stakeholders.

The release of the preliminary list kicks off a 45-day comment period, which will run through June 24. Phases 3 and 4 will include a due diligence process and environmental reviews under the National Environmental Policy Act, which could take up to two years.

DOE has yet to state how many NIETCs may be on the final list or when it will be released. ■

**“This program is going to help us build out transmission capacity quickly and efficiently for the people who need it most without compromising on the quality of environmental reviews or community outreach.”**

– Energy Secretary Jennifer Granholm



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## 8 Top 10 Most Read Articles from RTO



# FERC Catches Ketchup Caddy Co. in Another Fake DR Scheme in MISO

By Amanda Durish Cook | Originally Published: 2/22/24

FERC is poised to levy \$27 million in penalties on a Texas-based LLC meant to sell in-car ketchup holders that collected more than \$1 million in undeserved MISO demand response payments.



Philip Mango | Jen Mango

The commission issued a show-cause order Feb. 21 to Ketchup Caddy LLC and CEO and owner Philip Mango, indicating it will assess \$25 million in civil penalties on Ketchup Caddy, \$1.5 million in civil penalties on Mango and order

Mango to disgorge \$506,502, plus interest, in unjust profits for bogus load reductions unless he can offer an explanation (*IN23-14*).

FERC's Office of Enforcement concluded that Ketchup Caddy is a "fraudulent enterprise with no legitimate market activity, registering and clearing demand response resources without their knowledge or consent and collecting capacity payments in turn, without making payments to the registered resources." Enforcement staff said Mango "made no attempt to contract with — or even to contact — legitimate customers, and the purported customers Ketchup Caddy registered with MISO would not have responded if dispatched."

According to enforcement staff, Ketchup Caddy, Mango and co-founder Todd Meinershagen collected more than \$1 million in fraudulent capacity payments beginning with the 2019/20 MISO capacity auction. In doing so, the company denied other MISO suppliers the opportunity to earn more than \$17.6 million because its fraudulent offers suppressed capacity prices in the 2019/20, 2020/21 and 2021/22 MISO Planning Resource Auctions. The company received weekly capacity payments until October 2021, when MISO became aware of the scheme and removed Ketchup Caddy from its capacity market.

Mango admitted to having no intention of enrolling actual customers, FERC staff said, and neither he nor Meinershagen attempted to defend their actions.

Meinershagen already *agreed* to pay more than \$525,000, including interest, for his role in the market manipulation as part of a December 2022 settlement agreement.

Meinershagen, a computer programmer, reportedly used a random number generator on an Ameren website to land on actual customer accounts and "scrape" customer data. Staff said it was Mango's responsibility to contact customers and convince them to participate in a demand response program with zero payout to them and 100% going to Ketchup Caddy. Mango said he never contacted potential demand response customers and never attempted to draft contracts because there was no way customers were going to agree to accept nothing. By early 2019, he had run out of time and fraudulently registered unwitting customers.

"We were accepted in late February and had 48 hours to load customers into the MISO program before it closed," Mango said of his experience registering demand response with MISO.

FERC staff said Ketchup Caddy cleared 211.1 MW in the 2019/20 MISO capacity auction, 303.2 MW in the 2020/21 auction and 372.3 MW in the 2021/22 auction. The commission said Ketchup Caddy's false registrations and offers went under the radar because MISO didn't order curtailment in any of those planning years and only required "mock tests to verify performance."

Mango said he was looking for "essentially free money, no harm to the customer" and told staff that he planned to "[d]o this for just a couple of years, make a bunch of money to put kids through school and do all those things, and no one's hurt. Do it with the least amount of resource possible, the least amount of money invested."

Mango reportedly admitted that his company didn't provide any value to the MISO market and any "reasonable person" would conclude that his actions were illegal. Mango also said he kept Meinershagen in the dark and created a "mirage" to make him believe that Ketchup Caddy was legitimate.

"Upon further reflection, I realize the egregiousness and the error of my ways," he told FERC staff.

Ketchup Caddy's LinkedIn *page* routes to a distributor page for Plexus, a multi level marketing company that deals in dietary supplements. MISO *recognized* Ketchup Caddy as a market participant in late 2018. The Frisco, Texas-based company was originally created by Mango to sell an in-car ketchup holder he

### Why This Matters

In December 2024, FERC ordered Ketchup Caddy and its owner to pay \$27 million in penalties, thus closing the chapter in the three-year scheme. However, MISO's Independent Market Monitor warns there likely are more bad actors staining MISO's demand response participation programs.

invented.

FERC gave Mango 30 days to respond to its order. Mango can choose between a prompt penalty assessment, or he can plead his case at an administrative hearing before an administrative law judge.

This is the third time companies have been caught manipulating MISO's demand response program and collecting unjustified payments, with penalties set to reach several million dollars.

In January, FERC's Office of Enforcement found that an air separation facility in Indiana accepted payments for phantom load reductions. It ordered Northern Indiana Public Service Co. and the U.S. arm of U.K.-based chemical company Linde Inc. to pay \$66.7 million to settle charges it gamed MISO's demand response program. In that case, FERC found that Linde's Calumet Area Pipeline Operations Center in northwest Indiana would operate some equipment in the facility needlessly and vent gases it distilled back into the atmosphere, solely for the purposes of raising its registered baseline electricity use with MISO. (See *FERC Orders \$66.7M in Penalties and Disgorgement on Linde and NIPSCO*.)

Last year, FERC ordered an Arkansas steel mill and Entergy Arkansas to return a \$35 million settlement for the steel mill's yearslong failure to reduce electricity use as a demand response resource. Soon after, MISO's Independent Market Monitor recommended the RTO implement demand response offer floors and attestations of expected levels of energy consumption to ward off similar DR schemes in the future. (See *IMM Presses MISO for New Rules After DR Market Gaming*.) ■

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# DOE Funding 4 Large Tx Projects, Releases National Tx Planning Study

By James Downing | Originally Published: 10/3/24

The Department of Energy on Oct. 2 announced two actions to support the expansion of the transmission grid: investing up to \$1.5 billion in four specific projects around the country and releasing the final National Transmission Planning Study.

The \$1.5 billion investment from the Transmission Facilitation Program was authorized by the Infrastructure Investment and Jobs Act. DOE is giving the money upfront to four projects, which eventually can sell it to actual users, at which point the department will get its money back to use on future transmission projects, Deputy Energy Secretary David Turk said on a call with reporters Oct. 1.

“Like many things about the clean energy transition, building new transmission is extremely challenging, and it’s also extremely urgent,” Turk said.

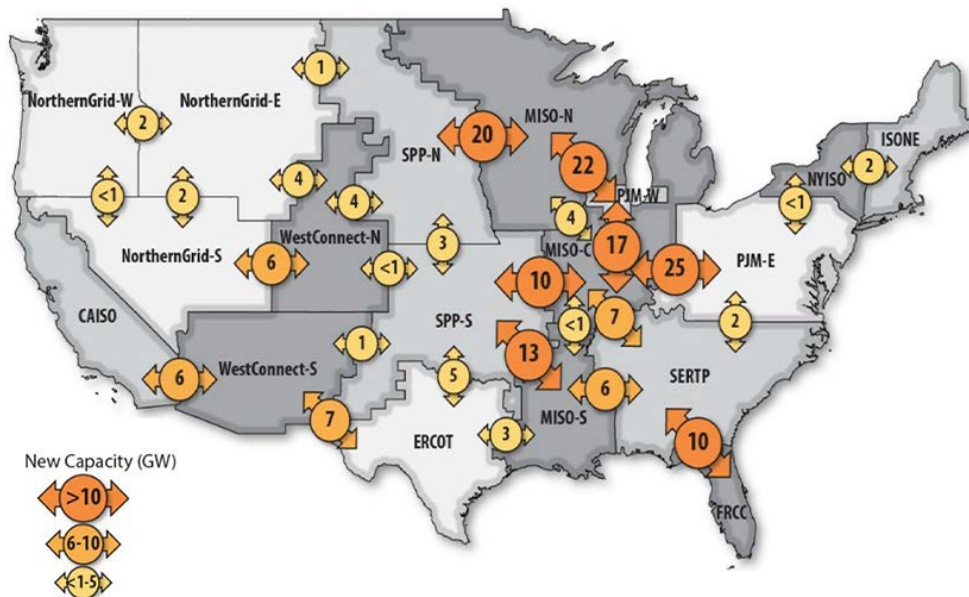
DOE announced the first three lines under the TFP last fall; all three have signed deals with the department, Turk said. In total, the TFP should help build more than 3,000 miles of new transmission by early next decade. (See [DOE to Sign up as Off-taker for 3 Transmission Projects.](#))

Avangrid Network’s Aroostook Renewable Gateway in Northern Maine will negotiate for DOE for funding of up to \$425 million to build out the 111-mile project that seeks to link up to 1,200 MW with ISO-NE. The region lacks direct connections with the rest of New England, and the line would help three mature wind projects connect to the market, with the potential for more wind and solar development.

Invenergy’s Cimarron Link Transmission is

### Why This Matters

The Department of Energy is hoping to help four major transmission projects move forward by serving as a temporary off-taker, while its National Transmission Planning Study promises to be a resource for those interested in expanding interregional transmission.



High Opportunity Transmission (HOT) interfaces represent potentially beneficial transmission capacity expansion between regions. Transmission projects that align with these HOT interfaces could serve as a starting point for accelerated transmission expansion studies.

Where the National Transmission Planning Study found potential high-value interregional transmission | DOE

negotiating for TFP funds of up to \$306 million to build its 400-mile HVDC line running from Oklahoma’s panhandle to Tulsa in the east, opening 1,900 MW of transfer capacity that can deliver wind and solar to load centers.

Pattern Energy’s Southern Spirit Transmission project also is up for negotiations for \$360 million to help get the 320-mile, 525-kV HVDC line that would connect ERCOT to the Southeast. The line can ship up to 3,000 MW of renewables from Texas to the Southeast and can ship power the other way if demand spikes in Texas.

Southern Spirit could better help ERCOT make it through a cold snap, avoiding some of the devastation seen during Winter Storm Uri in 2021, White House National Climate Advisor Ali Zaidi said.

“This buildout is really transformational in breaking down the barrier between ERCOT and the rest of the country, and it feeds into this broader insight that this administration has pushed, which is essentially [that] interregional transmission translates to lower costs for consumers and higher reliability across the system,” Zaidi said.

Southern Spirit has been under development for years, with FERC finding in 2014 that it

would not trigger federal regulation over ERCOT, according to a fact sheet from Pattern.

Phase 2 of Grid United and Black Forest Partners’ joint Southline Transmission Project would add a 108-mile, 345-kV line capable of delivering 1,000 MW of capacity across New Mexico, helping to support electricity delivery in the Southwest. It is up for \$352 million. Southline Phase 1 was in the first set of projects announced last year.

“You need only to look at the recent devastation of Hurricane Helene to know how the climate crisis is already straining our existing grid infrastructure at the precise moment when we need that infrastructure to be larger, stronger and more reliable,” White House Senior Advisor John Podesta said.

### National Transmission Planning Study

The National Transmission Planning Study features a set of long-term planning tools and analyses that examine potential scenarios through 2050, including various interregional transmission expansions.

It shows the highest level of grid reliability can be maintained at the lowest cost by coordinating interregional transmission. The study was developed by the DOE Grid Deployment Of-

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office alongside the National Renewable Energy Laboratory and the Pacific Northwest National Laboratory, who said they want other planners to use it in their efforts.

A substantial expansion of the transmission system throughout the entire contiguous U.S. delivers the largest benefits of up to \$270 billion to \$490 billion through 2050. Every dollar invested in transmission leads to returns of \$1.60 to \$1.80 in system costs saved, the study found.

Being able to coordinate resource adequacy across better connected regions lowers systems costs by \$170 billion to \$380 billion, the study found.

The use of HVDC transmission technologies with multiple terminals — meaning power can be sent bidirectionally and from multiple entry and exit points in regions — was shown to be the most cost-beneficial way to stitch together a macrogrid across the Lower 48.

“When translating zonal scenarios to nodal network models, HVDC was found useful for transferring power over long distances and between interconnections, but AC network

expansion will continue to be the best solution for a large portion of transmission additions,” the study said. “Large interregional HVDC network solutions will also require additional strengthening of the regional AC networks they interconnect.”

DOE has been working on the NTP since 2022. Its goal was to identify pathways that maintain current levels of reliability and saving costs while meeting local, regional and national interests, Grid Deployment Office Director Maria Robinson said on a call with reporters.

“This study goes down to the nodal level, instead of at the zonal/regional level, and that means that this is a tool that utilities can actually use to help them determine what kinds of investments that they might want to make,” Robinson said.

So far, interregional transmission plans have been very limited, with Robinson pointing to MISO and SPP’s Targeted Interconnection Queue Study as a rare example of it actually happening.

“So, this is why we think it’s important to make sure that these tools are available, so that it is

easier for those folks who are looking to do so, and also so that we’re able to use the best-in-class modeling available from the National Laboratories,” she added.

DOE is not going to tell FERC how to do its job, she added. Chair Willie Phillips has said the commission could look at interregional planning in the future, noting that NERC’s interregional transfer capability is due at the end of the year. (See [Webinar Examines How FERC Could Use Interregional Transmission Study](#).)

The department has provided some technical assistance to NERC on its interregional transfer capability study and offered updates to it on what was being developed in the NTP, Robinson said.

“Of course, while doing coordination, it doesn’t mean that the exact thing will happen in both places,” Robinson said. “So, we are really looking forward, as everyone else is, to seeing the ultimate results come out of that study. But a lot of the fundamentals are relatively similar, and it’s just nice to see this greater interest in interregional transfer capacity, understanding that it can be so important in times like right now in extreme weather events.” ■

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# FERC Issues Transmission Rule Without ROFR Changes, Christie's Vote

## Christie Dissents over Lack of State Say over Cost Allocation

By James Downing | Originally Published: 5/13/24

FERC issued Order 1920, its long-awaited final rule on long-term regional transmission planning and cost allocation, during a special meeting May 13, but it could not fulfill hopes for a unanimous vote (RM21-17).

The order requires regional transmission planners, including ISOs and RTOs, to plan at least 20 years ahead of time using multiple scenarios while taking into consideration seven benefits:

- avoided or deferred reliability transmission facilities and aging infrastructure replacement;
- reduced loss-of-load probability or lower planning reserve margins;
- production cost savings;
- lower line losses;
- lower congestion from transmission outages;
- mitigation of extreme weather events and unexpected system conditions; and
- capacity cost benefits from reduced peak energy losses.

Planners will have to give state entities six months to agree on a cost-allocation method, but they also have to propose a default method. They can decide to push through their default method and will not be required to file any alternative states come up with.

That ability to override state desires — plus the

### An Update

FERC on Nov. 21 approved Order 1920-A, which upholds most of the original's changes to rules on transmission planning and cost allocation while giving more consideration to states. Commissioner Mark Christie, who voted against Order 1920 when it was issued in May, joined the majority in issuing the revised order.



FERC Chair Willie Phillips takes questions from reporters after the commission approved Orders 1920 and 1977. | FERC

end of the separate consideration of economic, reliability and public policy lines — led to Commissioner Mark Christie dissenting on the entire order, while Chair Willie Phillips and Commissioner Allison Clements filed a joint concurrence.

“Not everybody is going to get everything that they want,” Phillips said during the meeting. “I don’t even get everything that I want, but that is the nature of these large proceedings and these large rules here at FERC. This rule cannot come fast enough. There is an urgent need to act to ensure the reliability and affordability of our grid. We are at a transformational moment for the electric grid with phenomenal load growth from a domestic manufacturing boom, unprecedented construction of data centers fueling an AI evolution, and ever-expanding electrification.”

The resource mix is at an inflection point with aging infrastructure needing replacement, and a higher incidence of extreme weather has cost consumers billions of dollars over the past decade, he added. Transmission expansion has not kept pace with the changes, falling to an all-time low in 2022, and much of that was “Band-Aid” fixes, Phillips said.

Christie said the Notice of Proposed Rulemaking was a bipartisan deal, but that bipartisanship did not carry forward into the final rule. (See *FERC Issues 1st Proposal out of Transmission*

*Proceeding.*)

In addition to ending public policy as a separate consideration, Christie also criticized the final rule’s requirement that planners consider demand from large corporate customers favoring specific generation types to serve their operations.

“If we’re going to mix reliability projects with public policy projects, and these corporate-driven, preferred purchasing projects, then it’s only fair that state regulators have to have the ability to consent to the planning criteria, and especially the cost allocation in a big, big multistate RTO, like PJM,” Christie said in an interview. “That is absolutely essential. So that’s not in there now. There’s no requirement that states have to consent.”

The NOPR did not spell out what would happen if states cannot come to an agreement, instead asking for comment on the issue. Clements told reporters that the decision to have a federal backstop made sense based on the record.

“We need to have a federally jurisdictional backup if the states don’t come to agreement, and that is why we have a backstop *ex ante* approach,” Clements said. “States don’t have to use it; if they get together in a region and want to do something different — great.”

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The point where state regulators and an RTO might split on cost allocation is not going to occur until after the rule is implemented, she said. “But I wouldn’t suggest it’s a wise approach,” Clements said of regional planners overriding states. “I think transmission providers want this to work as well and are looking forward to working with the states.”

Christie questioned why the majority even voted to let regional planners, including ISO/RTOs and groups of utilities outside them, override state cost-allocation preferences.

“If you don’t think they’d ever do it, then why wouldn’t you agree to give the states the ability to consent?” Christie said. “Because the fact is, they can ignore it.”

Phillips noted that he and Christie knew each other as members of the Mid-Atlantic Conference of Regulatory Utilities Commissioners before they came to FERC. He said he would never support a rule that tramples states’ rights in the planning process.

“There’s a lot that Commissioner Christie said that I simply do not agree with,” Phillips said. “But I do agree with this: The most important job of our commission is reliability. I’ve been saying that since Day 1. So let me be clear now, because this rule is about reliability and affordability: I have complete confidence that it will be legally durable and that it will be upheld.”

Another area where the three commissioners could not agree is whether the rule is reacting to the industry’s realities or actively seeking to drive the grid toward a preferred future.

“It is not our job to do resource planning,” Clements told reporters. “States, private actors — they engage in choosing what kind of resources they want to have. It is the commission’s job to facilitate reliability and affordability of the transmission system in light of the choices that states and other actors are making outside of the agency.”

Christie argued that the rule was being pushed out along with other policies the Biden administration favors. He noted in his dissent that he quotes several press reports linking the transmission rule to efforts to combat climate change.

“What this is doing here is attempting to enact a major policy agenda that has never been passed by Congress,” Christie said. “And that alone makes it a major question. So, it’s a very important point in my dissent that this is not within the authority of FERC under the Federal Power Act.”

The order will go into effect 60 days after its publication in the *Federal Register*. Transmission providers will be required to submit compliance plans for most of the order’s requirements within 10 months of the effective date.

### FERC Pulls Back on ROFR Rollback

One aspect of the NOPR that drew considerable debate was the proposed partial rollback of Order 1000’s elimination of most federal rights of first refusal, which opened regionally planned lines to competition. The commission had proposed establishing a conditional ROFR when a utility works with a partner on a project.

The change was a major priority for utilities and their trade groups, including the Edison Electric Institute and WIREs Group, but it was opposed by competitive transmission developers, consumer groups and the Federal Trade Commission.

The commission required transmission providers to identify opportunities to modify in-kind replacement of existing facilities to increase their transfer capability, known as “right-sizing.” Utilities will get to keep a federal ROFR over such right-sized projects that are in their territories.

### Order 1977 on Backstop Transmission Siting

FERC also issued Order 1977, which implements its new congressionally mandated authority to site transmission lines in a National Interest Electricity Transmission Corridor even when state regulators reject them (RM22-7). All three commissioners supported this order.

The order “includes a Landowner Bill of Rights, codifies an Applicant Code of Conduct as one way for applicants to demonstrate good-faith efforts to engage with landowners in the permitting process, and directs applicants to develop engagement plans for outreach to environmental justice communities and tribes,” FERC said.

The one major change from the proposal was that FERC will not let transmission developers file for its siting approval at the same time as a state is reviewing a line. They will instead have to wait a year.

Many states argued that allowing transmission developers to file at FERC while also pursuing a state certificate would effectively usurp their authority. (See [FERC Backstop Siting Proposal Runs into Opposition from States.](#))

The order will take effect 60 days after its publication in the *Federal Register*.

### Initial Takes

Senate Majority Leader Chuck Schumer (D-N.Y.) held a press conference call while FERC was still meeting to praise the final rule.

“The clean energy incentives included in the Inflation Reduction Act have been a huge success,” Schumer said. “But much of that success would be lost without the ability to bring power from places that generate renewable energy to communities all across the country. A new historic advancement in our transmission policies has been desperately needed, and the rules released by FERC today will go a long way, a very long way to solving that problem. Simply put, these new rules will mean more low-cost, reliable, clean energy for the places that need it most.”

Many proposed bills have been introduced this Congress to address transmission and other permitting issues, with Senate Energy and Natural Resources Committee Chair Joe Manchin (D-W.Va.) and Ranking Member John Barrasso (R-Wyo.) trying to get a deal through to simplify building infrastructure. Schumer said such efforts will be hard to get past a divided Congress this year.

“I’ve told Joe Manchin it’s going to be virtually impossible to get something done,” he said.

For his part, Barrasso blasted “FERC’s partisan vote,” arguing it would only add to electricity’s growing costs.

“Today’s decision will force customers — often in rural states — to pay for new transmission lines even when those lines don’t provide any meaningful benefit to them,” Barrasso said. “It is the Holy Grail for liberal politicians in California and New York and corporate executives who want others to foot the bill for their climate obsession. I have no doubt the cost of energy will be at the top of every voter’s mind later this year.”

House Democrats welcomed the final rule, with Reps. Sean Casten (D-Ill.) and Mike Levin (D-Calif.), co-chairs of the Sustainable Energy and Environment Coalition’s Clean Energy Deployment Task Force, calling it a vital step toward a fully clean economy. Despite Schumer’s doubts, they said they would like to pass additional legislation on transmission — especially their own [Clean Electricity Transmission Acceleration Act](#).

“This rule takes steps towards ensuring our grid is meaningfully planned and the costs of

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the necessary transmission buildout are fairly distributed by those who will benefit from the new capacity," they said in a joint statement. "Americans today are already bearing the costs of an improperly planned grid; transmission planners have thus far not adequately accounted for the new forms of cheap, clean energy that are being deployed on the grid at an accelerating pace. A reliable, affordable and clean grid is only achievable with proper, comprehensive and forward-looking grid planning."

Americans for a Clean Energy Grid praised the rule, saying it ensures the grid will be planned in a proactive and comprehensive way.

"Now, it's time to implement this rule," ACEG Executive Director Christina Hayes said. "Regions must develop their compliance filings over the next few months so that transmission can be planned and developed as soon as practicable. We look forward to working with and supporting the interested parties as they move forward with the next steps in compliance and build out the 21st-century grid."

Advanced Energy United welcomed the rule,

saying it would help lower consumer bills by making a more efficient grid and opening access to cheap power.

"Families and businesses are paying the price for utilities' and grid operators' failure to address our critical electricity infrastructure needs," CEO Heather O'Neill said in a statement. "Building more multistate transmission lines unclogs the traffic jams on America's electricity superhighways and unlocks our ability to keep up with our growing energy needs. This FERC order sends the message that transmission planning needs to change and recognizes that states deserve a central role in ensuring a reliable electric grid built for the future."

EEI was not as enamored as the clean energy trade groups, citing disappointment with the decision not to roll back Order 1000's ROFR provisions, among other issues.

"Additionally, the failure to provide regional flexibilities for evaluating project benefits in the final rule will lead to longer compliance processes and, ultimately, could slow the

development of much needed transmission projects," EEI Vice President of Regulatory Affairs Phil Moeller said in a statement. "A one-size-fits-all approach does not work, as different regions have different needs and different states have different policies."

Environmental groups generally praised the final rule, with Sierra Club Executive Director Ben Jealous saying it "follows the letter of the law" and will save ratepayers money.

"As President Biden's Inflation Reduction Act continues to usher in the clean energy future through deployment of solar, wind and battery storage, this transmission standard will allow utilities to deliver Americans clean, affordable electricity, even in the face of rising demand and extreme weather caused by climate change," Jealous said in a statement. "With the standard now in place, FERC must be vigilant to ensure strong implementation in order to maximize the benefits for reliability and consumers." ■

*K Kaufmann contributed to this report*

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# Study: HVDC Needs Standards to Take off in US

*DNV Working on Developing Standards for HVDC in Effort Expanding to Include DOE*

By James Downing | Originally Published: 9/9/24

HVDC transmission lines can help efficiently connect offshore wind power, meet growing demand onshore and link together the balkanized grid, but before their use can be expanded in the U.S., the OSW industry needs to set some standards, according to a joint company survey.

DNV's HVDC Standards joint industry project (JIP), which finished its first phase in April, was convened to identify deficiencies in standards for HVDC. DNV worked with Atlantic Shores Offshore Wind, EDF Renewables, Equinor, Invenergy, National Grid Ventures, Ocean Winds, PPL TransLink, WindGrid, RWE, Shell

and TotalEnergies.

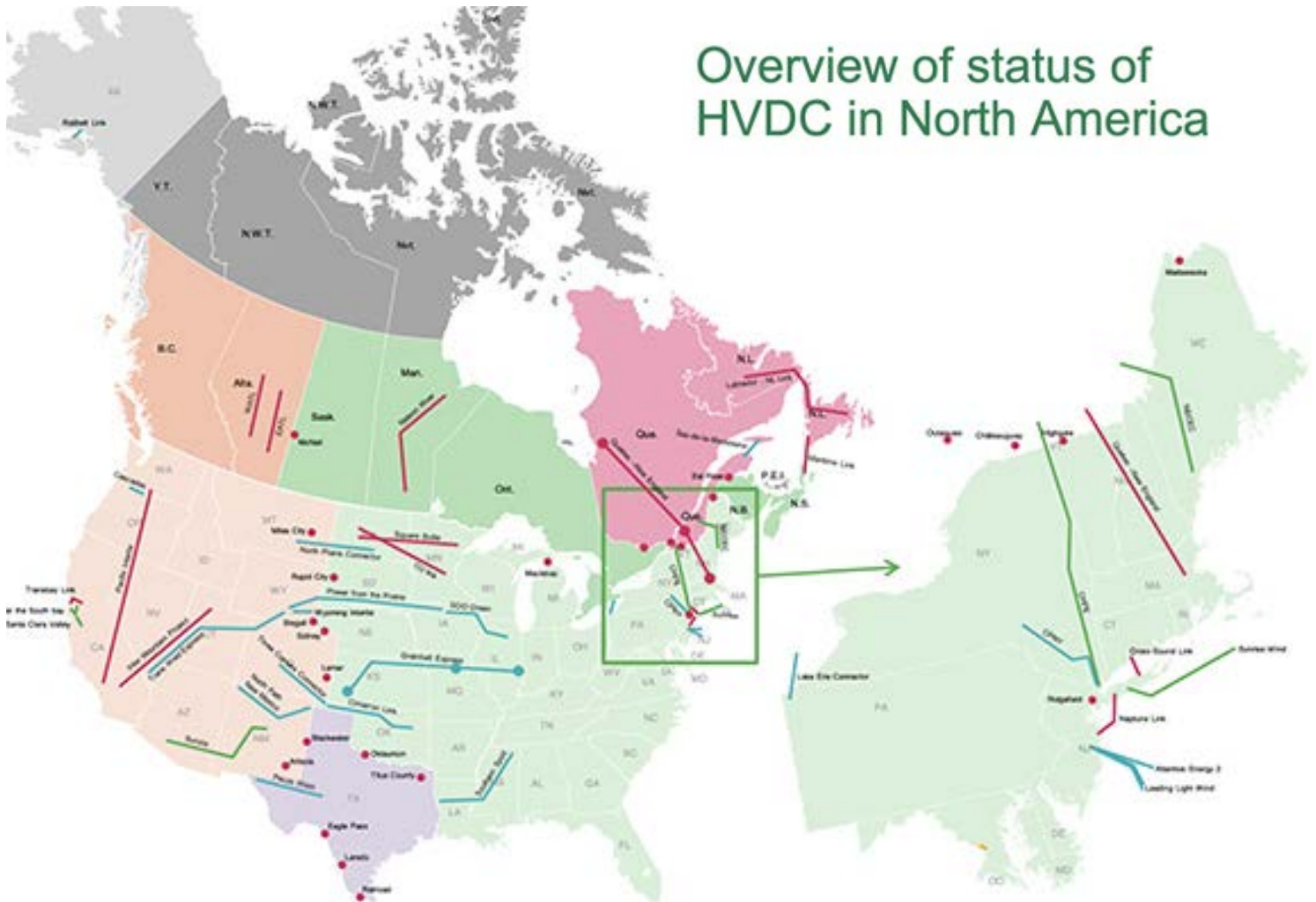
The firm launches JIPs when a need crops up in the industries it covers for firms to come together and work on a common issue. While HVDC lines have been growing in the U.S., the domestic industry and regulators still lack key standards to deal with how the technology impacts the grid, DNV Principal Consultant Morgan Putnam said in an interview.

"If you look at Europe, there's a lot of work that's been done over the last decade to think through the various ways that an HVDC transmission system can operate and the various services that it can provide to the grid," Putnam said. "And in order to be able to enable those

services, you have to define certain aspects of what the system will and will not do, so that you understand how it will impact the rest of the grid. ... We really haven't thought through that for the North American grid."

The AC backbone of the grid has been in place for over a century, so the country has not had to look at basic standards for it in generations, he added.

Putnam said the JIP's work is expanding to a "much larger effort" with the Department of Energy, National Renewable Energy Laboratory, RTOs, utilities and others. DOE will be funding a study process that lasts several years to identify gaps in standards, come up with a



HVDC projects that DNV's Cornelis Plet presented at CIGRE in August. | DNV

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plan to fill them, and then implement that plan and remove barriers to wider use of HVDC.

High-voltage lines operate much better underground or underwater than AC transmission, and the technology offers efficiencies for long-haul overhead lines. Their power density is also higher than AC, meaning more power can flow over less actual infrastructure, DNV Principal Consultant Cornelis Plet said in the interview.

The JIP has identified 25 different standards that need to be defined, including active power control, reactive power control, power recovery requirements, emergency power control and islanded operation.

The standards include issues at the national, regional and local levels. The developers that DNV worked with on the first phase came up with five areas that they want to see addressed the most: offshore design standards, performance standards, reliability standards, ISO/RTO manuals and utility interconnection manuals.

"As we are looking at substantially more HVDC projects going forward, in order to have a more efficient process, we really do want to standardize these 25 functional requirements," Putnam said. "And, so, what we've looked at is in the U.S., there's about 10 of them where there's some partial standardization, and then there's 15 that there's not any coverage at all."

Even the partially completed standards include plenty of work because they often address just one of the three to four likely use cases of HVDC transmission, he added.

Getting all the standards in place in the U.S. will require working with multiple agencies who oversee different aspects of the industry, compared to Europe where one grid code offers some standardization even across different countries, Plet said.

"There are a number of different hierarchical organizations that create rules that transmission providers have to adhere to," Plet said. FERC sets very high-level technical principles; he noted that last year it mandated HVDC as part of the transmission planning process. NERC sets the minimum technical standards for reliability, but Plet noted that many of their rules for HVDC are designed for overhead lines and need updates for subsea and buried cables.

Regional reliability entities have their role to play, as do ISOs and RTOs, which have to come up with ways to handle the technology in their interconnection and operational requirements.

"This is where developers of HVDC links often run into problems because ISOs often don't know how to treat an HVDC line," Plet said. "There's no specific class for it. Is it a generator? Not really, but it sometimes behaves a little bit like one. Is it a transmission line? Also not really, but it does have some of the transmission line functions. So how [do you] distinguish between that and ... create some clear connection requirements for HVDC systems that are not conflicting on both ends of the line? ... And this includes not only how should it be studied, but also how can it participate in the different power markets."

## Why This Matters

The joint industry project has identified 25 different standards that need to be defined, including issues at the national, regional and local levels. Getting all the standards in place in the U.S. will require working with multiple agencies that oversee different aspects of the industry.

One hot topic has been whether an HVDC line designed to ship power from one region to another can participate in the capacity market on the delivery end, he added.

State regulators also have a role to play in that they are ultimately responsible for ensuring that consumers do not pay too much for energy, Plet said. The New Jersey Board of Public Utilities and New York Public Service Commission have mandated the use of HVDC lines for the offshore wind those states have procured, he noted.

Getting the standardization in place is a key hurdle to making HVDC a normal part of system planners' toolbox; Plet argued that the technology will be vital to expanding the transmission system.

"You need HVDC," Plet said. "You will not be able to build out enough new transmission capacity without it." ■

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# Data Centers Bringing 'Massive' Loads to Western Grid

## WECC Sees Load Growth Outpacing New Generation, Despite Projected Buildout

By Elaine Goodman | Originally Published: 8/8/24

Five years ago, load growth from transportation electrification was a major issue for policy makers, according to speakers at a webinar. Now the focus has shifted to data centers.

"Over the last year or so, the data center growth has become one of the major challenges for this industry," said Branden Sudduth, WECC's vice president of reliability planning and performance analysis, who noted the centers can consume as much as 3 GW of energy.

"That's just massive loads that we're not accustomed to seeing come onto the grid," Sudduth said.

The discussion came during a WECC [webinar](#) Aug. 7 on emerging risks to reliability in the West.

In its 2023 Western Assessment of Resource Adequacy, WECC projected that the region's demand would increase 16.8% over the next decade, nearly double the 9.6% growth predicted in its 2022 assessment. The [2023 assessment](#) said the biggest driver of the increased demand is the expansion of data centers, especially in the Northwest.

Data center growth is also expected in other

parts of the Western Interconnection. In its integrated resource plan filed in May, NV Energy said more than 3,000 acres of industrial land had been purchased in Northern Nevada last year for data center development.

In addition to needing large amounts of energy to process data, data centers require significant cooling, which further increases load.

### New Generation Lagging

During the WECC webinar, Sudduth said the data centers can come online as quickly as 18 months, or even sooner if infrastructure is already in place.

"What we know for sure is that generation doesn't get built that quickly," said Kris Raper, WECC's vice president of strategic engagement and external affairs.

Although an increasing amount of generation is being planned each year, much of that is not materializing, Sudduth said.

For example, he said, 14 GW of new energy resources were expected to come online in the Western Interconnection in the first half of 2023. But by the end of 2023, only 55% of those resources had been added.

Projections of new resources for the following two years were even greater: 17 GW in 2024

### Why This Matters

Data centers can consume as much as 3 GW of energy, and come online as quickly as 18 months, or even sooner if infrastructure is in place. Although an increasing amount of generation is planned each year, much of it doesn't materialize. And it takes much longer than 18 months for new generation to come online.

and 28 GW in 2025, said Sudduth, who noted the figures were near-term forecasts for resources close to or in the construction phase.

"We're getting more and more aggressive with the amount of generation that we're expecting to bring online," Sudduth said. "But up to this point, we don't seem to be able to keep up with that aggressive growth."

Sudduth attributed the delays to supply chain issues, which are making it difficult to get equipment such as transformers. And increasing costs are "forcing people to rethink when and if they're going to build certain resources," he said.

One way the generation gap is being filled is through resource retirement delays, Sudduth added.

### EV Concerns

Raper, who noted that data centers had taken over from transportation electrification as a hot topic among policymakers, said both sources of load growth remained on WECC's radar screen.

"We're trying to watch all of it," Raper said. "Because all of the things are going to have an impact on reliability to the grid."

Sudduth said one aspect of EV adoption that makes him nervous is long-haul trucking.

"[Truck drivers] are not going to want to sit around all day and charge their vehicle, and so it's going to require massive amounts of power to get those long-haul trucks charged quickly," he said. "What does that do to load forecasts?" ■



Data centers can come online as quickly as 18 months, potentially adding large loads to the grid, according to WECC. | [H5 Data Centers](#)

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# Report: Small Nuclear Reactors not the Answer

## Researcher Says SMR Proponents Overly Optimistic

By Holden Mann | Originally Published: 5/7/24

In a recent report, a nuclear power expert from George Washington University strongly criticized proponents of nuclear power for presenting what she considered an overly rosy picture of the technology's potential to meet the world's energy needs while ignoring its many reliability and security challenges.

The author of "*New Nuclear Energy: Assessing the National Security Risks*," Sharon Squassoni, is a research professor of international affairs at GWU whose work focuses on reducing risks from nuclear energy and weapons. In a webinar last month, Squassoni said her goal in writing the report was to explore "what risks might arise given the goals of tripling nuclear energy and deploying small modular reactors to do many things in many places."

With increasing awareness of the climate effects of burning fossil fuels, some energy experts have touted nuclear energy as a proven technology for meeting baseload energy needs without emitting carbon dioxide and other pollutants. SMRs have emerged as the centerpiece of "an effort to make nuclear energy more affordable, safe and flexible, and thus more attractive to a broader range of uses and users," the report said.

However, the document pointed out that

despite much effort from the nuclear industry and governments "to make nuclear energy relevant again after decades of stagnation," the actual presence of SMRs on grids "is largely fictional."

While nuclear boosters have held out visions of cheaply built, moveable reactors powering individual towns and military installations while providing numerous other services, Squassoni said there are currently only two operating facilities that actually merit the SMR label. These reactors — China's *HTR-PM plant*, in operation since December 2023, and Russia's "floating nuclear power plant" *Akademik Lomonosov*, launched in 2010 — solve few of traditional nuclear plants' problems and may create new ones, according to the report.

The HTR-PM uses two reactors with a capacity of 100 MWe each, using a "pebble-bed" design incorporating spherical balls of uranium enriched to 8.5% U-235 (compared to the 3 to 5% enrichment typically used in commercial U.S. reactors). It was launched in 2001, based on an existing test reactor, with on-site construction beginning in 2012.

The report noted that the higher enrichment of the reactor's fuel could make it more attractive for use in a nuclear weapon, while the fuel fabrication, storage of spent fuel and reprocessing "will be more challenging to monitor" than in current reactors. In addition,

safeguarding the reactor could be more challenging because it uses on-line refueling, a more complicated process than shutting down the reactor first, and because the spent fuel is stored on site.

*Akademik Lomonosov* comprises two reactors with a capacity of 35 MWe each and was intended to replace a retired nuclear plant and coal plant in the Chukotka region of eastern Russia. The report noted that placing nuclear plants on a barge does solve the issues of "scarce land for nuclear power plants that require large emergency planning zones," but the design is far from flawless. Planners must consider the risks of shipping collisions and tsunamis, along with the potential environmental damage of fuel and waste leaks.

Floating plants are also "open to attack either from the surface of the sea or beneath it," the report said. Pirates and terrorist groups could infiltrate the facilities to steal radioactive material or threaten to damage the plants for financial or political gain.

Additionally, the report warned that "SMRs are unlikely to be built in quantities that will revolutionize nuclear energy" because focusing on large amounts of small reactors means giving up the economies of scale that come with building a single large, centralized plant. The report cited analysis from Princeton University suggesting "700 [small] plants would need



Squassoni said Russia's *Akademik Lomonosov*, a barge housing two small nuclear reactors, is one of only two currently operating commercial reactors that could be considered SMRs. | *Elena Dider*, CC BY-SA 4.0, via *Wikimedia Commons*

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to be produced” to outweigh the benefits of large plants, noting that “this is roughly the total number of commercial nuclear ... reactors ever built.”

### Side Benefits Slow to Emerge

SMR supporters have also proposed that small reactors could provide additional benefits besides electricity, such as residential and industrial heating, desalination, and hydrogen production. The report said that these uses are “neither new nor unique to nuclear energy,” and Squassoni suggested that they would likely not be mentioned if alternatives to nuclear generation for electricity had not recently become available.

“In the past, maybe 10 to 15 years ago, the nuclear power narrative was that nuclear was the only low-carbon baseload generation,” Squassoni said during the webinar. “But what’s happened in the interim is that [renewable energy sources] have captured such a huge part of the market for electricity generation that nuclear now has to tout its ability to multitask.”

This multitasking ability has been touted by the U.S. Department of Energy, and the Electric Power Research Institute floated its *NuIDEA* plan last year that would see multiple microreactors operate at airports, college campuses, hospitals and other facilities to provide a range of services. But the GWU report said efforts to realize these ambitions will “likely be an uphill climb,” noting that in the U.S., only the *Diablo Canyon* reactor in California has provided desalination, and none has ever provided district heating.

“Although there are more than 660 district energy systems operating in the United States, few present the right economics for large nuclear cogeneration plants,” the report said.

### Why This Matters

Some energy experts tout small nuclear reactors as a carbon-free way to meet baseload needs. However, the report claims that despite much effort from the nuclear industry and governments “to make nuclear energy relevant again after decades of stagnation,” the actual presence of SMRs on grids “is largely fictional.”

“Smaller plants sprinkled among population centers might overcome the costs of heat transportation, but technical issues like the availability of large dual-purpose turbines to produce electricity and extract steam at suitable temperatures and pressures may continue to persist.”

### Military Risks Growing

Finally, the report warned about the possibility for SMRs to become military targets.

Russian forces have occupied both the Chernobyl and Zaporizhzhia power plants at different times since they invaded in 2022 and remain in control of Zaporizhzhia as of early May. The head of the International Atomic Energy Agency (IAEA) *recently said* that Russia’s “reckless attacks” have brought the danger of nuclear mishaps “dangerously close.” Such an event would have devastating consequences not only for grid reliability but also for the local environment.

“Cooperation among key states essential to minimize the safety, security and proliferation risks of nuclear energy is at an all-time low,” the report said. “The call to triple nuclear energy coincides with the disintegration of cooperation, the unraveling of norms and the loss of credibility of international institutions that are crucial to the safe and secure operation of nuclear power.”

The report called for the U.S., Russia and China to resume their cooperation in nuclear nonproliferation rather than allowing the current environment to spiral into “great power competition.”

“The United States still wields considerable influence in international fora associated with nuclear energy, nonproliferation and nuclear security, and it should use this influence to ensure that any expansion of nuclear energy does not exacerbate national security risks,” the report said. “But first, it will need to get its own policy house in order.”

### Pushback from Nuclear Community

Several nuclear experts who spoke to *RTO Insider* criticized the report, saying it overstated the risks of SMRs without considering the efforts of the international community to address them.

Madeline Lockhart, a doctoral fellow in nuclear engineering at North Carolina State University, acknowledged that growing the nuclear fleet “will naturally lead to an increase in the associated nuclear security risks.” But she argued that the report’s characterization of these dangers is “not well defined,” and that

policies should address the risks connected to “specific capabilities, facilities, designs, locations and countries” rather than taking an overly broad view.

“Government organizations, National Laboratories and stakeholders are actively engaged with reactor vendors and buyers to address and minimize national security risks before any reactor will be connected to the grid. Often, robust and complex regulations and guidelines contribute to the extended timelines for reactor deployment — but the goal is always the deployment of safe and reliable energy production,” Lockhart said. “While the national security risks must be addressed, the risk associated with the failure to meet a growing global demand for electricity will be devastating.”

Mehdi Sarram, who served as safeguards director of the Atomic Energy Organization of Iran from 1974 to 1979 and later served in DOE and the IAEA, called the report “biased toward a negative view of nuclear energy.” He disputed Squassoni’s claim about the vulnerability of Chernobyl and Zaporizhzhia, saying that the IAEA “has worked with Russia to avoid a possible attack on Ukrainian nuclear plants.”

The report also discounts the boost that technological advances bring to nonproliferation work, according to Angela Di Fulvio, associate professor of nuclear, plasma and radiological engineering at the University of Illinois Urbana-Champaign. Di Fulvio noted that advances in radiation detection systems and other technologies helped the IAEA track the development of China’s nuclear weapons capabilities.

With regard to SMRs, Di Fulvio admitted that deploying such resources may require “a paradigm shift in material accountability” and close collaboration between designers and the IAEA to develop proper safeguards against diversion of nuclear material, particularly in regions of political instability. But she insisted that these risks “can be mitigated effectively” and should not prevent the deployment of needed energy resources.

Paul Dickman, chair of the American Nuclear Society’s External Affairs Committee and formerly with DOE’s National Nuclear Security Administration, focused on the challenge of building large fleets of SMRs, noting that the U.S. lacks manufacturing capacity to produce reactor components on a large scale. He said that rather than looking to SMRs to replace large plants as baseload energy suppliers, they should be used to “fill in gaps where grids are small or to replace smaller coal and oil-based generating stations.” ■



## 4 Top 10 Most Read Articles from ERO



# Regulators Worry Data Centers Consume Too Much Clean Energy

## Webinar Participants Describe Booming Demand Without Enough Resources to go Around

By Elaine Goodman | Originally Published: 10/3/24

The growing trend of pairing power-hungry data centers with clean energy resources is sparking mixed feelings among some regulators.

On the one hand, the planned reopening of Three Mile Island Unit 1 will supply Microsoft with energy through a power purchase agreement. It's also likely to supply some energy to the local grid, helping with decarbonization, according to Maryland Public Service Commissioner Michael Richard, who spoke during a WECC webinar on large loads Oct. 2.

But Richard was more concerned about the Susquehanna nuclear power plant in neighboring Pennsylvania, where Talen Energy wants to amend the interconnection service agreement to send some output to a co-located Amazon Web Services data center rather than to PJM. (See [With Three Mile Island Restart, Debate Continues on Co-located Load in PJM.](#))

Richard also voiced concern about the possibility of data-center co-location at Calvert Cliffs nuclear plant, which he described as “one of those bedrock, in-state assets that we depend on.” Maryland imports about 40% of its electricity, he noted.

“As we drive toward decarbonization and cleaner resources, if we lose what we have, and just end up ... importing and enabling the continued operation of coal plants and other fossil plants, that really doesn't advance some of our goals,” Richard said.

Richard was more enthusiastic about co-location of data centers with potential wind facilities off the Maryland and Delaware coasts, where he said the centers could help make the economics of offshore wind work.

### Why This Matters

With the drive toward decarbonization, the competition for clean resources from large loads like data centers could lead to the continued operation of coal plants and other fossil plants to fulfill other demand.



Co-location of data centers with zero-emissions energy resources such as the Susquehanna nuclear power plant was discussed during a WECC webinar. | Talen Energy

### Resource Shortage

The [webinar](#) was part of WECC's “Reliability in the West” discussion series. The focus of the Oct. 2 session was “large load experiences.”

Kris Raper, WECC's vice president of external affairs, said the discussion had hit on a challenge that the West, and perhaps the entire nation, is facing.

“We don't have enough resources to meet what is already going on,” Raper said, pointing to electrification and efforts to bring clean resources to the grid.

Webinar panelist Glenda Oskar, an economist in the Department of Energy's Office of Policy, said DOE is looking at ways to help new data centers. One possible approach is siting data centers at retired coal plant locations, where existing infrastructure could be used.

DOE also wants to aid in the commercialization of “clean, firm technologies” that could benefit data centers, Oskar said. Those include next-generation geothermal, advanced nuclear and long-duration storage.

Webinar panelist Travis Metcalfe, energy projects manager at Amazon Web Services, said not all data centers are the same.

At some centers, customers might simply be looking for a place to back up their data once a day without using much energy.

“Then you have ... AI and machine-learning models, which might be using enormous amounts of electricity,” Metcalfe said.

### Back-up Generation

Even though Northern Virginia, the world's largest data center market, is just across the Potomac River from Maryland, Richard said he didn't encounter data center issues at the Maryland PSC until recently.

In 2023, a data center developer filed for an exemption from the PSC's certificate of public convenience and necessity (CPCN) requirement for 168 backup diesel generators totaling 504 MW.

Initially, the commission rejected the request. But recognizing the state goal of promoting data center development, the commission later approved a waiver for 25 generators totaling about 70 MW — enough for the first phase of the project, Richard said.

The issue then ended up before the Maryland legislature. A bill requested by the governor ([SB 474/HB 579](#)) was introduced this year to remove the CPCN requirement for backup power at “critical facilities,” which include hospitals, health care facilities and data centers.

The legislature passed the bill, which took effect July 1. ■

## 5 Top 10 Most Read Articles from ERO



# Renewable Developers Oppose Proposed ERCOT IBR Rule

## Change Would Impose Voltage Ride-through Requirements on Inverter-based Resources

By Tom Kleckner | Originally Published: 6/11/24

Several renewable energy developers have indicated they will oppose ERCOT stakeholders' approval of a controversial rule change for inverter-based resources (IBRs) when the issue goes to a vote before the Board of Directors later this month.

Invenery Energy Management, NextEra Energy Resources, Southern Power, Avangrid Renewables and Clearway Renew — the *ad hoc* “joint commenters” who have argued against the change — on June 10 filed a *recommendation to oppose*, urging the board to reject the revision to the Nodal Operating Guide (NOGRR245) during its June 17-18 meetings.

ERCOT's Technical Advisory Committee endorsed the rule change June 7 after months of trading and reviewing comments with staff. It would impose voltage ride-through requirements on IBRs, aligning ERCOT's protocols



Goff Consulting's Eric Goff has represented the joint commenters' interest during the NOGRR245 conversation. | © RTO Insider LLC

with NERC reliability guidelines and the most relevant parts of the Institute of Electrical and Electronics Engineers' *standard* for IBRs interconnecting with the grid. (See *ERCOT TAC Endorses Rule for Inverter-based Resources*.)

The committee inserted gray-box language with potential modifications that wouldn't become effective until March 2025. The language would enable entities to meet the applicable ride-through requirements when they have not yet added a “technically feasible” change. The revisions are aimed at those entities for which upgrade costs are less than 40% of the full, in-kind replacement cost of a plant's inverters or turbines and converters.

The joint commenters agreed there is a sense of urgency to impose the standards and make them effective for IBRs. However, they urged the board to ensure that the ride-through standards “do not have the unintended consequences of harming reliability by eliminating existing generation and harming future investment in infrastructure in the ERCOT market.”

The commenters said TAC attempted to defer issues around hardware changes by placing them in the gray-box language, but that the action did not accomplish anything.

“The gray box simply indicates that hardware changes contemplated by ERCOT would be required unless a new NOGRR modifies such requirement before the gray box becomes effective,” the commenters wrote. They asked that the language be deleted and that required hardware modifications for existing IBRs be bifurcated from the NOGRR and addressed after further study of the reliability need for the requirements.

NOGRR245's TAC-approved version has “fatal flaws,” they said. “It imposes arbitrary costs on existing generation [IBRs] and unlawfully gives ERCOT ... authority to indefinitely shutter existing operational IBRs.”

### ‘Unresolved Issues’

“While I appreciate that both the joint commenters and TAC wanted to decouple hardware changes from everything else, there are still a lot of unresolved issues,” Eric Goff, representing the commenters, said in an email to *RTO Insider*.

During the June 7 conference call, Goff recommended that TAC members vote against the motion. He said that while the main intention is

### Why This Matters

The long-delayed and now-bifurcated rule change that imposes voltage ride-through requirements on inverter-based resources was partly approved in August 2024, but much work remains to hammer out a final agreement on its decoupled section.

in “good spirit,” the six to nine months allowed to work on hardware issues won't solve any problems.

“That's due to the [Public Utility Commission of Texas] procedural rules,” he told TAC. “If the joint commenters believe that the proposals here are not lawful or bad policy, we have 35 days to appeal an ERCOT action. We would be forced to appeal this or lose the right to appeal it, so it would result in this issue not getting six to nine months of time in the ERCOT stakeholder process, but rather in a contested case with the commission.”

Goff also said the NOGRR includes “inappropriate” changes to technical requirements that have yet to be approved.

The joint commenters face long odds in seeing the board reject NOGRR245. ENGIE's Bob Helton pointed out during the TAC call that striking the gray-box language would lose ERCOT's support for the change.

“I would assume that means [ERCOT] is going to challenge that at the board. I've got a pretty good idea of where we would end up. ... The board would likely go with ERCOT on the appeal,” Helton said.

The ERCOT board remanded the NOGRR back to TAC in April, directing that the language — approved by the committee over staff's objections — be modified to address staff's reliability concerns. (See *ERCOT Board of Directors Briefs: April 22-23, 2024*.)

A pair of IBR-related voltage disturbances in West Texas in 2021 and 2022, dubbed the “Odessa disturbances,” added urgency to eventually passing the measures. (See *NERC Repeats IBR Warnings After Second Odessa Event*.) ■

# 1 Top 10 Most Read Articles from NetZero

## Maryland: The State Where ‘Transmission Has Come to Die’ Clean Energy Roundtable Tackles How State Can Get More Generation, Tx Online

By K Kaufmann | Originally Published: 10/10/24

COLLEGE PARK, Md. — Maryland consumes five times more electricity than it generates, has limited access to transmission in the central and eastern parts of the state and at present has only six projects totaling 1,245 MW in PJM’s interconnection queue.

“Maryland, as many of you know, has been a state where transmission has come to die,” said Jason Stanek, executive director of governmental services at PJM, in his opening remarks as moderator for a grid reliability roundtable at the Maryland Clean Energy Summit on Oct. 7.

A former chair of the Maryland Public Service Commission, Stanek provided an overview of the state’s dilemma as it seeks to cut its greenhouse gas emissions 60% below 2006 levels by 2031 and decarbonize its power grid by 2035, all while attracting new business, including megawatt-guzzling data centers.

PJM estimates data centers will grow from 4% of Maryland’s power demand in 2024 to 12% in 2029 and 16% in 2039, but Stanek cautioned those numbers could be conservative, and the RTO revises the projections every

year. At present, new generation coming online in Maryland is being outpaced by retirements by about 10 to one, he said.

“Last year, Maryland held an unenviable position of needing to import [power] every single hour of every single day,” he said.

Facing each other across tables running along three sides of the meeting room, participants ranged from state lawmakers to offshore wind developers and other industry experts, each with different perspectives on the state’s challenges and possible solutions, both short and long term.

Del. Lorig Charkoudian (D) talked up a bill she hopes to introduce in Maryland’s General Assembly in January, aimed at accelerating the permitting process for energy storage and other distributed energy resources coming onto Maryland’s distribution system, outside of PJM’s jurisdiction.

“I think that PJM doesn’t do the job it needs to be doing on transmission planning, and I think that our hands are tied, and so ... I have finally just given up and put [planning provisions] into this bill,” Charkoudian said.

### Why This Matters

Maryland desperately needs new generation and new transmission but has no plan for how to get both online. The search for solutions could provide new models for other states dealing with similar challenges.

An outline of the bill is being circulated for input from stakeholders but has been informally dubbed “Build Stuff in Maryland,” she said. “The idea is, what can we do fastest? And the thing we can do fastest is distribution utilities can put storage on the distribution grid; so, medium size ... 1,2,3 MW at substations, and that can be done at a pretty quick scale to respond to some of the immediate [reliability] problems, assuming storage is treated fairly in capacity markets.”

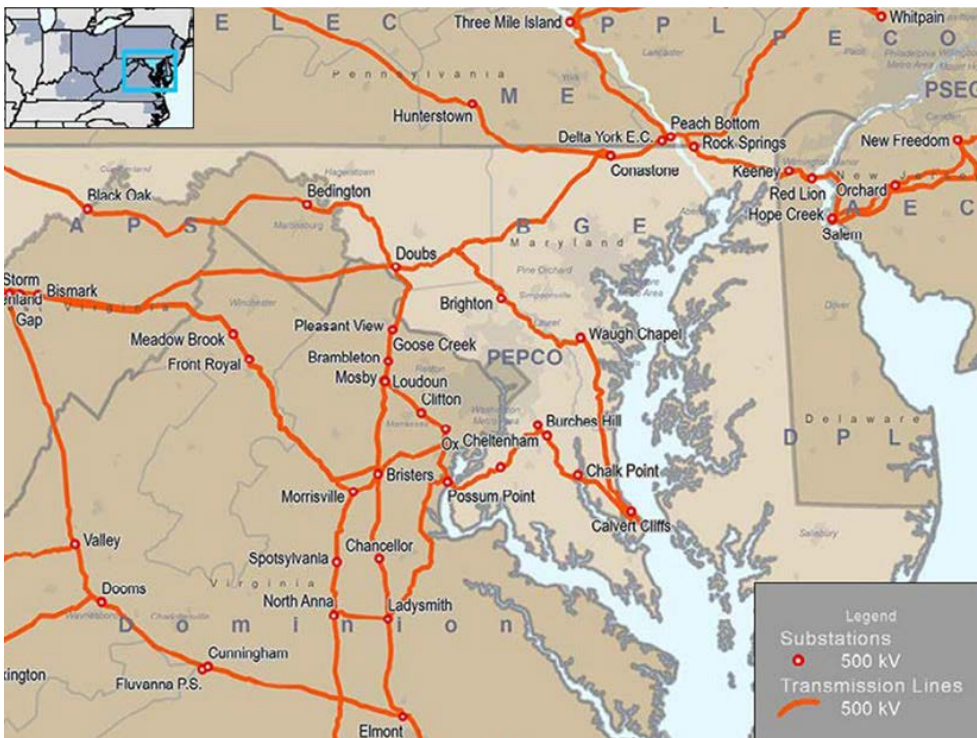
While not on the bulk transmission system, these projects could “address our resource adequacy problems fairly quickly,” she said.

Stanek and others pointed to FERC’s recently passed *Order 1920*, which aims to provide a new, more comprehensive framework for RTO and ISO transmission planning, for example, calling on the grid operators to consider grid-enhancing technologies, such as advanced conductors, that can increase capacity on existing lines.

David Townley, public policy director at CTC Global, an advanced conductor manufacturer, argued that waiting for much-needed transmission to be built can take years, triggering additional risks as new generation comes online. “By the time you get the line built, you may be in a congestion point; it may not be the solution anymore,” Townley said. “Take steps you can take now to open up those capacities ... because the lines are loading up and changing.”

Abe Silverman, assistant research scholar at the Ralph O’Connor Sustainable Energy Institute at Johns Hopkins University, cautioned that full implementation of 1920 is still five years away but that states now should be codifying their goals and policies for clean energy and grid planning.

“That will help a lot,” said Silverman, who



Maryland’s high-voltage transmission system: Access to high-voltage lines is limited in the central and eastern parts of the state, which has to import about five times more power than it generates. | PJM

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previously was general counsel and executive policy counsel for the New Jersey Board of Public Utilities (BPU). “So, the more you can put on paper and hand to PJM [and] say, ‘These are our goals,’ the stronger that 1920 planning process will be.”

States like Maryland should encourage their neighbors in the PJM service territory to “codify their rules in a comparable manner.” Then they present PJM with a “comprehensive action plan” as part of the 1920 process, he said.

## State of the Grid

Stanek was quizzed on PJM’s request to FERC for a rehearing of 1920, one of many the commission has received and is considering.

PJM found the 1,363-page ruling “overly restrictive for a footprint as diverse and wide, serving 65 million customers,” he said. “So, the purpose of the request for rehearing was to preserve our right to inform FERC that we think there should be more flexibility in how PJM complies” with the rule.

“Otherwise, this final rule is effectively one-size-fits-all,” Stanek said. At the same time, PJM is moving ahead to comply with the timelines set out in the rule, he said.

Stanek’s opening presentation zeroed in on the key challenges for transmission planning in Maryland.

The state’s generation mix is 42.8% natural gas and 42.9% nuclear, with coal and hydro providing about 5% each, and wind and “other” accounting for a final 4.3%.

But what’s in PJM’s interconnection queue for the state is 54% energy storage, 44% solar, 1% wind and less than 1% natural gas and hydro. In addition to the six projects awaiting interconnection agreements, Maryland has 35 projects totaling 1,338 MW that have agreements but have yet to be built.

The state is one of a handful that does not have an overarching, holistic plan for infrastructure development to help guide the transition to clean energy — as opposed to the *GHG emission reduction plan* the Maryland Department of the Environment issued at the end of 2023 — Stanek said.

Further, Maryland’s offshore wind projects are not included in the state’s interconnection queue because they will be coming onshore in Delaware before connecting to the PJM grid, Stanek said.

The U.S. Bureau of Ocean Energy Management recently *approved* the Maryland Offshore



The Grid Reliability Roundtable at the Maryland Clean Energy Summit. | © RTO Insider LLC

Wind Project, which includes two separate sites totaling up to 2 GW of power. Maryland’s other major offshore wind project, Ørsted’s Skipjack 1 and 2, has been on hold since the company *backed out* of its offtake agreement with the state in January. The company has said it would “reposition” the project for future offtake agreements.

For PJM, Stanek said, the short-term solution for Maryland is, first, to ensure no shutdowns of existing baseload generation — coal, natural gas or nuclear — until the necessary transmission is in place to handle the new carbon-free generation in the queue.

The RTO intervened in the planned closure of the Brandon Shores coal-fired power plant in 2025, citing a potential for up to 600 reliability violations in Maryland, Delaware, Pennsylvania and Virginia to keep the 1,283-MW plant online via a reliability-must-run agreement with its owner, Talen Energy.

Stanek said Maryland also should accelerate permitting and siting of new generation, but cautioned getting new projects online could be complicated by Maryland’s profile as a high-risk state for utility investors in rankings from S&P Commodity Insights. In S&P’s most recent evaluation, the state was placed in the bottom of nine possible rankings, meaning it has the highest regulatory risk for investors, said Lillian Frederico, the company’s energy

research director.

Frederico stressed that the rankings are not intended to evaluate whether state utility regulators are doing a good job, how they are implementing state policies or if those policies are “good, bad or indifferent.” Rather, S&P looks at regulatory decisions in rate cases and other actions, based on “the comparative level of risk for investors” and for the returns on the money they invest in utilities, she said.

Maryland’s ranking has been affected by the new commissioners on the PSC, in particular, Gov. Wes Moore’s appointment of former consumer advocate Frederick H. Hoover as commission chair. Moore (D) also named Bonnie Suchman and former state Del. Kumar P. Barve (D) to the commission.

“Just the fact that these are different people appointed by a different governor with a different political agenda, there’s some concern that there could be shifts in policy that may or may not be favorable,” she said. “When you have uncertainty, uncertainty equals risk.”

## Transmission as Common Ground

While it may not be a direct result of rankings like S&P’s, Maryland has significantly fewer projects in PJM’s interconnection queue than its neighbors, including Pennsylvania (91), Virginia (107) and even West Virginia (14).

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Beyond the six projects awaiting interconnection agreements, Maryland also has 35 projects totaling 1,338 MW that have agreements but have yet to be built.

Adding to investor perceptions of uncertainty, Stanek said the state has a spotty track record on permitting new transmission projects. The latest, the proposed Piedmont Reliability Project, a new 500-kV line stretching 70 miles over three counties, already is stirring the kind of local reaction — “quick and largely fierce” — that has stalled past projects, he said.

While not confined to Maryland, “NIMBYism is clear,” Stanek said. “Nobody wants a transmission project in their backyard.”

PJM awarded the Public Service Enterprise Group the contract for the line as part of its Regional Transmission Expansion Plan (RTEP) portfolio of projects costing about \$5 billion, in a process the Maryland Office of People’s Counsel has *criticized* as not providing enough time for local review and input.

Charkoudian also argued that PJM’s planning

process for the RTEP has not considered offshore wind development on the Atlantic Coast.

“We’re bringing massive amounts of generation onto the Eastern Shore, high-capacity offshore wind, which has the same capacity as some of the gas plants that are being defended and supported and we’re being begged to keep online,” she said. “And there’s not a planning mechanism. It is essentially ... a problem for the developers or the states who want to subsidize that offshore wind to figure out how to get [it] onshore.”

Both Charkoudian and state Sen. Brian Feldman (D), chair of the Senate Education, Energy and Environment Committee, promised new initiatives on siting and permitting in the upcoming legislative session. For solar projects that have stalled out while in the PJM queue, Charkoudian’s bill could include new incentives and could push for better planning of offshore transmission so that it will “solve Maryland load issues,” she said.

Another possibility could be for Maryland to consider a state agreement approach (SAA)

with PJM, similar to New Jersey’s, to provide the kind of long-term, integrated transmission planning the state needs for offshore wind, Charkoudian said.

Silverman, who was at the New Jersey BPU during the SAA negotiations, said it took four years and extensive coordination between regulators and the legislature to come up with the mix of laws and regulatory actions needed to move the initiative forward.

He again stressed the importance of regional collaboration and how the need for expanded transmission could provide common ground for states with differing policies on clean energy and grid decarbonization.

“One of the things I spend a lot of time doing is talking to states across the political spectrum,” Silverman said. “We may not agree on the benefits of offshore wind, but I think what we can agree on is, if there’s a transmission facility that reduces consumer costs in your state, you should be for it. If it’s going to improve reliability, you should be for it, and most transmission lines meet those criteria.” ■

## ENERGIZING TESTIMONIALS



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## 2 Top 10 Most Read Articles from NetZero



# With Three Mile Island Restart, Debate Continues on Co-located Load in PJM

By Devin Leith-Yessian | Originally Published: 8/24/24

Data centers and other concentrated electric consumers are increasingly seeking to purchase their power directly through nuclear generators in PJM, raising concerns among state regulators, consumer advocates and utilities that they may be able to skirt paying their fair share.

Five years after shuttering, Three Mile Island Unit 1 is being resurrected as the Crane Clean Energy Center (CCEC) to supply Microsoft with energy through a power purchase agreement, while Talen Energy is seeking to amend the interconnection service agreement (ISA) for its Susquehanna Nuclear Plant to reduce its output to PJM and instead supply a co-located data center sold to Amazon Web Services. (See [Constellation to Reopen, Rename Three Mile Island Unit 1](#) and [Talen Energy Deal with Data Center Leads to Cost Shifting Debate at FERC.](#))

The latter has drawn protests from Exelon, American Electric Power and the Pennsylvania Public Utility Commission arguing that more information is needed about how the configuration may affect the grid and whether it will benefit from ancillary services, such as black start and regulation, without being assessed

proper transmission fees.

During a Sept. 24 hearing on co-located load held by the Maryland Public Service Commission, FirstEnergy Chief Risk Officer Abigail Phillips said nuclear generation can help meet a resource adequacy gap identified in 2029, with load forecasts driven by data centers and thermal resource deactivations outpacing development in PJM.

“Right now it doesn’t seem like the capacity markets are paying for those capital costs of generation, and the price signals that PJM talked about this morning are increasing the prices, but in the past auction, no new dispatchable generation is going to come online,” she said. “So how long is it going to take to make those price signals work, and how long are we willing to wait and depend on that before we need to do something to get new generation on in Maryland and the rest of PJM?”

Data center developers could be choosing to co-locate with dependable generators out of a concern that the PJM grid may not offer the same security it traditionally has, Phillips said, which underscores the need to determine how to ensure adequate capacity. Additional nuclear generation could hold the promise to meeting resource adequacy needs and climate

goals at once, she said.

“Nuclear is getting back into the conversation as a part of a zero-carbon solution. I know Maryland has clean energy goals, and I think that having nuclear back in the game is going to be helpful with achieving long-term capacity and long-term goals, not only for Maryland, but for PJM and the country,” Phillips said.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, drew a distinction between the CCEC and co-located load requests, saying that most advocates are supportive of bringing new nuclear generation online as the balance between supply and demand grows increasingly tight in PJM. Whereas the CCEC will bring about 835 MW of new generation online to serve existing load, he said co-location may be taking generation out of the markets to serve load not considered part of the grid and exempt from service charges.

Where Poulos does see common ground between the CCEC PPA and co-located load configurations is the potential for major market impacts caused by the addition of large data centers, whether they are in or out of PJM’s market.



Talen Energy's Susquehanna Nuclear Power Station | [Jakec](#), CC BY-SA 4.0, via [Wikimedia Commons](#)

## 2 Top 10 Most Read Articles from NetZero



He stressed that consumer advocates are supportive of the economic development that data centers promise the states they locate within, so long as there are rules to ensure that they pay their fair share for any services they consume or grid impacts they prompt. Co-location could also push transmission costs lower by reducing the need for new lines, he said.

Advocates are also concerned about market power, Poulos said, with the potential for generation owners with a broad portfolio within a tight zone having the ability to pick a resource to take out of the market and push energy and capacity prices higher. Generators could contract with a data center to provide power well below the regional clearing price, knowing that other resources in their portfolio will clear at a higher price. Co-located configurations have the potential to distort price signals even without market manipulation by removing large volumes of load and generation from a zone, he said.

“The market is supposed to provide the appropriate price signal, but if you have this other massive load being served in the same area offline, so to speak, it could impact the price signals. It could make them not accurate so the price signals aren’t reasonable in the market and for consumers,” Poulos said.

PJM stakeholders had considered several proposals to change the market rules for co-located configurations last year, but none of them received majority support, and the topic was dropped. Poulos said it’s unlikely stakeholders will be able to make progress while FERC and state commissions are looking at the topic, and it will likely have to be FERC that makes the first move on the broad legal and jurisdictional questions. (See “Proposed Rules for Generation with Co-located Load Rejected,” *PJM MRC Briefs: Oct. 25, 2023.*)

The RTO issued guidance around co-located configurations recommending that parties receive firm transmission service while stating that it does not have the authority to prevent private contracts between generators and load seeking to co-locate off the grid. (See “Additional Guidance on Co-located Load,” *PJM MRC Briefs: April 25, 2024.*)

During the PSC hearing, Aftab Khan, PJM’s executive vice president of operations, planning and security, said the RTO has requests to study about 8 GW of co-located load configurations, mostly to serve data centers, crypto-mining and hydrogen production. When such requests are received, he said PJM conducts the “necessary studies” to ensure there is no

adverse impact to the grid. Any required transmission upgrades to support the configuration are identified and must be implemented at the cost of the generator before the co-located load can come online.

He said PJM considers non-network load co-located with interconnected generators to also be electrically connected to the RTO’s grid and benefiting from ancillary services, but it has no way of assessing fees.

“Under any configuration, co-located load is electrically connected and synchronized to the PJM system when consuming power and therefore benefits from the use of the transmission system and ancillary services, such as black start and regulation services,” Khan said. “PJM network load accounts for such services, but there are no transmission or ancillary service charges to the off-system load. PJM previously tried to address this with proposed rule changes for ancillary services, but the proposal did not achieve the consensus of the PJM members.”

Independent Market Monitor Joe Bowring also said the load is part of PJM’s grid and the broad impact should be holistically studied to identify impacts, rather than examined through amendments to generators’ ISAs.

“All load, including co-located load, is on the grid, affects the grid and benefits from the grid,” Bowring said. “As a result, decisions about co-located load affect all customers.”

Bowring said the Monitor’s analysis of co-location configurations did not find a substantial difference between cost allocation to consumers regardless of whether the load is considered part of PJM’s network or if the large load additions were made miles away from the generator. Instead, he said the underlying issue is how PJM identifies and studies large consumers.

“It’s not just a question of co-located load; it’s a question about load in general. ... What that illustrates and emphasizes is that the analysis has to be done carefully,” he said.

Phillips told the PSC that it’s critical that the consequences of allowing generators to take their output off the market to serve non-network load is fully understood, both in terms of costs and reliability.

“Any reduction in dispatchable, on-demand generation that’s available to serve residential customers should be analyzed before we make any changes to policy or regulation. We have to really understand when you co-locate and what that does to capacity, both short term and long term, how does that trickle down into

### Why This Matters

Data center developers could be choosing to co-locate with dependable generators out of a concern the grid may not offer adequate security. More nuclear generation theoretically could help meet resource adequacy needs and climate goals at once.

who’s paying for it, who gets the benefit, and we have to make sure it’s not only cost affordable, but [also] we maintain that reliability,” she said.

In a *white paper* published Sept. 23, Tony Clark, former FERC commissioner and senior adviser at Wilkinson Barker Knauer, and Vincent Duane, principal at Copper Monarch and former senior vice president of law, compliance and external relations at PJM, argue that allowing data centers to co-locate with nuclear generators allows them to avoid lengthy waiting periods while transmission upgrades necessary to accommodate their load are planned and built. But it can also alter power flows to require network upgrades before other networked loads can interconnect. They call for a cost allocation methodology that recognizes the benefits co-located load and generators receive from being part of the grid.

“We would not advocate assigning to the co-locating generator the full cost impact of its withdrawal (as is done under the ‘but for’ test for new interconnections),” they wrote. “Nevertheless, the underlying principle — rooted in cost causation — offers a path to assign to the co-location arrangement its share of these cost impacts, thus restoring them to the position they would be in had they connected in the traditional manner.”

Clark and Duane raise similar concerns about cost allocation for ancillary services and note that nuclear units receive public benefits, such as tax credits, grants and accelerated depreciation from the federal government and states. They argue that makes it especially questionable to allow units to leave RTO markets to serve private load.

“From this perspective, nuclear generation is uniquely imbued with the public interest, making it unsettling if not unseemly for units, once the first data center comes knocking, to pull up stakes and desert customers that for decades have had their back,” they wrote. ■

## 3 Top 10 Most Read Articles from NetZero



# NYISO Reveals Bids in NYC Offshore Transmission Solicitation

By Vincent Gabrielle | Originally Published: 6/25/24

NYISO last month received four bids in response to its Public Policy Transmission Need solicitation to deliver up to 8 GW of offshore wind power to New York City.

Each developer proposed multiple options, differing by size, number of offshore platforms and HVDC cables, or interconnection points. They are:

- energyRE Giga-Projects USA, with three options for its Clean Borough Power Link;
- Viridon New York, with three options for its Liberty Link;
- New York Transco, with 10 options for its Energy Link New York; and
- the New York Power Authority and LS Power, with 12 options for its Five Boro Energy Connect.

Most project options propose to connect to Consolidated Edison's Brooklyn Clean Energy Hub, expected to be completed in 2028. But many others propose to interconnect via DC-to-AC converter stations that have not yet been approved.

NYISO issued its solicitation in response to an order by the New York Public Service Commission in June 2023. The PSC mandated that projects accommodate at least 4,770 MW of offshore wind, with options to expand up to 8 GW. (See [New York PSC Calls for More Transmission for Long Island OSW](#).)

Viridon and energyRE proposed in-service dates of December 2032 for all of their proposals, while NY Transco proposed January 2033. NYPA and LS Power's proposed dates vary by option, with the earliest being September 2032 and latest December 2033.

New York's Climate Leadership and Community Protection Act calls for 9 GW of offshore wind by 2035. The state's — as well as the U.S.

### What's Next

NYISO is conducting a viability and sufficiency analysis on all the proposals. The Board of Directors is scheduled to select a proposal in the second quarter of 2025.

— first utility-scale project, the 130-MW South Fork Wind Farm, began operating in March. The 924-MW Sunrise Wind project received federal approval last month. (See [Sunrise Wind Cleared to Begin Construction](#).)

"The investment in transmission is needed so that we are prepared for the future state," said Susan Craig, spokesperson for NYPA. "The expectation is that generation sources will be there to connect."

NYISO will conduct a viability and sufficiency analysis on all the proposals that is expected to conclude in the fourth quarter. The Board of Directors will select a proposal in the second quarter of 2025.

Craig compared the Five Boro project to Propel New York Energy, which included the construction of new underground transmission lines and substations. Developed by NYPA and NY Transco, Propel was selected by NYISO's solicitation in June 2023 to meet the PSC's order for projects to connect up to 3 GW to Long Island. (See [NYISO Selects Propel Project for Long Island Transmission](#).)

"New transmission is essential for the reliable deployment of offshore wind, and energyRe is ready to modernize New York's electric grid in support of the state's clean energy goals," company COO Ryan Brown said in a [statement](#).

"As New York develops more renewables, we will need the necessary transmission to carry that clean energy to homes. Energy Link NY is the best project for the job," said Will Hazelip, vice chair of NY Transco's board and president of National Grid Ventures.

"LS Power's joint proposals with NYPA will deliver state-of-the-art transmission solutions that provide New York City with more renewable generation to integrate into the electric grid and increased reliability to meet power demand, while also minimizing environmental impacts," LS Power CEO Paul Segal [said](#). ■



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# Québec, New England See Shifting Role for Canadian Hydropower

By Jon Lamson | Originally Published: 2/25/24

With the days of endless cheap hydropower in Québec coming to an end, and the Northeastern U.S. hoping to rapidly scale up intermittent renewables, the two regions may be forced to fundamentally reconsider the role of hydropower on the grid.

Power has historically flowed south, and just a decade ago, government-owned corporation Hydro-Québec actively sought two contracts to send large quantities of power to the U.S. It eventually reached deals with Massachusetts and New York that led to a pair of major new transmission projects: the 1,200-MW New England Clean Energy Connect (NECEC) and the 1,250-MW Champlain Hudson Power Express (CHPE).

NECEC and CHPE are aiming to be in service by 2025 and 2026, respectively, and are tied to long-term supply contracts that will ensure that baseload power will flow from Québec to the Northeast well into the 2040s.

At the same time, increasing power demand in Québec has forced Hydro-Québec to re-evaluate the role of hydropower going forward while spurring *concerns* in the U.S. that it will not have enough power to fulfill the contracts.

While Hydro-Québec has *maintained* that it will be able to meet the NECEC and CHPE contracts, the corporation acknowledges that a paradigm shift is on the horizon for its hydro fleet.

“When you look forward, we don’t have more surpluses that we could do another two [contracts] tomorrow — not like that, not in that same fashion,” Serge Abergel, COO of Hydro-Québec’s U.S. operations, told *RTO Insider*.

Instead, the company is eyeing a long-term change in the role hydropower plays on the grid, transitioning from baseload to a long-duration storage resource that can help balance and firm up the growing amount of wind and solar resources.

“We’re at a point in time where the traditional

way of how we’ve been doing things in the past — sending [from] north to south large blocks of energy 24/7 — is completely changing,” Abergel said. The proliferation of intermittent renewables “will create a very strong need for a balancing resource, and that’s where our hydropower will be able to play a different role.”

### Enough Energy, or Enough Capacity?

In 2021, a group of MIT-affiliated researchers published a *study* modeling the optimal configuration of a high-renewables grid in 2050, aimed at better understanding the role of large Canadian hydro resources.

The researchers initially expected to find hydropower to be “this very flexible baseload resource, something like nuclear, but even more flexible,” co-author Emil Dimanchev told *RTO Insider*.

“But what we found from our modeling was something very different,” Dimanchev said; “specifically, the fact that if the system was operated optimally, the best thing to do would be to do a two-way trading of electricity,” with



Jean-Lesage generating station and Manic-2 dam | Hydro-Québec

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Canadian hydro operating “more as a battery rather than this flexible source of energy.”

The modeling found that increasing the transmission capacity between Québec and New England would help expedite the decarbonization of the power sector while reducing the need to overbuild intermittent renewables. The analysis also found that Québec did not need to add any hydropower for it to play a substantial balancing role, noting that investments in new hydro plants “are deemed uneconomical by our model” compared to investments in new wind and solar.

“Québec already has this huge battery, so intermittency is not a problem,” Dimanchev said. New wind and solar resources “can be immediately firmed up with existing hydro.”

To prevent short-term power supply issues, Hydro-Québec is *planning* to spend \$90 billion to \$110 billion CAD by 2035 to increase its generating capacity by 8,000 to 9,000 MW, largely through new wind resources, demand reductions, upgrades to existing hydro generators and new hydro facilities.

The study’s findings also speak to more recent questions of whether Québec has enough power to justify additional transmission projects, Dimanchev said.

“The question that people are raising now is, ‘Is there enough energy to serve all the contracts and new transmission lines?’” Dimanchev said. “Well, that might be a problem in the short term, but what our study shows is that in the long term, we should think of this resource as a battery, so the question is not so much, is there enough energy, but is there enough transmission capacity to use that battery?”

The potential of Canadian hydropower as a long-duration storage resource is the basis for another potential transmission line, the Twin States Clean Energy Link, a proposed 1,200-MW two-way connection between New England and Québec.

Aiming to come online in the early 2030s, the National Grid-led project touts its potential “to balance New England’s renewable resources during times of peak demand, while also sending surplus renewable power generated in New England — such as offshore wind — to Québec when it’s not needed.”

The project has already received a vote of confidence from the U.S. government: In September, the Department of Energy committed to purchasing a significant portion of the line’s capacity to minimize the project’s overall development risk. (See *DOE to Sign up as Off-taker*

*for 3 Transmission Projects.*)

### South-of-the-border Constraints

Although added transmission capacity between Québec and New England could help unlock the balancing potential of hydropower, the benefits are largely contingent on reaching a high level of surplus renewables.

“This doesn’t apply today because we are just in the early stages of this deployment of intermittent renewables,” Hydro-Québec’s Abergel said. However, by 2035, “we believe there’ll be sufficient intermittent resources in the Northeast to start having a viable concept.”

Reaching a high level of renewable power in New England will require significant investments in local transmission infrastructure to interconnect new solar and wind resources, said Francis Pullaro, executive director of RENEW Northeast.

“The biggest challenge of getting renewables or land-based wind built in Maine has always been the lack of adequate transmission,” Pullaro said, adding that southern New England also desperately needs transmission upgrades to interconnect large-scale offshore wind projects.

Regarding the NECEC line, the baseload power it will send could end up undermining the development of wind and solar resources in Maine by using up headroom on the existing system and causing more frequent curtailments of renewables, Pullaro said.

“If the states are going to be investing in new transmission, another line to Canada shouldn’t be the top priority,” Pullaro added.

While the New England states have long struggled to reach an agreement on how to allocate costs for new forward-looking transmission projects within the region, Pullaro expressed measured hope about recent discussions among the states, ISO-NE and NEPOOL stakeholders over a new longer-term transmission development process. (See *NEPOOL Nears a Vote on Order 2023 Compliance.*)

“I think there’s a lot riding on it,” Pullaro said, adding that for years, “we just haven’t been able to get the region to galvanize around internal transmission to benefit our clean energy buildout. And maybe we’ve finally arrived at the moment where this new process can help.”

### Long-term Contracts

While the contracts for NECEC and CHPE will run for 20 and 25 years, respectively, the need for significant additions of clean balancing

### Why This Matters

Although added transmission capacity between Québec and New England could help unlock the balancing potential of hydropower, the benefits largely are contingent on reaching a high level of surplus renewables. Doing that would require significant investments in local transmission infrastructure to interconnect new solar and wind resources in New England.

resources could arise sooner, assuming the states can overcome significant hurdles related to internal transmission and the deployment of offshore wind.

“In [the] short term, it might be helpful to have the baseload contract, but I think it’s worth raising the question of whether it can be renegotiated in 10 years, for example, to allow for two-way trading,” Dimanchev said.

While the current contracts will keep the power flowing north-to-south, the NECEC and CHPE lines will be able to operate bidirectionally, although some system upgrades might be needed to facilitate south-to-north transmission.

Operating the lines bidirectionally would also require new types of contracts or major changes to the existing contracts.

“It will involve some way of ensuring that one region commits to selling onto the market when prices are at a certain point, whereas the other region [exports] when prices are below a certain point,” Abergel said. “Developing the business model for this new way of doing things is critical.”

Abergel added that some regulatory changes may also be needed to enable more efficient two-way power flow, pointing to the “considerable” exit fees that apply to power sent from New England to Québec.

“We have the contracts that we have right now; we’re committed to them; but when we look to the future, working back and forth with our partners and sending energy over the border when needed really is the wave of the future, and that’s what we’ll be working on,” Abergel said. ■

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# DOE Announces \$2.2B in Grid Resilience, Innovation Awards

## 2nd Round of GRIP Funding Goes to New Lines, GETs Projects

By K Kaufmann | Originally Published: 8/624

The U.S. Department of Energy on Aug. 6 announced its second round of grants for the Grid Resilience and Innovation Partnerships (GRIP) program, with \$2.2 billion in federal dollars going to eight projects that could expand grid capacity, reliability and flexibility across 18 states.

Funded with \$10.5 billion from the Infrastructure Investment and Jobs Act, the *GRIP program* is aimed at supporting “transformative” projects that will “enhance grid flexibility and improve the resilience of the power system against growing threats of extreme weather and climate change,” according to DOE.

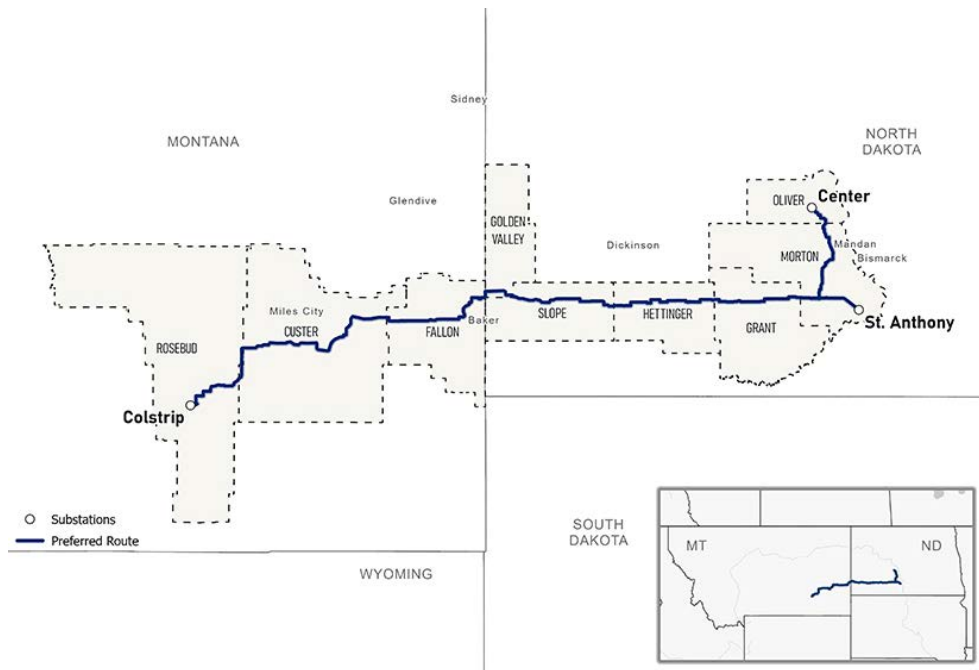
Announced in October, the first round of awards totaling \$3.46 billion was focused primarily on improving grid resilience against extreme weather events at the distribution level, Energy Secretary Jennifer Granholm said during an Aug. 5 press briefing. (See *DOE Announces \$3.46B for Grid Resilience, Improvement Projects.*)

The second tranche announced Aug. 6 is “specifically focused on transmission lines themselves, building more than 600 miles of new lines and reconductoring more than 400 miles of existing lines,” Granholm said. “Altogether, those upgrades are going to add nearly 13 GW of capacity to the grid ... to meet the needs of electrified homes and businesses and new manufacturing facilities and all of these growing data centers that are placing demands on the grid. ...

“The first half of 2024 has already broken records for the hottest days in Earth’s history, and as extreme weather continues to hit every part of the country, we must act with urgency to strengthen our aging grid to protect American communities,” Granholm said in a DOE press release.

According to DOE, six of the projects will be using the GRIP grants to deploy grid-enhancing technologies (GETs) to expand capacity on existing lines. For example, California is getting more than \$600 million to upgrade 100 miles of transmission with advanced conductors and dynamic line rating technology to increase the amount of renewable energy on the grid.

Similarly, a \$57 million GRIP award will go to the North Carolina Department of Environmental Quality, which will partner with Duke



The North Plains Connector transmission project running from Montana to North Dakota is getting a \$700 million GRIP award. | *Grid United*

Energy to upgrade a key transmission line with advanced conductors that will increase capacity and improve resilience as electricity demand continues to grow in the eastern part of the state.

Advanced conductors have a stronger core that can operate at higher temperatures than traditional grid lines, which allow them to carry more power. Dynamic line rating technologies allow grid operators to determine how much power a line can transmit based on real-time conditions rather than using a preset, static rating.

Of the projects building out new lines, Montana was selected to receive the largest award, \$700 million, to support the North Plains Connector (NPC), a 415-mile HVDC line running from Montana to North Dakota. It will be the first transmission project that will connect three regions — MISO, SPP and the Western Interconnection — with bidirectional power flows that could open up 3,000 MW of new capacity, as detailed in DOE’s project description.

The project will also help the Standing Rock Sioux Tribe develop wind power on their land.

That broad regional coverage could provide benefits by connecting meteorologically diverse regions that have demand peaks at

different times of the day or in different seasons, according to a recent study by Astrapé Consulting. The difference in generation and load profiles could improve the grid’s reliability on both sides of the project without adding any new capacity, project developer Grid United said. (See *Study: Significant Benefits for Merchant Tx Line.*)

All GRIP awards are supported by public-private partnerships, with individual states and their commercial partners at least matching or exceeding the federal funds. The \$700 million for NPC is being matched with close to \$2.9 billion in other funding, according to DOE.

DOE estimates the projects will create about 5,000 jobs, with six of the eight projects partnering with local labor unions.

### Getting GRIP Projects Permitted

Other GRIP awards will support initiatives that tackle critical grid challenges, including responding to rapidly growing demand from data centers and connecting offshore wind projects to onshore lines.

Home to the greatest concentration of data centers in the country, Virginia is receiving \$85.5 million for a project that will build up distributed energy resources at data centers

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to provide flexible power to the grid. The funds will go to install battery energy storage systems at the Iron Mountain data center in Manassas, Va., and to deploy solar, storage and a natural gas turbine at the Grace Complex, an industrial innovation hub being developed in Lancaster, S.C.

A \$389.3 million grant is going to Power Up New England, a joint project of six new England states, ISO-NE and public utilities that will provide new substations in Southeast Massachusetts and Southeast Connecticut to connect up to 4,800 MW of offshore wind power to the onshore grid. And Northern Maine will get a long-duration energy storage system with multiday capacity to improve grid resilience and the integration of renewable energy.

“With Power Up, we are shifting the way we bring offshore wind into our grid,” said Rebecca Tepper, Massachusetts’ secretary for energy and environmental affairs. “We’ve done the hard work to coordinate with ISO New England and developers to ensure we’re making smart, targeted investments to ready our electric grid.”

Speaking at the Aug. 5 press briefing, both Granholm and National Climate Advisor Ali Zaidi said Power Up and other GRIP projects would benefit from DOE’s efforts to streamline and accelerate federal permitting processes, such as the Coordinated Interagency Authorizations and Permits (CITAP) program announced in April.

Under the initiative, DOE will take the lead on permitting transmission projects and coordinate environmental and permitting processes between federal agencies, with a goal of limiting permitting timelines to two years. (See *DOE CITAP Initiative Aims to Permit New Transmission in 2 Years.*)

Reconducting projects may be eligible for categorical exclusions, the lightest level of environmental review, under *revisions* to permitting rules DOE released also in April, providing “a permitting ecosystem that has been vastly improved,” Zaidi said.

Responding to a reporter’s question, a senior DOE official declined to speculate on the potential impact of the bipartisan permitting bill authored by Sens. Joe Manchin (I-W.Va.) and John Barrasso (R-Wyo.), respectively the chair and ranking member of the Senate Energy and Natural Resources Committee.

The Energy Permitting Reform Act of 2024 would increase FERC’s power to authorize new transmission projects and require inter-regional transmission planning. The bill passed the committee on a 15-4 vote on July 31, days before Congress adjourned for its August recess. The Senate will have three weeks to pass the bill before Congress again goes into recess for the election. (See *Manchin-Barrasso Permitting Bill Easily Clears Committee.*)

DOE favors removing barriers to permitting and accelerating the ability to do concurrent environmental reviews, the official said, adding that the department is even doing a pilot on using artificial intelligence on permitting.

**“The first half of 2024 has already broken records for the hottest days in Earth’s history, and as extreme weather continues to hit every part of the country, we must act with urgency to strengthen our aging grid to protect American communities.”**

– Energy Secretary Jennifer Granholm

A third round of GRIP awards will be announced this year or early in 2025 for two other programs under the initiative, DOE said. The Grid Resilience Utility and Industry Grants will target private sector efforts to upgrade the grid, and Smart Grid Grants will support technologies that expand grid capacity. ■

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