

RTO Insider

YOUR EYES AND EARS ON THE ORGANIZED ELECTRIC MARKETS

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

SPECIAL REPORT: 2021 YEAR IN REVIEW

PLUS A LOOK AHEAD AT WHAT'S TO COME IN 2022

FERC & Federal

**Build Back Better and Beyond:
Insights for the Year Ahead**

(p.3)

MISO

**MISO in 2022: Seasonal Capacity,
Fleet Turnover and Tx Planning**

(p.19)

CAISO

**CAISO Takes on Transmission,
EDAM in 2022**

(p.6)

NYISO

**New York Set to Start
Building Big in 2022**

(p.21)

ERCOT

**ERCOT, PUC Say Grid is
Ready for Winter Weather**

(p.11)

PJM

**MOPR, Capacity Auction
Highlight 2021 for PJM**

(p.23)

ISO-NE

**ISO-NE, States Seek to Build
on 'Alignment' Efforts**

(p.15)

SPP

**SPP Aspires to Increase its
Western Footprint**

(p.31)

RTO Insider

Your Eyes and Ears on the Organized Electric Markets
 CAISO ■ ERCOT ■ ISO-NE ■ MISO ■ NYISO ■ PJM ■ SPP

Editorial

Editor-in-Chief / Co-Publisher
Rich Heidorn Jr. 202-577-9221

Deputy Editor / Daily	Deputy Editor / Enterprise
<u>Michael Brooks</u> 301-922-7687	<u>Robert Mullin</u> 503-715-6901

Art Director
Mitchell Parizer 718-613-9388

New York/New England Bureau Chief
Jennifer Delony 603-320-7043

MidAtlantic Bureau Chief
K Kaufmann 202-494-4386

Midwest Bureau Chief
John Funk 216-316-5413

Associate Editor
Shawn McFarland 570-856-6738

Copy Editor/Production Editor
Rebecca Santana 770-862-6004

CAISO/West Correspondent
Hudson Sangree 916-747-3595

ISO-NE Correspondent
Sam Mintz 617-930-3833

MISO Correspondent
Amanda Durish Cook 810-288-1847

NYISO Correspondent
Michael Kuser 802-681-5581

PJM Correspondent
Michael Yoder 717-344-4989

SPP/ERCOT Correspondent
Tom Kleckner 501-590-4077

NERC/ERO Correspondent
Holden Mann 205-370-7844

Sales & Marketing

Chief Operating Officer / Co-Publisher
Merry Eisner 240-401-7399

Account Manager
Kathy Henderson 301-928-1639

Account Manager
Phaedra Welker 773-456-4353

Marketing Manager
Eau Rikhotso 317-418-5632

Assistant to the Publisher
Tri Bui 703-622-3126

RTO Insider LLC
 10837 Deborah Drive
 Potomac, MD 20854
 (301) 299-0375

2022 Annual Subscription Rates:

Plan	Price
Newsletter PDF Only	\$1,520
Newsletter PDF Plus Web	\$2,000

See additional details and our Subscriber Agreement at rtoinsider.com.

In this week's issue

FERC/Federal

Build Back Better and Beyond: Insights for the Year Ahead3

CAISO/West

CAISO Takes on Transmission, EDAM in 20226

Study Provides Ore. Lawmakers Wide Shot on RTO Membership8

Inslee Approves 80-MW Goose Prairie Solar Farm..... 10

ERCOT

ERCOT, PUC Say Grid is Ready for Winter Weather..... 11

ERCOT Reports Optimistic About Coming Winter 13

ISO-NE

ISO-NE, States Seek to Build on 'Alignment' Efforts 15

MISO

MISO in 2022: Seasonal Capacity, Fleet Turnover and Tx Planning 19

NYISO

New York Set to Start Building Big in 2022 21

PJM

MOPR, Capacity Auction Highlight 2021 for PJM..... 23

Consumer Advocates Request Rehearing on PJM Rate-base Network Upgrades.. 26

NRC Preparing to Cite Davis-Bessie Nuclear Plant on Safety Issue 27

DC Circuit Reverses FERC on PATH Refunds 28

FERC Reverses Itself on PJM Reserve Market Changes 29

SPP

SPP Aspires to Increase its Western Footprint in 2022 31

SPP Again Delays In-person Stakeholder Meetings..... 33

Briefs

Company Briefs..... 34

Federal Briefs 34

State Briefs 34

Save your 10 to 1 odds for Vegas.

You never want to chance too much in this market.
RTO Insider. Stay informed.

FERC/Federal News



Build Back Better and Beyond: Insights for the Year Ahead

2022 Will Determine How Fast and Equitably the US Transitions to Clean Energy

By K Kaufmann

While the fate of the Build Back Better (BBB) Act — and its \$555 billion in funding for clean energy tax incentives and other programs — was knocked off the front pages toward the end of the year by the resurgence of COVID-19, the bill will likely reclaim some attention this month.

Triggered by Sen. Joe Manchin's (D-W.Va.) pronouncement Dec. 19 that he would not support the Democrats' \$2 trillion budget reconciliation package in its current form, the holiday cliffhanger had Senate Majority Leader Chuck Schumer (D-N.Y.) declaring a vote on the bill would be held this month. (See *Manchin Says 'No' on Build Back Better*).

But, as reported by *POLITICO*, Manchin wants the bill to go through a full committee process in the Senate, which could take months. Also, his top priority for a reworked BBB appears to be rolling back the 2017 tax cuts, something that has thus far not been a part of the bill.

BBB has become a political football in a highly politicized midterm election year, with COVID, inflation and ongoing supply chain issues providing significant headwinds. While Manchin is adamant he will not be pressured, Democrats' determination to get the bill passed with some of its basic energy and social spending initiatives intact could provide the momentum needed to find the necessary compromises.

Still, tough decisions may lie ahead if the bill's energy provisions have to go through



Sen. Joe Manchin (D-W.Va.) | © RTO Insider LLC

the Senate Energy and Natural Resources Committee, which Manchin chairs. The West Virginian's oft-repeated view on the U.S. energy transition is that it should be driven by innovation, not elimination, specifically of fossil fuels; hence his strong support for carbon capture, sequestration and storage, advanced nuclear and green hydrogen. He has also opposed increased tax credits for electric vehicles assembled in U.S. factories that have union labor contracts.

A committee process might also give Manchin the opportunity to expand BBB with a bill he and Sen. John Barrasso (R-Wyo.) introduced a few days before his withdrawal of support for the reconciliation package. Under the *Fission for the Future Act*, the Department of Energy would provide funding to site advanced nuclear facilities and infrastructure in communities affected by the closure of fossil fuel plants.

The importance of BBB to President Biden's political agenda cannot be overstated: The energy funding is critical if the U.S. is to achieve a 100% clean grid by 2035 and a net-zero economy by 2050. These targets, set by Biden in the first days of his term, are themselves essential to U.S. leadership in global efforts to limit climate change to 1.5 degrees Celsius, as reaffirmed at the 26th U.N. Climate Conference of the Parties in Glasgow in November.

The Transition on the Ground

At the same time, a narrow focus on BBB obscures a broader view of U.S. progress toward a decarbonized grid and economy. Beyond what Biden has been able to accomplish — from his executive orders to the signing of the bipartisan Infrastructure Investment and Jobs Act (IIJA) — the transition at the ground level continues to be driven by the ambitious commitments and innovative programs of cities, states, utilities and corporations.

For example, a staunchly Republican legislature in North Carolina this year passed a law committing the state to reducing carbon emissions by 70% by 2030 and setting equally aggressive targets for adding 2,660 MW of renewable energy to the state's grid.

Google pushed beyond an initial goal of running its operations on 100% clean energy to a new 2030 target of 24/7 clean power, matching its demand hour for hour with

carbon-free electricity. In September, it joined the U.N. and other organizations in launching a *global initiative* of local governments, utilities and corporations committed to the 24/7 goal.

The spread of clean energy will continue to accelerate in 2022, as long as prices drop and efficiency and innovation improve. The key questions now revolve around how fast the transition can be accomplished and who will benefit.

The U.S. has seen many technological transitions that, by their very nature, create winners and losers. What differentiates the current transition is the recognition of past and ongoing inequalities — jobs lost and communities affected — and the corresponding efforts to provide targeted support, retraining and opportunities for new economic development.

Like BBB, 2022 could be a pivotal point for gauging how fast and how equitable the transition will be. State and local efforts will bear close watching, as will corporate and regulatory actions. But federal leadership will continue to be a vital catalyst.

The DOE Factor

Outside of BBB, Biden's top catalyst for advancing the U.S. transition to clean energy is DOE. The past year saw a stream of new program announcements and funding opportunities, which will undoubtedly continue in 2022.

For example, even as supply chain delays have raised solar hardware costs, DOE has been working on cutting the "soft costs" of local permitting through its release and promotion of SolarAPP+, a platform that standardizes and streamlines the permitting process.

After hitting *127 SolarAPP+ cities* in September, Energy Secretary Jennifer Granholm announced a new goal of adding 60 communities to DOE's SolSmart program, which provides technical assistance to cities to help them further streamline solar planning and permitting.

In the wake of Manchin's no-go on BBB, Granholm on Dec. 21 launched a new Office of Energy Demonstrations, funded with \$20 billion from the IIJA, to support pilots in hydrogen, small modular nuclear and grid-scale storage.

FERC/Federal News



The office could be a springboard for DOE's Earthshots initiative, which is focused on accelerating innovation and cutting costs for key low- and no-carbon technologies, including green hydrogen, long-duration storage and carbon capture. The Hydrogen Shot, for example, aims to cut the cost of green hydrogen 80%, from \$5/kg to \$1/kg, in one decade.

A year-end webinar for the DOE team also highlighted the revitalization of the department's Loan Program Office (LPO) under former cleantech entrepreneur Jigar Shah. According to Sydney Bopp, LPO chief of staff, the office is now processing 66 applications seeking \$53 billion in loans and loan guarantees and has another 50 applications in early development.

Prospects cover "critical minerals processing, manufacturing, advanced nuclear, energy storage, carbon capture, hydrogen, sustainable aviation fuels, EV charging infrastructure, advanced geothermal, hydropower, offshore wind transmission and virtual power plants," Bopp said.

Granholm hinted at "some exciting news

coming out of LPO early next year."

The secretary has also been a tireless and strategic booster for BBB and the jobs it will create, while helping the U.S. regain its leadership role in global energy markets. One of Granholm's constant themes is the \$23 trillion global market the energy transition is going to create and the imperative for the U.S. to win back competitive leadership from China and Europe.

Energy and Transportation

As former governor of Michigan, Granholm is also aware of the need to bring older, traditional industries and their workers into the energy transition; hence her embrace of advanced nuclear, hydrogen and carbon capture. Under her leadership, DOE's Office of Fossil Energy has been rebranded as the Office of Fossil Energy and Carbon Management.

For some progressives, these technologies — which even conservatives like Barrasso support — are still suspect, but in 2022, they might also provide an initial common ground

and point of compromise.

With broad buy-in from automakers and unions, transportation electrification may present similar opportunities; it also heads the list of high-impact technologies getting a boost from federal support in 2022. Cars and trucks account for 29% of all U.S. greenhouse gas emissions, more than any other sector of the economy, according to EPA. The infrastructure package attacks a major obstacle to cutting those figures — making EV charging easy and convenient — with \$7.5 billion for deploying 500,000 EV chargers nationwide.

Granholm and Transportation Secretary Pete Buttigieg on Dec. 14 launched the Joint Office of Energy and Transportation, which will develop guidelines and standards for deployment of EV chargers and provide technical assistance for state planning to make the most effective use of the federal funds. The photo op for the announcement had Granholm and Buttigieg charging up a Ford Mustang Mach E at RS Automotive in Takoma Park, Md., a local small business billed as the nation's first former gas station to replace all its pumps



Energy Secretary Jennifer Granholm (left) and Transportation Secretary Pete Buttigieg head out to Takoma Park, Md., in a Ford Mustang Mach E on Dec. 14 to announce the launch of the Joint Office of Energy and Transportation. | *Transportation Secretary Pete Buttigieg via Twitter*

FERC/Federal News



with EV chargers.

The ambitious fuel efficiency standards announced by EPA on Dec. 20 — a fleetwide average of 40 mpg by 2026 — will be another catalyst for near-term growth of vehicle electrification. EPA predicts EVs will account for 17% of light-duty vehicles in the U.S. by 2026, and automakers have said that federal support will be critical for reaching those figures. (See [EPA Rules Will Slash Vehicle Emissions, Rev up EV Market by 2026.](#))

So, even if Manchin nixes the \$4,500 union-labor add-on, strong support from the auto industry and labor unions could keep the standard \$7,500 federal rebate for EVs in BBB.

Tax Incentives and Supply Chains

The renewable energy industry is similarly tooling up for a major lobbying campaign in the new year to keep BBB's 10-year extension of the solar investment tax credit and the addition of tax incentives for standalone storage, transmission and cleantech manufacturing.

The industry is also intensely focused on supply chain issues, which are raising prices and could slow market growth in 2022 by as much as 25%, according to the latest [solar market report](#) from Wood Mackenzie and the Solar Energy Industries Association.

Storage, and especially long-duration technologies, could be the winners here, providing potential solutions for both reliability and supply chain issues. Released in June, Biden's executive order addressing the latter includes a list of provisions aimed at building up the country's mining and processing of critical minerals, like lithium. The need is pressing and

strategic as the U.S. is largely dependent on China for lithium processing.

The LPO is ready with \$3 billion in loan guarantees "to support efficient end-use energy technologies, such as mining, extraction, processing, recovery or recycling technologies," according to a [White House fact sheet](#).

The executive order also calls for a cross-agency task force to tackle environmental and permitting issues, a pressing need regularly raised on both sides of the aisle. The infrastructure law gives FERC the authority to designate national transmission corridors and approve projects in these corridors, if necessary, over the objections of state regulators. Transmission advocates and opponents are watching closely to see if and how FERC uses this power.

Amid such supply chain and permitting challenges, long-duration storage could emerge as a core technology allowing U.S. innovation to capture global markets and build out a domestic supply chain less dependent on offshore mining and processing of critical minerals. For example, Eos Energy Enterprises offers zinc-based storage with up to 12 hours of duration. The company works from a retooled Westinghouse factory near Pittsburgh, with most components supplied by vendors located within a three-hour drive of the plant, according to CEO Joe Mastrangelo.

While lithium-ion batteries will remain critical for the automotive industry, long-duration storage technologies with local supply chains are coming into their own, and 2022 could see major advances for the sector. Further support will come from DOE's Long Duration Storage Shot, which is targeting a 90% decrease in cost for technologies providing

10 or more hours of duration, again within one decade.

Federal Procurement

A final component of federal action worth following this year will be procurement. Biden's last [energy-focused executive order](#) of the year sets up the federal government to lead by example on clean energy, targeting completely decarbonized electricity for government operations by 2030, with 50% of that power matching supply with demand on a 24/7 basis.

Similarly, the executive order calls for all new government light-duty vehicles to be zero-emission by 2027, with the federal fleet following suit in 2035. The federal portfolio includes 300,000 buildings and 600,000 vehicles, which, with or without tax incentives, means a huge bump in demand that will itself energize domestic markets and drive down costs.

Here as elsewhere, Biden has called for a whole-of-government approach, and the order also looks to the federal General Services Administration to start tracking the greenhouse gas emissions of government suppliers. A Buy Clean program will also tackle the "embodied carbon" in essential materials such as concrete and steel.

The ripple effect is potentially huge. Whatever happens in Congress, Biden's commitment to climate action and clean energy will accelerate the U.S. transition in 2022 and beyond. The clean energy sector has also shown itself to be remarkably resilient to any economic or social obstacles it encounters, from the 2008-2009 recession to COVID to a divided Congress. ■



NARUC Winter Policy Summit

February 13-16, 2022
Renaissance Washington Hotel
Washington, D.C.

Registration for the in-person Winter Policy Summit is now open!



naruc.org #NARUCWinter22

Solar & Energy Storage Northeast is now ...



February 23-24, 2022
Westin Boston Seaport District
Boston, MA

POWERED BY  

PACIFIC OFFSHORE WIND SUMMIT

Presented by  and 

March 28 - 30, 2022 | Grand Hyatt San Francisco

Prepare for What Will Likely Become One of the Largest Floating Offshore Wind Deployments in the World!

Register Now

CAISO/West News

CAISO Takes on Transmission, EDAM in 2022

Resource Problems Could Continue, Especially if Drought Persists

By Hudson Sangree

CAISO intends in 2022 to focus on long-term transmission planning, connecting storage to its grid and extending the real-time Western Energy Imbalance Market (WEIM) to a day-ahead market amid a push for greater Western regionalization.

“We’re going to turn the corner into ’22, and it is going to be a big year,” CEO Elliot Mainzer told the Board of Governors at its year-end meeting Dec. 17. “We are ready to go on the enhanced day-ahead market and all our other initiatives.”

CAISO must also keep competing with SPP, which is pushing West with its RTO and Western Energy Imbalance Service, and managing the Northwest Power Pool’s Western Resource Adequacy Program.

SPP’s recently unveiled Markets+ program could challenge CAISO’s proposed extended day-ahead market (EDAM).

“It’s a conceptual bundle of services proposed by SPP that would centralize day-ahead and real-time unit commitment and dispatch, provide hurdle-free transmission service across its footprint and pave the way for the reliable integration of a rapidly growing fleet of renewable generation,” the RTO says on its [website](#).

“For utilities that see value in these services but who aren’t ready to pursue full membership in a regional transmission organization at this time, Markets+ provides a voluntary, incremental opportunity to realize significant benefits.”

SPP has scheduled a series of stakeholder meetings to discuss the new offering in Denver, Phoenix and Portland, Ore., during the first half of 2022.

WEIM and EDAM

CAISO is hoping the EDAM will give it an advantage and is wasting no time getting started this year.

Three newly established EDAM working groups began [meeting](#) Monday to discuss resource sufficiency, transmission commitment, greenhouse gas accounting and other topics. CAISO’s goal is to complete EDAM market design by the end of 2022, implement and test it in 2023 and go live in early 2024.



Long-term transmission planning is a priority for CAISO in 2022. | © RTO Insider LLC

“Amidst a dynamic and competitive environment for market services, we are fully committed to positioning EDAM as the next major step in West-wide market integration,” Mainzer said in his December [report](#) to the board.

CAISO revived the EDAM effort last year after putting it on hold following the energy emergencies of summer 2020. An online forum to relaunch EDAM in October drew 600 attendees. (See [CAISO Promotes EDAM Effort in Forum](#).)

The level of interest was a sign of the growing demand for Western regionalization, Mainzer said at the time.

“I have never seen or felt a greater sense of interest and urgency on this topic,” he said.

Last year, FERC Chairman Richard Glick called for the establishment of one or more Western RTOs, and Nevada and Colorado passed laws ordering their transmission-owning utilities to join an RTO by 2030. (See [Glick Says West Should ‘Finish the Job’ on RTO](#) and [FERC Commissioners Opine on Western RTO](#).)

A coalition of Western utilities formed the Western Markets Exploratory Group last summer to examine working together on transmission expansion, day-ahead energy sales and other market services, while leaving open the possibility of forming or joining a Western RTO. (See [Western Utilities to Explore Market Options](#).)

EDAM seeks to build on the WEIM’s record of financial success and steady expansion. The WEIM has produced more than \$1.7 billion in benefits for its participants since 2014. By 2023 it expects to have 22 members representing 84% of load in the Western Interconnection.

Establishing trust between California-run CAISO and the rest of the West remains a work in progress.

Toward that end, the CAISO board approved a power-sharing plan with the WEIM Governing Body in August. A joint meeting of the two bodies Dec. 16 was the first held under the new rules. (See [CAISO Agrees to Share More Power with EIM](#).)

CAISO is also working on issues that have bothered some WEIM participants, including its resource sufficiency test and temporary wheel-through rules. (See [CAISO Reevaluating WEIM Resource Sufficiency Test](#) and [FERC OKs CAISO Wheel-through Restrictions](#).)

“This past year raised difficult issues with respect to resource sufficiency and the prioritization of service to loads, exports and wheel-throughs,” Mainzer said in his report. “Both these issues are vitally important to our partners throughout the West and key to the trust that is the foundation of regional markets.”

The board and Governing Body are expected to vote on a revised resource sufficiency evaluation proposal in February. CAISO plans

CAISO/West News



to address wheel-throughs in a separate stakeholder initiative.

Transmission Planning

Another major CAISO effort this year involves new, long-term transmission planning to meet the state's goal of serving retail customers with 100% clean energy by 2045, as required by Senate Bill 100, signed by Gov. Jerry Brown in 2018.

The ISO intends to develop an extended 20-year transmission outlook working with the California Public Utilities Commission (CPUC), which prepares statewide integrated resource plans, and the California Energy Commission (CEC), which produces long-term energy demand forecasts.

The CPUC's IRP envisions connecting 18 to 22 GW of new renewable generation and importing 1 to 3 GW of out-of-state wind power to meet the state's interim 2031 energy goals.

"These procurement portfolios require significant in-state and out-of-state transmission investments," the CPUC's Public Advocate's Office said in written [comments](#) responding to a July 27 stakeholder call.

CAISO plans to release the first findings of its new 20-year [transmission outlook](#) in early 2022, Mainzer told the board in December.

The 20-year effort is meant to run in parallel with CAISO's normal 10-year transmission planning process. It will consider the CEC's long-term demand forecasts, including the impacts of increased electrification in the transportation and building sectors. Connecting resources still in development — such as offshore wind, energy storage and utility-scale solar — also is part of the agenda. (See [CAISO Launches 20-year Transmission Planning Process](#).)

One big difference is that CAISO's 10-year process looks at in-state needs, but clean energy goals may require more interregional planning and collaboration, which the longer-term process will address, Jeff Billinton, director of transmission infrastructure planning, said at a kickoff meeting in May. He cited the TransWest Express Transmission Project, intended to bring Wyoming wind to California, as one example.

"This planning process is using SB 100 resource portfolios and other inputs to characterize the longer-term architecture of the ISO high-voltage transmission system. It will evaluate onshore, offshore and interregional transmission solutions," Mainzer said in his report. "The 20-year outlook is designed to

provide an overarching transmission planning roadmap to guide interconnection queuing, resource planning, network upgrades and resource procurement in the years ahead.

"At the same time, the ISO has been conducting a stakeholder process to explore foundational reforms to transmission queuing procedures given that we now have over 250 GW of requests for service in our transmission queue, which is an unsustainable situation for all concerned," he said.

RA and Batteries

CAISO, the CPUC and CEC face another year of dealing with resource adequacy problems following the energy emergencies of summer 2020 and a close scrape on July 9 when major transmission pathways between the Pacific Northwest and California were derated because of a massive wildfire. (See [CAISO Declares Emergency as Fire Derates Major Tx Lines](#).)

The addition to the grid of approximately 2,250 MW of batteries since summer 2020 should help meet summer evening peaks, the time when CAISO's grid has been most strained. California's dependence on solar power and imports made the state vulnerable to Western heat waves that drive air-conditioning demand after sunset.

CAISO previously estimated the state will need at least 12 GW of battery storage to meet its clean-energy goals.

In December, the CPUC adopted measures aimed at securing up to 3 GW of additional capacity through supply- and demand-side programs to prevent shortages in extreme heat waves in the summers of 2022 and 2023.

The measures included ordering the state's three big investor-owned utilities — Pacific Gas and Electric, Southern California Edison and San Diego Gas & Electric — to accelerate procurement of battery storage. The commission projected shortfalls of 2 to 3 GW this summer but noted that PG&E, SCE and SDG&E have already procured 1 GW in response to earlier commission decisions.

Since late 2019, the CPUC has directed the state's IOUs to collectively procure more than 17 GW of additional capacity, including a June order for 11.5 GW of new resources to come online between 2023 and 2026.

Acting on a July emergency [proclamation](#) by Gov. Gavin Newsom, the CEC approved a plan in September under which batteries capable of providing at least two hours of discharge by the end of October 2022 can be

licensed and connected to the grid in far less time than it would normally take.

The proclamation ordered CAISO, the CPUC and CEC to "work with the state's load-serving entities on accelerating plans for the construction, procurement and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day."

It cited severe drought as an exacerbating circumstance. Two extremely dry winters in the past two years in California dried up major reservoirs so that hydropower plants had to reduce or cease production. The power plant at Lake Oroville, one of the state's largest reservoirs and hydroelectric generators, shut down in August because of falling lake levels.

Winter storms in December generated snowpack in the Sierra Nevada that was about 160% of average for the month, but more is needed during the rest of the winter to alleviate drought conditions. Sierra snowpack supplies water for residential and agricultural use throughout the state's dry summer months.

WECC's [Western Assessment of Resource Adequacy](#) warned of impending shortages through 2025, including as a result of drought. (See [WECC Warns West Heading for Resource Shortfalls by 2025](#).)

Greater dependence on variable resources such as wind and solar could mean none of WECC's five subregions will "be able to eliminate the hours at risk for loss of load even if they build all planned resource additions and import power," the regional entity warned.

WECC examined RA under several scenarios including a "drought case" in which the Glen Canyon and Hoover dams on the Colorado River ceased hydroelectric production because of low water levels.

In August, the U.S. Bureau of Reclamation for the first time declared a water shortage for Lake Mead, behind Hoover Dam, in response to a historic drought impacting the entire Colorado River Basin. (See [Feds Invoke First-ever Colorado River Water Restrictions](#).)

WECC said "entities may have many more options to address resource adequacy issues in the five- to 10-year time frame than in the near term" but urged quick action.

"If the current long-term issues are not addressed immediately, they may be insurmountable when they become near-term issues," WECC said. ■

CAISO/West News

Study Provides Ore. Lawmakers Wide Shot on RTO Membership

By Robert Mullin

An RTO could provide Oregon with economic, planning and operational benefits, but it would not serve as a “universal problem-solver” for the growing challenges facing the state’s electricity system, according to a study the Oregon Department of Energy (ODOE) delivered to the state legislature Dec. 21.

And bringing Oregon into an RTO would present challenges of its own, the *report* says. Chief among them: ensuring a market and governance design that balances the state’s “diverse interests,” guarantees a “meaningful role” for those interests, and preserves state clean energy and equity goals.

But the ODOE study also casts a favorable light on Oregon’s increased participation in regional collaboration across the power sector. It highlights the various regionalization efforts already taking shaping across the Western Interconnection and emphasizes the importance of Oregon entities continuing to play a role in their progress.

It also points out that, unlike previous efforts to develop organized electricity markets in the West, “the current momentum toward increased regionalization has a unique sense of drive and urgency ... driven by transformational changes in the electric sector — from the rapid deployment of increasingly cost-effective wind and solar energy, to the retirement of coal plants in Oregon and across the West, to the adoption of state clean energy mandates.”

In developing the study, ODOE said it “identified broad common interest among Oregon stakeholders” to build on that momentum “to explore increased regional collaboration and coordination in the electric sector.”

The study also advises lawmakers that the “nuanced perspectives” among various stakeholders “would need to be carefully considered in designing an RTO that could deliver benefits to Oregon retail customers.”

Incrementalism

The ODOE study was a requirement of [Senate Bill 589](#), which state lawmakers passed last spring just as other Western legislatures primed the push for regionalization by approving bills requiring their state’s utilities to form or join RTOs by 2030. (See [Many Next Steps to Follow Passage of Nevada Energy Bill](#) and [Polis Signs Bipartisan Bill to Support Interstate Tx.](#))

A Colorado Public Utilities Commission study released early last month, the product of a 2019 law, found that utilities in that state could save between \$50 million and \$230 million annually from joining an RTO. (See [Colo. PUC: State Could Save up to \\$230M in Wholesale Market.](#)) A different multistate-led study published last year found the West as a whole could save up to \$2 billion a year by 2030 through the development of a single RTO. (See [Study Shows RTO Could Save West \\$2B Yearly by 2030.](#))

But ODOE was not charged with creating an economic benefits report, nor was it expected to make recommendations about whether the state should compel its utilities to join an RTO. Adam Schultz, electricity and markets policy lead at the department, said during the first meeting of the state’s RTO Advisory Committee, whose representatives helped guide development of the study. (See [Oregon RTO Committee Ponders Paths to Regionalization.](#))

Instead, the goal was “to gather and synthesize the range of perspectives on the benefits, costs, opportunities, challenges and risks of RTO formation that exists among a diverse range of Oregon stakeholders to inform the state legislature and other interested parties,” Schultz said.

In that vein, the ODOE study provides lawmakers with a primer on RTOs, describing the role of an organized market in the buying and selling of energy, the procurement of capacity (or not), and the planning and operation of transmission networks.

The study also outlines the regionalization efforts already in motion. “Given recent industry trends, including coal plant retirements and the need for flexible capacity that can integrate increasing amounts of variable wind and solar generation, significant momentum has built in recent years to increase regional cooperation,” the report said, citing CAISO’s expanding Western Energy Imbalance Market (WEIM), SPP’s increasing market offerings in the West and the Northwest Power Pool’s (NWPP) Western Resource Adequacy Program, which will roll out this year. (See [Implementation Underway for NWPP’s Western RA Market.](#))

Membership in an RTO would represent a qualitative step beyond those efforts because conventional organized markets require member utilities and transmission owners to surrender operational control of their transmission systems to a central operator, which



Transmission line in Umatilla County, Ore. | © RTO Insider LLC

would also assume the role of grid planner.

The ODOE study highlighted a debate that occurred within the RTO Advisory Committee, in which Ravi Aggarwal, a manager with the Bonneville Power Administration, urged the region to take “a more incremental and staged approach” to forming an RTO, given that the “three-legged stool” of planning, resource adequacy and markets are all currently being served by NorthernGrid, NWPP and the WEIM, respectively.

“Some committee members believe that the incremental steps to increase regionalization could lead the region to formation of an RTO. The incremental approach may be helpful and necessary to build the trust required among a diverse set of stakeholders to make formation of a sufficiently large and well governed RTO possible,” the study said.

Other members said an incremental approach could allow participants to take an “a la carte” approach to regionalization, “participating only up to their comfort level up to and including membership in an RTO.”

But still other members were wary of such an approach, the study pointed out, warning that it could fail to deliver the full benefits of an arrangement that coordinates many functions within a single body. “The region may also be

CAISO/West News

approaching the limits of how many additional incremental steps (and therefore additional benefits) can be bolted-on to the status quo," the report said.

The report also advised that while RTO formation could yield operational benefits for the transmission system, particularly through improved utilization and transparency, it would not necessarily solve challenges around cost allocation, siting or permitting.

"Multiple members of the committee noted the development timelines for major new transmission projects can often be in the 10- to 20-year range due primarily to challenges around siting and permitting. An RTO would not necessarily resolve these timeline challenges," the study said.

The report additionally pointed to an RTO's potential to improve utilization of existing renewable resources through reduced curtailments, as well as its ability to provide customers with greater access to low-cost out-of-state renewables. However, committee members widely agreed that state policies and declining costs would continue to drive the adoption of renewables regardless of the existence of an RTO.

Comes Down to Design

But the ODOE study advised lawmakers that the key challenge to forming an RTO would be political rather than technical or operational.

"One of the key perspectives shared by committee members was the criticality of negotiating the details of market design and governance structures to weigh trade-offs, balance multiple interests, and identify pathways to achieve optimal outcomes," the study said. Those trade-offs would occur in and among:

- states, with their varying policy priorities and regulatory requirements;
- load-serving entities, which in Oregon consist of three investor-owned and 38 consumer-owned utilities;
- independent power producers, power marketers and transmission owners;
- advocacy organizations, such as trade groups, environmental and social justice organizations, and labor unions; and
- retail customers.

An RTO would also have to contend with the presence of BPA, which owns and operates about 75% of the region's transmission system.

"This makes BPA a critical but largely voluntary participant in regional conversations around RTO formation, although the actions of neighboring utilities in the region or of other parts of the federal government (e.g., [the U.S. Department of Energy], FERC or Congress) can affect the decisions of BPA," the report said.

It also cautioned lawmakers that "careful design" of an RTO would be necessary to prevent an erosion of state authority while also helping Oregon to achieve its environmental policy objectives.

RTO Advisory Committee members generally agreed that an RTO would provide an "additional tool" for helping Oregon achieve its target of generating 100% emissions-free electricity by 2040, according to the report.

"Several members of the committee went even further to suggest that RTO formation may be necessary to achieve those targets," the report said. ■



Have an opinion on electric policy you'd like to share?

Submit a Stakeholder Soapbox Op-Ed

See rtoinsider.com/soapbox for editorial guidelines.

CAISO/West News

Inslee Approves 80-MW Goose Prairie Solar Farm

Gov. Jay Inslee last month approved the 80-MW Goose Prairie solar farm to be built in Central Washington.

"I believe this project is appropriately sited, and that the site certificate is legally adequate," Inslee wrote in a Dec. 20 [letter](#) to the Washington Energy Facility Site Evaluation Council (EFSEC), which in November recommended the governor approve the project. (See [Siting Council Endorses Central Wash. Solar Farm](#).) Inslee said the project is environmentally sound for the land it will occupy.

The project by OneEnergy Renewables (OER) of Seattle would be located near the town of Moxee in Yakima County. Goose Prairie's application states that the 625-acre solar farm would interconnect with the Bonneville Pow-

er Administration's 115-kV Midway-to-Moxee transmission line. The company is also retaining the option for a battery-storage system that would not exceed the 80-MW capacity of the project.

Inslee's letter said the EFSEC did eventually consider the Yakama Nation's concerns about the project's effects on wildlife migration and the tribe's access to the area for cultural reasons.

But "the council was not able to directly engage in early, ongoing and thorough government-to-government consultation with tribal governments," Inslee added. Inslee wrote that EFSEC needs a more formal mechanism for consulting with the appropriate tribes on the effects on solar and wind turbine proposals.

Now, OER must study the environmental impacts to any habitats for sensitive species and provide a mitigation plan, according to paperwork filed with the EFSEC. The council and the Washington Department of Fish and Wildlife would have to approve that plan. An EFSEC public hearing on the project held March 16 showed no opposition.

Central and Eastern Washington have four solar farms going through permitting, 28 on the drawing board, two under construction, and one in operation, according to state estimates. EFSEC is currently reviewing nine proposed wind and solar projects for the state. ■

— John Stang



Goose Prairie is one of many solar projects being slated for the sunny eastern part of Washington. | OneEnergy Renewables

ERCOT News



ERCOT, PUC Say Grid is Ready for Winter Weather

Questions Remain on Winter's Severity, Future Market Design

By Tom Kleckner

The new year began in Texas with an arctic cold front sweeping away the previous week's 80- to 90-degree temperatures and bringing ice, snow and a brutal reminder of last February's destructive winter storm.

This time around, ERCOT has inspected 324 generation plants and transmission facilities to check compliance with new winterization rules. The Public Utility Commission has tweaked market rules to allow the grid operator to set aside more operating reserves and to do so sooner. And effective New Year's Day, ERCOT's systemwide offer cap has been set at \$5,000/MWh, down from the \$9,000 cap that sent several retailers and cooperatives into bankruptcy after the February storm.

Electricity usage during the cold snap was

down too, over 20 GW less than the record peak demand on Feb. 14 that the ERCOT grid was unable to handle. The return of springlike temperatures later this week, exemplifying the *dry La Niña conditions* expected this winter, has further eased concerns.

"Easy peasy," energy consultant Alison Silverstein, a former FERC and PUC staffer, said Saturday. "Pretty sure ERCOT can handle this shift."

But another February storm, which became *energy Twitter's story of the year?*

ERCOT, the PUC and Texas Gov. Greg Abbott say the system is ready.

"Texans can be confident the electric generation fleet and the grid are winterized and ready to provide power," said Woody Rickerson, ERCOT vice president of grid planning and weatherization.

"The lights will stay on," promised PUC Chair Peter Lake during a December press conference. (See *Texas PUC Chair Lake: 'The Lights Will Stay On'*).

Texas power plants "are good to go," Abbott *tweeted*.

The problem is, the same can't be said of the natural gas system, which has borne the brunt of the blame from FERC, NERC and others for the storm's outages because of fuel unavailability. A Federal Reserve Bank of Dallas *study* has estimated it will cost as much as \$50,000 to winterize a wellhead. (See *FERC, NERC Release Final Texas Storm Report*.)

Texas lawmakers passed legislation requiring both the electric and gas industries to weatherize against extreme temperatures. However, a loophole allows gas facilities to opt out for a nominal fee. The gas network is being mapped to determine those facilities critical to power production, but that process isn't expected to be finished until 2023.

Yes and no — thanks to the power plant winterization initiative.

"The odds are much, much lower that half of ERCOT's generation fleet will fall to freezing weather," Silverstein told *RTO Insider*. "But because neither the gas producers and pipelines have made comparable efforts to winterize their production, we have no guarantee that freeze-ready natural gas plants will have fuel to burn."

Silverstein said ERCOT's more conservative operating plans and a better statewide communications plan to improve awareness of winter-weather threats and potential electric shortfall could also help avoid repeats of another major winter power outage, similar to those of 2011 and 2021.

"If they can get through 2022 without another major outage or call for conservation, that'll look like success," Silverstein said. "But that's a sadly low bar."

Energy-only No Longer?

PUC, ERCOT and their stakeholders are also taking a second look at the grid operator's energy-only market, which pays generators only when they are providing energy to the market. The PUC has developed a two-phase process, with a Phase 1 implementation plan due Jan. 10.



Outages from February's winter storm caused billions in damages and left hundreds of Texans dead. | Xcel Energy

ERCOT News



The second phase will evaluate a proposed backstop reliability service and a load-side reliability mechanism that Lake has been pushing since October. ERCOT staff have promised to provide a report on what it will take to design and build each of the Phase 2 proposals on Feb. 15, the one-year anniversary of when the outages began. (See *PUC Forges Ahead with ERCOT Market Redesign*.)

PUC staff issued a *memo* laying out the Phase 2 proposals and requesting stakeholder input. The commissioners received 54 filed comments before a Dec. 10 deadline but have yet to publicly address those comments.

Lake has favored the load-side reliability mechanism, but the other three commissioners have offered some pushback. The mechanism will be developed according to a set of principles that include offering economic rewards and providing “robust” penalties or alternative compliance payments based on a resource’s ability to meet established standards; building on ERCOT’s existing renewable energy credit trading program framework; providing a forward price signal to encourage investment in dispatchable generation; using dynamic pricing and sizing to ensure reliability needs are met without over-purchasing reserves; and mitigating market-power concerns for generation companies that also serve retail customers. (See *Study Suggests Texas LSEs Can Provide Reliability*.)

The proposed backstop reliability service would procure accredited new and existing dispatchable resources as an insurance policy to help prevent emergency conditions. The service’s principles include nonperformance penalties and clawbacks for noncompliance; deploying resources in a manner that doesn’t negatively affect real-time energy prices; and allocating costs to load based on a load-ratio



Alison Silverstein | © RTO Insider LLC

share basis measured on a coincident net-peak interval basis.

“Phase 2 ... is a grab bag of a bunch of different ideas with basically no specifics. It’s unclear, confusing, and it’s impossible to tell what it will mean for the market,” Stoic Energy President Doug Lewin said. “The regulatory uncertainty around this vague ‘blueprint’ will likely slow down development from lots of different developers, including storage developers.”

The renewable industry has criticized backstop reliability, saying there are ways to improve reliability without favoring generation. They point to storage, demand response, energy efficiency and real-time co-optimization, which has been pushed back to 2024, at the earliest.

“We saw comments from [clean-energy buyers] that really pointed to the risk of the commission trying to add new reliability costs to renewable energy,” said Colin Meehan, a clean-energy analyst, during a December virtual panel discussion. “Their members represent about 500,000 employees in the state of Texas. These are ... big businesses that are very concerned about the commission’s moves to add costs to renewable energy.”

“Renewables are clearly very important to our energy future, but the Texas PUC is considering changes that would make renewables more expensive at the behest of Gov. Abbott and his fossil fuel industry contributors,” Environment Texas Executive Director Luke Metzger said in a statement. “That could lead some projects to get canceled or scaled back, making the grid less reliable and dirtier. That’d be like cutting out our nose to spite our face.”

Metzger *issued the statement* after ERCOT last week released its latest *long-term look* at its expected capacity. Texas already leads the nation in wind production, with the grid operator listing more than 28 GW of installed capacity. The grid already has more than 10 GW of solar, a number that is expected to exceed 19 GW by the end of 2022.

That doesn’t take into account second thoughts developers might have, given the regulatory uncertainty over ERCOT’s future market design. Texas politicians were quick to blame renewables for the February disaster, but half of the grid’s thermal generation was inoperable during that time.

On Sunday, more than 10 GW of thermal generation was unavailable during the year’s first cold snap.

Silverstein is among the many stakeholders

“If they can get through 2022 without another major outage or call for conservation, that’ll look like success. But that’s a sadly low bar.”

—Energy consultant Alison Silverstein, a former FERC and PUC staffer

calling for a more significant reliability analysis to determine exactly what reliability issues need to be solved.

“That is not at all clear. ... [It] requires a significant amount of sophisticated analysis that nobody has done at ERCOT and no one has done anywhere else either,” she said.

Unless the commission “commits to a slower, more deliberate pace with more transparent analysis and broader consideration of options,” Silverstein said, the market design’s second phase will be “another disaster for those of us in the public and industry who want to see Texas’ electric system and market follow a thoughtful, stakeholder-informed, analytically based, transparent and provably reasonable policy development process with outcomes that are demonstrably reliability-improving and cost-effective.”

Lewin said the PUC wasted “precious time” on the load-side reliability mechanism, “an extremely unpopular idea which had the support of only a handful of stakeholders out of scores of commenters.”

“The PUC spent very little time on ideas with more support,” he said, listing needed improvements to black start, increasing energy efficiency and demand response, and finding ways to increase storage. “I hope there’s a pivot to focus on changes that will meaningfully increase reliability.” ■

ERCOT News



ERCOT Reports Optimistic About Coming Winter

Political Pressure Appears to be Influencing Public Comments

By Tom Kleckner

ERCOT broke a three-month silence on social media Wednesday when it *tweeted* the release of its semiannual report that provides a 10-year forecast of its planning reserve margins.

It was the Texas grid operator's first tweet since Sept. 13, when it said it was preparing for Tropical Storm Nicholas. The storm eventually made landfall in Texas the following day as a Category 1 hurricane, bringing heavy rainfall and storm surge before quickly falling apart quickly and dissipating on Sept. 18.

On Thursday, ERCOT also issued its first press release since Sept. 13, a *sunny report* that most of the generation and transmission facilities it had inspected in December were "ready" for the winter.

The burst of activity doesn't necessarily mark ERCOT's return to social media or sending out press releases. The Capacity, Demand and Reserves (CDR) report was dropped without the accompanying media briefing staff used to hold for both the CDR and the seasonal assessments of resource adequacy.

With the exception of the Sept. 13 notices, ERCOT's external communications have all but dried up ever since a pair of ordinary

conservation alerts in April and June spooked Texans scarred from the devastating February winter storm. A Dec. 8 press conference with Public Utility Commission Chair Peter Lake and interim ERCOT CEO Brad Jones ended abruptly before trade media calling in could ask questions, but not before Lake promised "the lights will stay on" this winter. (See *Texas PUC Chair Lake: 'The Lights Will Stay On'*.)

ERCOT officials have said they are focused on "making the necessary changes to protect Texans against the next winter storm" in explaining the lengthy radio silence. Jones has put a public face on the grid operator with his Listening Tour of Texas. (See *Jones Working to Restore Confidence in ERCOT*.)

According to *The Texas Tribune*, Gov. Greg Abbott, who is up for re-election next year and is fighting off Republican primary challengers and dismal favorability numbers (with only 18% of Texas voters approving of how state leaders have handled the winter storm and its aftermath), has taken *control of ERCOT's public messaging* since the storm. The *Tribune* said the grid operator needs approval from the governor's office for most of its public communications, a report confirmed by people familiar with the directives coming from Abbott's office.

Indeed, Abbott wasted no time in *retweeting* a *Bloomberg* story that picked up the winterization readiness press release. "Texas power plants have made the upgrades needed to protect against cold weather. ... They are good to go," he said.

"As has been a pattern lately, the communications with the public about issues of widespread concern is sorely lacking," *tweeted* Doug Lewin, president of Stoic Energy and close observer of ERCOT and the PUC.



Doug Lewin, Stoic Energy | New West Communications

Lewin poked holes in both announcements. He complimented the inspection program for getting power plants ready for the winter, but he has frequently noted the weatherization standards won't apply to natural gas facilities until 2023. Industry reports have been unanimous in blaming the gas industry's failure to supply gas plants before and during the storm as being primarily responsible for the storm's outages.

"If you can't get fuel to it, that gas plant isn't very useful during a cold snap," Lewin said.

He said *the latest CDR*, which shows ample



Frozen transmission lines after February's winter storm | Entergy

ERCOT News



capacity for the grid well into the future, bases its projections on normal weather and not the freezing conditions of 2011 or 2021. He pointed out the report's highest winter peak demand for the next five years is about 10% lower than it was under the storm's conditions.

"To say we have enough power in normal weather is not helpful," he said in another [Twitter thread](#). "We should at least plan for a winter as bad as the last one. And why do we assume that we could never have a winter worse than 2021? If these reports don't take into account extremes, they're mostly useless."

John Raymond Hanger, who once sat on the Pennsylvania Public Utility Commission, said he was shocked by ERCOT's assumptions that demand won't again reach what it did last February.

"February 2021 is now the historic winter peak within ERCOT," he [tweeted](#). "But in reliability planning, instead of meeting historic peak demand, ERCOT assumes such demand won't happen during next five years. Wow!"

Inspections Find Generation Fleet 'Ready'

ERCOT said that its system's generation fleet and transmission companies are ready for winter weather following its on-site inspections of mandatory winterization efforts at 302 generating units and 22 transmission facilities.

In a [status report](#) filed with the PUC (52786), the grid operator said some generators had exceeded the commission's new winterization requirements following the storm. (See "Weatherization Rule Published," [PUC Workshop](#)

[Takes First Stab at Market Changes.](#)

ERCOT said only 10 generators, accounting for 2.1 GW (1.7% of the total fleet), had items requiring corrective measures on the day of their inspection. It said many of those items had since been completed and noted that all 10 units are still operational.

"Texans can be confident the electric generation fleet and the grid are winterized and ready to provide power," Woody Rickerson, ERCOT vice president of grid planning and weatherization, said in a statement.

The inspections of transmission facilities found only six minor "deficiencies," most of which have since been corrected. They focused on resources that accounted for 85% of the megawatt-hours lost during the storm. Staff plan to file a final report with the PUC on Jan. 18 for review and any potential enforcement action. Violators of the new weatherization rules face penalties of up to \$1 million per day per violation. (See [ERCOT Generators Near 100% Winter Readiness Compliance.](#))

ERCOT will conduct follow-up inspections on those generation and transmission facilities with potential identified issues. Staff and contractors have already spent more than 3,600 hours on inspection-related activities.

Final 2 Board Members Appointed



Peggy Heeg | [University of Texas School of Law](#)

The PUC said Wednesday it has filled the last two vacancies on ERCOT's Board of Directors, completing a total makeover in the wake of the February storm.

The commission said

a three-man board selected by the state's political leadership had appointed Julie England and Peggy Heeg as ERCOT's final two independent directors. They are also the only women on the board. A previous appointee, Elaine Mendoza, resigned in November over an apparent conflict of interest. (See [Twitter Blows up over ERCOT Communications.](#))

England, a former senior executive with Texas Instruments, currently serves on the boards of TTM Technologies, a global technology solutions and printed circuit board fabrication company, and engineering and construction firm McMillen Jacobs Associates. She previously served as a director of the Federal Reserve Bank of Dallas from 1997 to 2003.



Julie England | [Crunchbase](#)

Heeg advised companies on energy, regulatory and corporate governance matters as an attorney before retiring. She also served on the Texas Lottery Commission and has been a director on numerous boards in the energy sector.

"This completely independent board marks a new era of reliability and accountability in ERCOT governance and leadership," PUC Chair Lake said in a statement.

[Legislation](#) passed during the summer replaced the previous board's five unaffiliated directors and eight market segment representatives with eight independent directors chosen by the selection committee. The ERCOT CEO, the PUC chair and the Texas Office of Public Utility Counsel's CEO sit on the body as non-voting members. ■

ERCOT Market Summit
February 23 - 25, 2022 | Austin Marriott Downtown | Austin, TX

Deal with the impacts of the enormous policy and market rule changes happening now!

[Register Now](#)

Save your 10 to 1 odds for Vegas.

You never want to chance too much in this market.
RTO Insider. Stay informed.

GCPA
Gulf Coast Power Association

JOIN US IN *New Orleans*

GCPA 8TH ANNUAL MISO SOUTH / SPP REGIONAL CONFERENCE
THE PAN AMERICAN LIFE CENTER
11TH FLOOR AUDITORIUM - 601 POYDRAS ST

FEB 9TH & 10TH REGISTER TODAY!

ISO-NE News

ISO-NE, States Seek to Build on ‘Alignment’ Efforts

Pipeline, Tx Constraints Continue to Test Reliability

By Rich Heidorn Jr.

ISO-NE took several important steps to demonstrate its “alignment” with state climate policies in 2021. But the RTO’s stakeholder meetings remain closed to the public, and its board elections remain secret, falling short of calls for increasing transparency. And this spring, the states and the RTO will be debating differing market proposals for accomplishing the states’ clean energy goals.

Which design will prevail is just one of the questions facing New England in 2022, starting with whether it will have enough natural gas to keep the lights on through the winter. Among the others: whether Maine voters’ rejection of the New England Clean Energy Connect (NECEC) transmission line will stick, and whether the 650-MW gas-fired Killingly plant in Connecticut will get built.

Here’s a look back at the big issues of 2021 and what to expect in 2022.

Resource Adequacy Concerns

On Dec. 6, ISO-NE officials gave a sobering press briefing, warning that limited natural gas pipeline capacity and global supply chain issues put the New England grid at heightened risk of load sheds this winter.



ISO-NE CEO Gordon van Welie | © RTO Insider LLC

The RTO said it can meet forecast peak demand of 19,710 MW during average winter weather conditions of 10 degrees Fahrenheit and 20,349 MW if temperatures reach below-average conditions of 5 F. But ISO-NE CEO Gordon van Welie said uncertainty over fuel supplies “could put

the region in a more precarious position than past winters and force the ISO to take emergency actions up to and including controlled power outages.” Van Welie said the outages would be a last resort “to prevent a region-wide blackout, which would take many days or weeks to restore.” (See *ISO-NE: New England Could Face Load Shed in Cold Snaps.*)

Resource adequacy has been a recurring winter concern in New England because of difficulty siting new natural gas pipelines and electric transmission. The state-RTO tensions were on display at FERC’s technical conference on modernizing electricity market design in ISO-NE in May (AD21-10).

Katie Dykes, commissioner of Connecticut’s Department of Energy and Environmental Protection, complained that the RTO had failed to prevent the premature retirement of the Millstone nuclear plant, leaving her state to “shore up the reliability of the [ISO-NE]

Table ES-2. ISO/RTO Stakeholder Process

AREA	CAISO	ISO-NE	MISO	NYISO	PJM	SPP
Open to Public?	Yes	No ^[1]	Yes	Yes	Yes	Yes
Senior Committee	None	Participants Committee	Advisory Committee	Management Committee	Members Committee	Markets and Operations Policy Committee
Voting Stakeholders	None	NEPOOL members	MISO members ^[2]	NYISO voting members	PJM members ^[3]	SPP members
Non-Voting Participating Stakeholders	Stakeholders	NESCOE (and state commissions)	Non-members	<ul style="list-style-type: none"> NYISO non-voting members NY DPS/PSC 	Non-members	Non-members
Board Meeting Attendance (# of Board Members)	None	Each Participants Committee (1)	Each Advisory Committee (10)	Each Management Committee, Business Issues Committee, Operating Committee (1)	None	None
Sponsor Issues/Proposals in the Stakeholder Process	Stakeholders	<ul style="list-style-type: none"> NEPOOL members NESCOE 	Stakeholders	NYISO members	Stakeholders	Stakeholders
Senior Committee Voting Approach	None	6 weighted sectors (66%/60%) ^[4]	10 weighted sectors (66%) ^[5]	5 weighted sectors (58%)	5 weighted sectors (66%)	2 weighted sectors (66%)
Appeals Process (to whom)?	Yes (Board)	Yes (Participants Committee)	No	Yes (Management Committee/Board)	No	Yes (Board)
Other Board Attendance Meeting Requirements	None	<ul style="list-style-type: none"> Sector meeting State official meetings Board State Commission meetings 	<ul style="list-style-type: none"> Hot topic discussions Special quarterly Advisory Committee Membership meetings 	Liaison Subcommittee	<ul style="list-style-type: none"> Ex parte sector meetings Liaison Committee General Sessions 	Annual membership meeting

New England remains the only region in the U.S. whose RTO/ISO stakeholder meetings are closed to the public. | Exeter Associates for New England States Committee on Electricity

ISO-NE News

grid and the market” by approving subsidies funded by ratepayers.

Van Welie told the conference that markets are “never going to work very well” with inadequate infrastructure supporting them “or if policy objectives are not aligned.”

“We have to design the markets around those [pipeline and transmission] constraints,” he said. “That’s just where we ended up because of the choices we made over the last two decades.

“Until the region figures out how it wants to socialize some of these costs for reliability that are outside of the market, we’re going to stay stuck in that situation,” he added. “There’s no market design that will solve the problem that Commissioner Dykes wants us to solve.” (See *Regulators, ISO-NE Discuss Market Changes at FERC Tech Conference.*)



Connecticut DEEP Commissioner Katie Dykes | © RTO Insider LLC

Progress on States’ Wish List

ISO-NE took several steps in 2022 to address the states’ demand for changes to the RTO’s wholesale market design, transmission planning and governance. The demands, first spelled out in a joint statement by five of the region’s governors in October 2020, was updated by the New England States Committee on Electricity (NESCOE) last August in its “Advancing the Vision” report.

ISO-NE’s Board of Directors responded to the states’ demands in September, saying it was “pursuing targeted governance and communications enhancements, consistent with its independence and oversight role.” It assured NESCOE that it is “aligned with the states on the clean energy transition,” citing a list of transmission planning and market rule initiatives that it was pursuing to enable the transition.

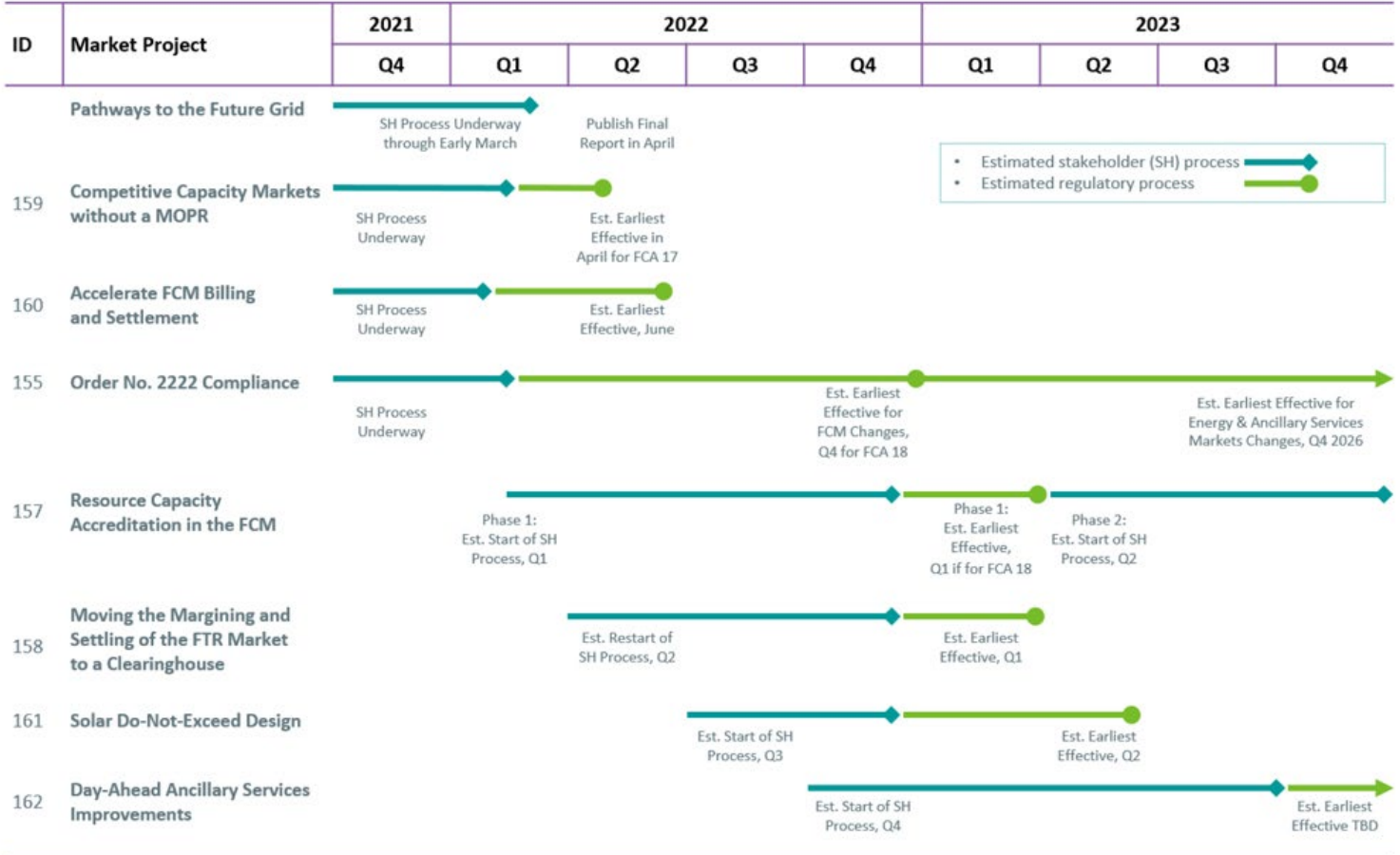
2050, ‘Future Grid’ Studies Highlight Transmission Planning Efforts

In November, ISO-NE presented the scope of its work for the 2050 Transmission Study,

which will examine ways to incorporate clean energy and distributed energy resources beyond the RTO’s standard 10-year planning horizon. The study will seek to determine what transmission is needed to serve load while satisfying reliability criteria for 2035, 2040 and 2050, including high-level cost estimates to help the states evaluate different transmission options. The study was requested by NESCOE, which also was responsible for many of the study assumptions. (See *ISO-NE Presents Preliminary 2050 Tx Study Scope.*)

Work is expected to continue on the study throughout 2022. As also requested by NESCOE, ISO-NE on Dec. 27 filed proposed tariff changes to permit future state-led, scenario-based transmission planning as routine practice (ER22-727).

In addition, ISO-NE expects to release a report this spring on the RTO’s Future Grid Reliability Study (FGRS), which will identify potential reliability gaps in 2040 based on current state laws and policies. The FGRS, which is not a detailed transmission study, is largely based on assumptions developed



ISO-NE News



by NEPOOL stakeholders, with input from NESCOE. A draft of the FGRS is expected to be presented at the Planning Advisory Committee in April and discussed at NEPOOL's Markets Committee/Reliability Committee meeting in May.

The RTO also is conducting cluster studies to interconnect offshore wind on Cape Cod and a pilot study to proactively plan for growing levels of DERs, renewables, imports and energy storage.

Wholesale Market Design

In April, the RTO is expected to release its Pathways to the Future Grid study, which will evaluate alternative market frameworks for adapting to state energy policies. The analysis will include a *forward clean-energy market (FCEM)*: a centralized, forward auction favored by states in which buyers (states, cities, retailers, companies and utilities) could voluntarily purchase clean energy attribute credits.

The study also will examine the RTO's *net carbon pricing* proposal, which would require suppliers pay for each unit of carbon they emit to generate electricity, as a supplement to the Regional Greenhouse Gas Initiative.

A third alternative to be considered is a hybrid of the net carbon and FCEM proposals. (See *ISO-NE to Study Additional Model for Capacity Market*.)

Order 2222, MOPR Removal

Stakeholders and ISO-NE staff spent many meetings during 2021 discussing the RTO's Order 2222 compliance filing and eliminating the minimum offer price rule (MOPR).

In December the NEPOOL Markets Committee approved ISO-NE's proposed set of market rules to implement Order 2222 — which requires RTOs to allow DER aggregations to provide all wholesale services that they are technically capable of providing — and rejected several amendments opposed by the RTO.

The compliance filing *passed* the MC with unanimous support from the Generation, Transmission and Publicly Owned Entities sectors and most Suppliers. Alternative Resources were split, and End Users, who had supported unsuccessful amendments by Advanced Energy Economy, were unanimously opposed.

Assuming that FERC accepts the compliance filing by the fourth quarter, distributed capacity resources will be able to participate in Forward Capacity Auction (FCA) 18 in February 2024. The RTO proposed a fourth-

quarter 2026 effective date for the energy and ancillary services markets.

The Participants Committee is scheduled to vote on the Order 2222 changes Thursday. The filing is due Feb. 2.

Meanwhile, the Markets Committee is scheduled to vote on the RTO's proposal to eliminate the MOPR at its first meeting of the new year, Jan. 11-12.

NESCOE, FERC Chair Richard Glick and Commissioner Allison Clements all favored eliminating the MOPR, which they said was undermining state decarbonization efforts. Stakeholders approved the change in November, despite warnings from merchant generators and ISO-NE's Internal Market Monitor that it will suppress capacity prices. Other stakeholders debated whether the implementation of the RTO's plan should be delayed until it approves long-term market rule changes on capacity accreditation and reserves. The MOPR would be eliminated beginning with FCA 17 in 2023. (See *Monitor, Merchants Challenge ISO-NE Plan to Eliminate MOPR*.)

State-RTO Communications

ISO-NE's September response to NESCOE said the RTO's board is "making changes that are consistent with the ISO's core requirement for independence and its role as an oversight board."

It pledged the board will hold an annual open meeting beginning in 2022 — focused on the electricity markets on even-numbered years and transmission planning in odd-numbered years — in addition to meetings the board holds with the states and NEPOOL sectors throughout the year.

The board said it would hold other meetings as needed to discuss consumer implications of its proposals and that if the states have a majority position on an RTO proposal, "management will include consideration of a state majority position in filings to FERC."

It also noted that the CEO's monthly board reports — which summarize recent board and board-committee meetings — are public and that states can question van Welie about board activities at NEPOOL Participants Committee meetings.

But the board did not take action on NESCOE's request to establish a standing board committee on state and consumer responsiveness. "The board is continuing discussions with the states about this request," ISO-NE said in an email to *RTO Insider*. "The board and several of its committees already review state

and consumer issues in various ways, and the board is continuing to consider other targeted enhancements."

Nor were there any changes to how ISO-NE selects its board members. NESCOE had called on FERC to revise Order 719 to ensure "that states and consumers in New England are meaningfully represented" in the composition of the board and the Joint Nominating Committee process that governs board nominations. State officials have only one vote on the 14-member committee, through the New England Conference of Public Utilities Commissioners.

"The Joint Nominating Committee is governed by the Participants' Agreement between the ISO and NEPOOL stakeholders," the RTO said. "The board cannot make unilateral changes to the process for selecting new members. Any changes would need to be pursued through the NEPOOL stakeholder process and approved by FERC."

In September, ISO-NE announced the election of four board members for three-year terms: incumbent Michael Curran and newcomers Caren Anders, Steve Corneli and Catherine Flax. The board also elected former FERC Commissioner Cheryl LaFleur as its chair, replacing the retiring Kathleen Abernathy.

Transparency Still Lacking, Critics Say

Critics were unimpressed with the RTO's modest changes on transparency, noting that New England remains the only region in the U.S. whose RTO/ISO stakeholder meetings are closed to the public.

ISO-NE and NEPOOL have "essentially privatized public policymaking," Tyson Slocum, director of Public Citizen's energy and climate program, said at the RTO's quarterly Consumer Liaison Group meeting in September. "There is inadequate transparency and accountability in these institutions that don't reflect the public interest nature of what they're doing."

Rebecca Tepper, chief of the Energy and Telecommunications Division in the Massachusetts Attorney General's Office, also lamented the lack of progress. "I think it would be good to see that move forward and have some real dialogue about how the governance process can be more accommodating to people." (See *Stakeholders Still Seeking Transparency from ISO-NE, NEPOOL*.)

FCA 16

In the near term, capacity market watchers

ISO-NE News

are waiting for a FERC ruling on ISO-NE's request to prevent the 650-MW natural gas-fired Killingly Energy Center in Connecticut from participating in FCA 16 in February and to terminate its capacity supply obligations (CSO). Killingly, which initially secured a CSO in 2019's FCA 13 for the 2022/23 capacity commitment period, failed to meet its development milestones, the RTO said (ER22-355).

Developer NTE Energy responded that ISO-NE made an incorrect assumption regarding a financing milestone date, claiming that its financing is "imminent." In its Dec. 3 *protest* to FERC, NTE called the RTO's action "premature" and said it had kept the project moving despite "challenges beyond its control, including the COVID-19 pandemic and an ultimately unsuccessful 29-month challenge to its state siting certificate." ISO-NE *responded* on Dec. 20, saying the only question facing FERC was whether the plant can reach commercial operation by June 1, 2024. "The answer ... is 'no,'" said the RTO.

"There is also no dispute that to terminate Killingly's capacity supply obligation — a valuable asset worth hundreds of millions of dollars — ISO-NE's tariff requires the ISO to prove that Killingly would not enter service before the June 1, 2024, deadline," NTE *responded* Dec. 28. "Despite its burden, to date, the ISO has offered only speculation about what might happen — repeating in its answer that it just 'lost confidence' in the project."

FCA 16 also will see the end of the seven-year price lock for new entrants. FERC ruled in late 2020 that the rules, which had been in effect since the FCA began in 2006, resulted in "unreasonable price distortion" and that locked-in prices are "no longer required to attract new entry." (See *FERC Orders End to ISO-NE Capacity Price Locks*.)

Prices in FCA 15 cleared at \$2.48 to \$3.98/kW-month — the high in Southeast New England nearly doubling 2020's record-low figure.

Turbulent Year for Avangrid

2021 was a turbulent year for Avangrid, the parent of Central Maine Power (CMP) and United Illuminating in Connecticut.

In May, the Bureau of Ocean Energy Management approved the final permit for 800-MW Vineyard Wind I, a joint venture of Avangrid Renewables and Copenhagen Infrastructure Partners. The first commercial-scale offshore wind project in the U.S., Vineyard Wind *broke ground* in November and is expected to begin commercial operation in 2023. In December,



Work on Vineyard Wind 1 began in late 2021. | *Vineyard Wind*

Massachusetts said it would purchase 1,200 MW of OSW from Vineyard Wind's Commonwealth Wind project. (See *Mass. Adds 1,600 MW to OSW Portfolio in Latest Procurement*.)

Avangrid faced two setbacks late in the year, however.

In November, CMP halted construction on the NECEC transmission project in response to Maine voters' approval of a referendum to block it. Avangrid filed a lawsuit challenging the constitutionality of the referendum. On Dec. 16, a judge *rejected* the company's request for an injunction to block the impact of the referendum.

In December, New Mexico regulators rejected Avangrid's proposed \$8.3 billion acquisition of PNM Resources, citing Avangrid's "demonstrated record of poor performance" in other states, including its stewardship of CMP.

The New Mexico Public Regulation Commission's 5-0 vote also followed allegations by a former cybersecurity contractor that the company conspired with suppliers to buy "tens of millions" in overpriced and unnecessary security equipment and services to boost profits. (See *NM Regulators Reject Avangrid-PNM Merger*.)

Regulators in Connecticut and Maine said they would review the allegations, which came six months after Maine Gov. Janet Mills vetoed *legislation* to create a publicly owned utility to replace CMP and Versant Power, calling it "hastily drafted." (See *Mills Tells Maine Legislature to Slow Down on Plan to Replace IOUs*.)

Annual Work Plan

ISO-NE's *Annual Work Plan* lists several additional projects and timelines for 2022:

- The RTO is expected to file a proposal with FERC by the end of 2022 revising resource

accreditation in the capacity market, to be effective in FCA 18, with a second filing by the end of 2023, targeting FCA 19.

- The RTO will focus in 2022 on proposals to co-optimize reserves in the day-ahead energy markets.
- Beginning in the first quarter and extending into 2023, the RTO will work with stakeholders and the Electric Power Research Institute on ways to model high-impact reliability risks (tail risks) related to extreme weather events, an initiative prompted by the outages in Texas during the February 2021 winter storm.
- The RTO expects to file changes with FERC in 2022 allowing solar resources to take electronic dispatch instructions in the real-time energy market under the Do-Not-Exceed model currently used by wind resources. The change would be effective in the second quarter of 2023.
- ISO-NE plans to begin discussing tariff changes in the first quarter to allow storage-as-transmission solutions for needs assessments or public policy transmission studies.
- It also hopes to complete its two-year nGEM Day-Ahead Market Clearing Engine Implementation project this year. The day-ahead clearing engine is expected to be in-service Q1 2023.
- The RTO will complete three projects in 2022 concerning identity and access management; security information and event management; and a refresh of the hardware and software supporting the collection of network traffic data that feed the Network Intrusion Detection system and the Security Information and Event Management analysis system. ■

MISO News



MISO in 2022: Seasonal Capacity, Fleet Turnover and Tx Planning

By Amanda Durish Cook

As it heads into 2022, MISO's to-do list is dominated by getting major transmission built and crafting a seasonal capacity auction, direct responses to an increasingly renewable fleet and intensifying weather events.

"Don't rest — or maybe you should rest — because we have a lot to do in the new year," MISO CEO John Bear told stakeholders at the December board meeting, referencing the RTO's work on its long-range transmission plan, seasonal capacity market, ongoing market platform replacement and dynamic transmission line ratings.

"I think we put MISO in a much, much better place than we were 12 months ago," Bear said.

Seasonal Capacity on the Way

Though climate change is rarely mentioned in meetings by politically adverse MISO staff, the footprint was roiled by extreme weather in 2021, leading the RTO to conclude that

a suite of resource adequacy solutions is needed for a fleet that's either aging or has its output dictated by weather.

MISO Senior Director of Operations Planning J.T. Smith said it's no longer surprising for the RTO to issue seasonal warnings and that it will find itself relying on non-firm imports from neighbors if outages are high when devastating cold snaps or heat domes strike.

"It's not a new situation; it's something we've reported out over the last couple of years," Smith said in mid-December.

In February, an unprecedented winter storm forced load shed in MISO South. The RTO said the widespread arctic blast gave it further justification to revise its capacity market. (See [MISO: Wintry Weather Vindicates RA Changes.](#))

But the cold snap seemed tame in comparison to the havoc Hurricane Ida doled out to MISO South in late August. After the storm struck, MISO South stayed in conservative operations from Aug. 29 to Sept. 10 to allow for restoration. The hurricane cut through a significant transmission corridor, slashing ties

from MISO into most of the Amite South and all of the Downstream of Gypsy — or metropolitan New Orleans — load pockets. MISO reported 233 transmission lines lost and 6.4 GW of generation knocked offline during the storm. (See [Entergy Touts Restoration](#); [NOLA Leaders Question Lack of Blackstart Service.](#))

"We're still suffering down there. A lot of recovery has to happen," Louisiana Public Service Commissioner Lambert Boissiere said at an Entergy Regional State Committee meeting Nov. 9.

In all, MISO declared conservative operations instructions for 29 days in 2021, 13 of them from Ida. The remaining days were devoted to managing intense heat or cold.

MISO recently requested FERC approval of a four-season capacity auction and corresponding reserve margin targets. That design will accompany a new capacity accreditation based upon generators' recent availability, especially during tight conditions. The RTO has also filed separately to create a minimum capacity obligation, in which a load-serving entity must demonstrate that at least 50% of the capacity required to meet their peak load is secured ahead of the voluntary capacity auction. (See [FERC Grants Comment Extension for MISO Capacity Filing.](#)) The pair of filings pending at FERC is all but certain to attract protests from generation owners that stand to have lower capacity credits.

The RTO said it will dedicate 2022 to furthering decisions on how its markets must change to accommodate more actively managed load and a more intermittent and varied resource fleet.

In early December, MISO's Jordan Bakke said the current market construct will gradually become less adept at serving load. He said local power imbalances will multiply, and MISO must be able to transport power for longer distances as more wind and solar generation is built in pockets around the footprint.

MISO has said that it expects wind and solar generation to reach 30% of its total load as early as 2026, straining the system and threatening reliability. It set a new, all-time wind output record of 22 GW on Nov. 12, with wind serving 29% of total load.

Winter Apprehension

MISO is steeling itself for a reserve shortage over the winter.



| DTE Energy

MISO News

RTO staff over 2021 repeated that they must make more long-lead commitments and issue maximum generation warnings more frequently as surpluses disappear under even normal weather conditions throughout the year and the bulk electric system gets more complex to manage.

The grid operator has said it will likely move up instructions for members to make public appeals for energy conservation earlier in its emergency process. It's also collecting weekly winter fuel surveys through the end of February from about 400 generators to gauge natural gas and coal fuel security. (See [MISO Sounds Alarm on Potential Winter Fuel Scarcity](#).)

Some generation owners have criticized the weekly survey fill-in as onerous. MISO staff say they need the information to assess reliability risks this winter.

"Given the potential upside of protecting the reliability of MISO and the downside of the administrative burden, I think the upside really outweighs [the downside]. ... I really appreciate MISO as a proactive manager of this situation," Minnesota Public Utilities Commission staff member Hwikwom Ham said at the Reliability Subcommittee's meeting Dec. 10.

MISO has estimated through an internal survey that about 11 GW of coal generation is at risk of outage this winter because of fuel supply issues.

Addressing the winter worry, Michelle Bloodworth, CEO of coal trade group America's Power, said MISO should "reconsider how far [the coal] fleet should be allowed to shrink." She said some coal generation can temper the "inherent risks of an overreliance on natural gas and intermittent generation for electric generation."

"Each coal plant that retires increases MISO's exposure to fuel assurance risk," Bloodworth said during MISO's Board Week in mid-December.

But the coal exodus continues unabated.

Ameren Missouri announced Dec. 14 that it would accelerate the retirement of its coal-fired, 1.2-GW Rush Island Energy Center to 2024. The new retirement date coincides with a deadline to install new emissions controls imposed by the U.S. District Court for Eastern Missouri. Ameren's 2020 integrated resource plan envisioned the plant running through the end of 2039.

"Potential grid stability and reliability impacts and other downstream effects must be evaluated, and those issues that are identified

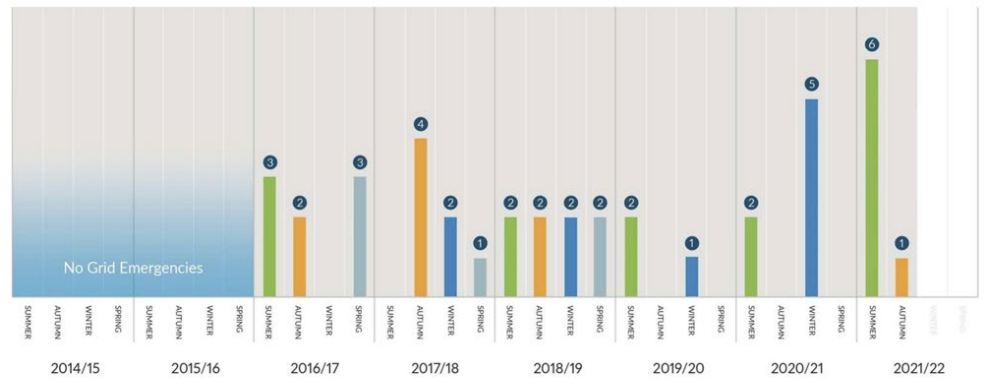


Chart indicates the number of days under a max gen alert, warning or event.

Days under a maximum generation alert, warning or event in the last eight years | MISO

must be addressed," Ameren noted in a Dec. 14 filing. Rush Island supports voltages in the St. Louis area.

NERC estimated that MISO faces a loss of more than 13 GW in capacity by 2024, comprising 10.5 GW of coal-fired generation and 2.4 GW of gas generation. If MISO doesn't get replacements online soon, the footprint could suffer from a combined 5.6-GW shortfall, NERC concluded.

New generation is clamoring in MISO's interconnection queue. In September, generation developers' requests to join the system pushed the queue to a 153-GW high, shattering all previous records. (See [MISO Warns Queue Won't Stay at 150-GW High](#).)

Historically, MISO interconnects about a fifth of the generation projects that enter the queue. MISO executives have warned that much of the new generation won't be able to connect to the system without substantial transmission expansion.

Long-range Planning in 2022 and Beyond

Despite that, some MISO players in 2021 staged a standoff over the necessity of a long-range transmission portfolio and how to divvy its costs. (See [Tensions Boil over MISO South Attitudes on Long-range Transmission Planning](#).)

RTO leadership has said it could advance several billions in transmission expansion for Board of Directors approval over the next few years. So far, the RTO is only prepared to propose select projects located in MISO Midwest in late spring.

MISO plans to finish an initial cost allocation design in early 2022. The allocation prescribes a separate but equal postage stamp allocation to MISO Midwest and South. The design is based on MISO's hypothesis that benefits from long-range projects built in

either Midwest or South won't cross its sub-regional transmission constraint. (See [MISO to Test Long-range Tx Allocation Benefits](#).)

Some MISO members — especially environmental proponents — have suggested that Entergy is opposing major transmission expansion, hoping to stave off democratization of access to its system.

MISO also faces outside pressure to get transmission towers erected.

Former FERC Commissioner John Norris — who voted in 2013 to approve Entergy's integration into MISO to mollify a Department of Justice investigation into the company's anticompetitive behavior — has expressed regret at his vote and admonished Entergy and its regulators' efforts to stall the RTO's long-range transmission planning. He asked the MISO board to intervene in what he said was the RTO's tendency to "yield to parochial interests."

"I did not, nor did I suspect any of my colleagues at FERC, would have thought that by late 2021, no advancement in regional transmission planning and building would have taken place. At a minimum it would've seemed reasonable to assume that the north-to-south interconnection issue would've been addressed and resolved. Without the ability to transfer substantial amounts of electricity from north to south begs the question: What's the point?" Norris told the board in September.

Norris said MISO's lack of regional planning means it's "already behind in its abilities to meet the needs for 2030 and beyond."

"Given the increase in [maximum generation] events, one could argue that MISO is not even meeting the needs of today," he added. ■

NYISO News

New York Set to Start Building Big in 2022

By Michael Kuser

New York enters 2022 having greenlighted the state's largest transmission projects in 50 years, with its first offshore wind project ready to put steel in the water and with officials having approved a plan for reaching emission limits set by the Climate Leadership and Community Protection Act (CLCPA).

The 2019 CLCPA and other statutes set high clean energy targets staggered every five years from 2025 to mid-century, with strict emissions limits that regulators cited in October when denying air quality permits to proposed gas-fired generators in the Hudson Valley and New York City. (See *NY Regulators Deny Astoria, Danskammer Gas Projects' Air Permits.*)

Here's a roundup of some of the biggest developments of 2021 and a look ahead to the new year.

Transmission to Deliver Renewable Power

The New York State Energy Research and Development Authority (NYSERDA) in November signed a contract for the 174-mile *Clean Path New York* transmission line being developed by a joint venture of Invenergy, EnergyRe and the New York Power Authority to bring solar and wind energy from upstate to New York City (15-E-0302).

The agency also signed a contract with Hydro Quebec Energy Services for the 339-mile *Champlain Hudson Power Express* line being developed with Transmission Developers Inc. to bring Canadian hydropower and some upstate renewables to the city. (See *Two Transmission Projects Selected to Bring Low-carbon Power to NYC.*)

The contracts are subject to approval by the Public Service Commission, which will accept public comments through Feb. 7.

Some environmentalists oppose the developers' plan to lay the Canadian line's cable along 200 miles in Lake Champlain and the Hudson River. Environmental organization Riverkeeper said that process could churn up long-dormant contaminants such as polychlorinated biphenyl (PCBs), which were dumped into the Hudson by General Electric between 1947 and 1977.

The Clean Path line runs from Delaware County, in New York's Southern Tier economic development region, through the Mid-Hudson region to New York City. A majority of the transmission line will be built on existing rights of ways already used by roads and transmission lines, developers said.

Construction could begin this year for the 1,250-MW Champlain Hudson, which is targeting a 2025 commercial operation date. The 3,800 MW Clean Path project is expected in service by 2027.

OSW Turbines for Downstate

The U.S. Bureau of Ocean Energy Management (BOEM) in November approved the construction and operations plan for the 132-MW *South Fork Wind Project* being built for the Long Island Power Authority, the second major offshore wind project in the country to move forward following the 800-MW Vineyard Wind I project. (See *Interior Greenlights South Fork Wind Project COP.*)

A joint venture between Ørsted and Ever-source Energy (NYSE:ES), South Fork will be located approximately 19 miles southeast of Block Island, R.I., and 35 miles east of Montauk Point, N.Y. The developers say they hope to begin construction on the project's underground transmission line this month. Commercial operation is expected by the end of 2023.

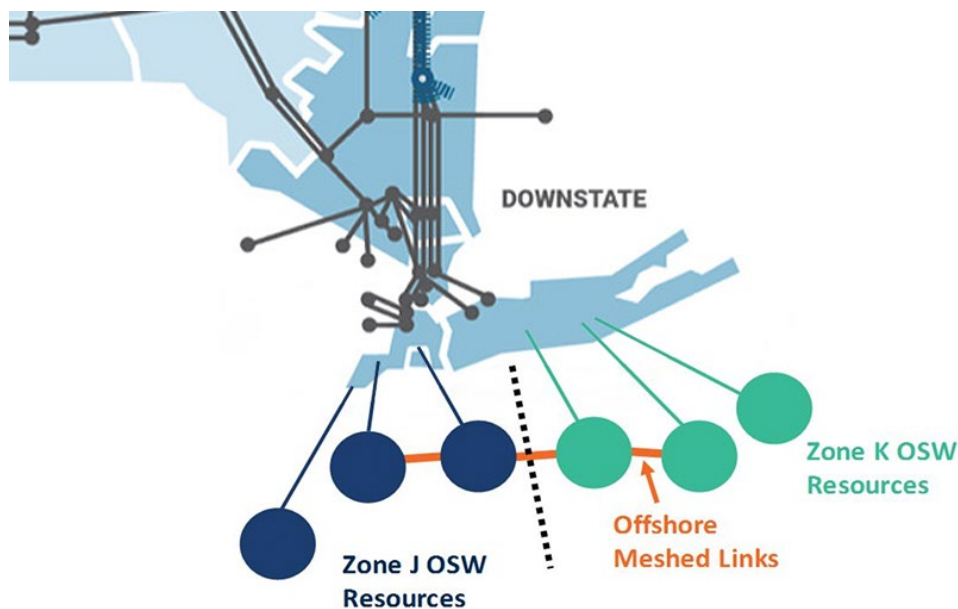
Meanwhile, BOEM plans to auction new wind energy areas in New York early this year. (See *New York Writing Ending to Tale of Two Grids.*)

Last year, New York said it had selected Equinor and its partner BP to build 2.5-GW of offshore wind: an additional 1,260 MW for their Empire Wind project in the New York Bight, and 1,230 MW for Beacon Wind, to be situated 60 miles east of Montauk. The state, which has targeted 9 GW of offshore wind for construction by 2035, previously selected the 816-MW initial phase for Empire Wind. Beacon Wind could add up to 1,170 MW in the future. (See *NY Awards 2.5-GW Offshore Deal to Equinor.*)

Equinor has begun constructing the port facilities needed to build and operate their projects, using the Port of Albany for tower manufacturing, the nearby Port of Coeymans for turbine foundation manufacturing, and turning the South Brooklyn Marine Terminal into an assembly and operations and maintenance hub. (See *NY Builds OSW Ports in Brooklyn, Albany, Long Island.*)

Without coordinated planning, NYISO says transmission congestion around New York City could increase after the first 6,000 MW of offshore wind is interconnected.

In a NYSERDA-commissioned study released in November, The Brattle Group concluded that high voltage alternating current (HVAC) would be better than high voltage direct current (HVDC) for a cost effective meshed offshore grid. Because most of the offshore wind lease areas are close to shore, distance



A 2020 study illustrates the simulated OSW generation plants, the ties from these plants to their respective onshore POIs, and the meshed links between four of these plants. | *The Brattle Group*

NYISO News

constraints associated with HVAC will not be an issue, the study said.

“Most lease areas up for auction are within 20 miles from each other. At this distance HVAC is a much more suitable option,” the study said. “HVAC also allows for less expensive upfront costs and technology risks to developers, which will enable higher degrees of cooperation and acceptance of a meshed solution.”

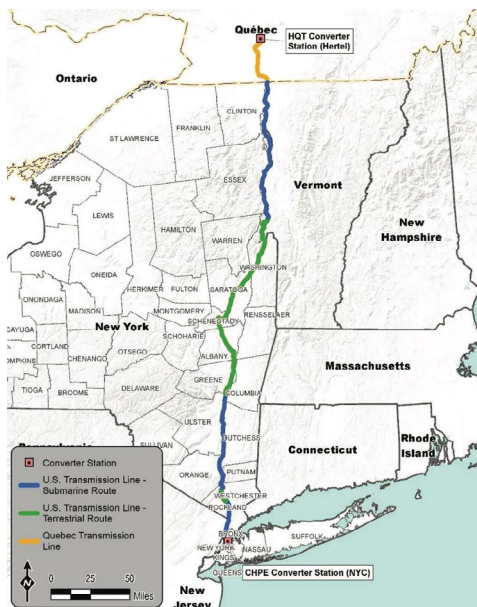
Climate Scoping Plan

In March, the state’s Climate Action Council will begin holding at least six regional public hearings on the draft scoping *plan* it approved in December for meeting the state’s climate goals. (See [NY Officials Approve Draft Climate Action Plan.](#))

The scoping plan incorporated recommendations from the Climate Justice Working Group, the Just Transition Working Group and seven advisory panels: Transportation; Agriculture and Forestry; Land Use and Local Government; Power Generation; Energy Efficiency and Housing; Energy Intensive and Trade Exposed Industries; and Waste.

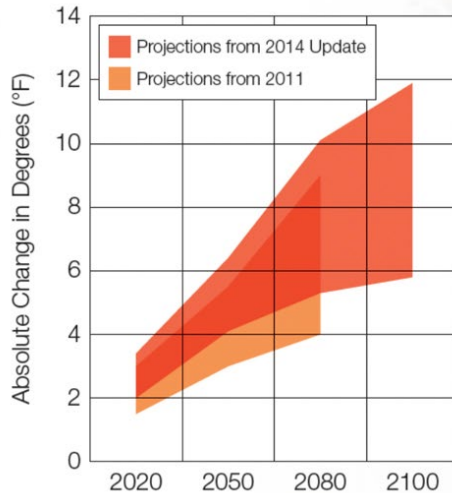
The public will have at least 120 days to submit comments on the plan, and the Council will incorporate the feedback over the course of the new year before issuing a final plan by Jan. 1, 2023.

New York officials in December also *announced* the release of a *roadmap* outlining expanded



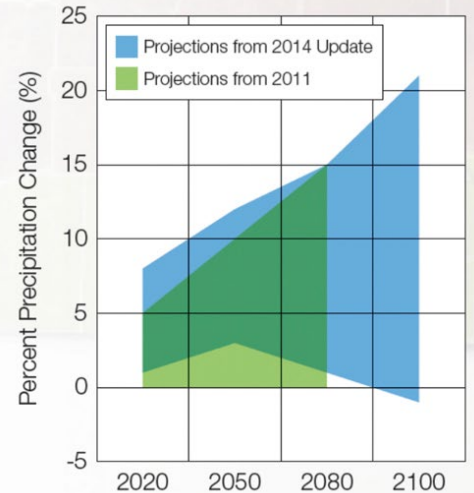
Map shows the full length of the Champlain Hudson Power Express transmission line from Quebec to New York City. | *HQUS*

Comparison of 2011 and 2014 Temperature Projections



Climate projections for New York state. | *NYSERDA*

Comparison of 2011 and 2014 Precipitation Projections



programs to achieve 10 GW of distributed solar in the state by 2030 (Case No. [21-E-0629](#)).

The state defines distributed solar as projects under 5 MW, including rooftop installations and community solar projects. The new framework builds on New York’s solar energy progress so far, with installed distributed solar and projects under development already totaling 95% of the state goal of 6 GW by 2025.

NYSERDA and the Department of Public Service (DPS) submitted the roadmap to the Public Service Commission for public comment, which is due March 7. (See [New York Issues 10 GW Solar Roadmap for 2030.](#))

The expanded *NY-Sun* initiative aims to encourage the construction of at least 1,600 MW of new solar capacity to benefit disadvantaged communities and low-to-moderate income New Yorkers. It proposes that at least 450 MW be built in Con Edison’s service territory covering New York City and parts of Westchester, which would increase solar capacity in the ConEd region to more than 1 GW by the end of the decade.

NYSERDA also proposes that at least 560 MW of new solar generation be built on Long Island through the Long Island Power Authority.

NYISO Market Changes

NYISO last month *updated* stakeholders on several wholesale market changes it is making to accommodate the thousands of megawatts

of state-solicited renewable resources coming online in New York over the next decade. (See [NYISO Updates Grid in Transition Work and Plan for 2022.](#))

The measures range from carbon pricing — which has not been endorsed by the governor or the legislature — to buyer-side mitigation reforms and distributed energy resource participation models, including for storage, hybrid and co-located resources, all part of the ISO’s Grid in Transition *initiative* announced in 2019. The Grid in Transition initiative is focused on aligning New York’s competitive markets with the state’s clean energy objectives, valuing reserves for resource flexibility, and improving capacity market valuation.

In addition to working on buyer-side mitigation tests and capacity accreditation, the ISO expects to complete development and deployment of the remaining software for its distributed energy resources (DER) participation model in 2022.

The ISO also posted the final *version* of its 2022 Master Plan for changes to the energy, ancillary services and capacity markets.

In addition to addressing climate change, state officials hope offshore wind and other clean energy policies will have an economic payoff: A study commissioned by New York officials predicts that clean energy employment in the state will increase by at least 211,000 jobs this decade and by nearly 350,000 by mid-century. (See [NY Predicts 200K+ New Clean Energy Jobs by 2030.](#)) ■

PJM News



MOPR, Capacity Auction Highlight 2021 for PJM

By Michael Yoder

While 2020 was marked by the emergence of COVID-19 and its disruptions on everyday life, 2021 featured an attempt to return to some normalcy while still dealing with the impacts of the pandemic.

PJM's year was punctuated by changes in the capacity market through votes by stakeholders and the Board of Managers and a lack of action by FERC that led to the implementation of the RTO's narrowed minimum offer price rule (MOPR). The year also included the first capacity auction conducted since 2019, as well as moves to seek solutions for the incorporation of more renewable resources into the grid.

Here's a review of some of the biggest PJM stories of 2021 and a peek at issues stakeholders will be tackling in 2022.

MOPR Changes

In March, FERC's technical conference on capacity markets targeted PJM's MOPR, with both commission Chair Richard Glick and PJM CEO Manu Asthana saying the MOPR was not "sustainable" because it was hindering state decarbonization efforts and that it was forcing consumers to "spend billions of dollars extra in the name of trying to address price suppression" by state-subsidized resources.

Glick said he wanted FERC to move quickly on the MOPR despite other capacity market changes that could take longer to accomplish, seeking its replacement or elimination in time for the 2023/24 Base Residual Auction originally scheduled for December.



FERC Chairman Richard Glick | © RTO Insider LLC



A solar project installed on a warehouse rooftop in Perth Amboy as part of New Jersey's Community Solar Energy Pilot Program | *Solar Landscape*

By the end of June, stakeholders overwhelmingly supported PJM's replacement for the extended MOPR, handing the final recommendation to the board. The proposal topped eight other plans in a special Members Committee meeting, receiving an 87-18 vote for a sector-weighted score of 4.18/5 (83.6%).

The new MOPR applies only to resources connected to the exercise of buyer-side market power or those receiving state subsidies conditioned on clearing the capacity auction. The vote was conducted under the RTO's critical issue fast path (CIFP) accelerated stakeholder process mechanism, *initiated* for the first time in PJM's history by the board in April.

Market participants are also asked to sign attestations declaring that they are not exercising market power or receiving state funds tied to clearing in the auction. PJM said it and the Monitor will conduct "fact-specific, case-by-case reviews" if they suspect market power. If they have concerns that a market seller "provided a misrepresentation or otherwise acted fraudulently," a referral to FERC can be made for further investigation.

With the new rules in place, PJM would eliminate both the expanded MOPR and the prior

MOPR, which was limited to new natural gas resources.

The PJM Board of Managers approved the RTO's MOPR proposal, sending it to FERC on July 30. By the end of August, dozens of comments flowed into FERC in both support and opposition to the filing (ER21-2582).

Ultimately the rule took effect at the end of September after FERC deadlocked 2-2 on PJM's proposal, becoming effective "by operation of law." (See [FERC Deadlock Allows Revised PJM MOPR](#).)

Glick and Commissioner Allison Clements, both Democrats, supported the PJM filing, with Republicans James Danly and Mark Christie standing in opposition.

At FERC's October open meeting, Glick said "good riddance" to the old MOPR, calling it a "thinly veiled attempt to frustrate state efforts to promote cleaner energy."

Christie said in his [statement](#) that he agreed that the expanded MOPR needed "to be replaced or significantly modified" because it was "simply unsustainable" because of the disparate energy policies among PJM's 13 states and D.C. But he called the RTO's proposal the "flawed and rushed result of an

PJM News



'expedited' stakeholder process." Danly said PJM's proposal should have been rejected because it eliminated "all mitigation of the price-suppressive effects of state subsidies."

By October, Vistra, Old Dominion Electric Cooperative, the Electric Power Supply Association and regulators from Ohio and Pennsylvania filed rehearing requests. FERC ultimately declined rehearing requests on Nov. 29, setting up further action in appellate court. (See [FERC Declines Rehearing of PJM MOPR: Ball now in 3rd Circuit Court.](#))

The PJM Power Providers Group, the Pennsylvania Public Utility Commission and the Public Utilities Commission of Ohio all filed challenges with the 3rd U.S. Circuit Court of Appeals.

Return of Capacity Auctions

PJM was finally able hold the 2022/23 BRA in May and post results in June after a delay of more than a year, stemming from FERC's 2019 approval of the extended MOPR.

The RTO announced that capacity prices dropped significantly for the 2022/23 delivery year, with rest-of-RTO prices falling by nearly two-thirds to \$50/MW-day and prices in the Eastern and Southwest Mid-Atlantic Area Council (MAAC) regions falling to their lowest on record. (See [Capacity Prices Drop Sharply in PJM Auction.](#))

The BRA cleared 144,477 MW of resources for the June 1, 2022, through May 31, 2023, delivery year at a cost of \$3.9 billion, or \$4.4 billion less than the 2018 auction for 2021/22 delivery year, after adjustments for an increase in entities choosing to skip the auction by using the fixed resource requirement (FRR).

The auction gave PJM a 19.9% reserve margin, above the 14.5% requirement, including load and resource commitments under FRR.

Before the auction, Dominion Energy Virginia chose the FRR option beginning with the 2022/23 BRA over concerns an expanded MOPR would undermine its ability to meet Virginia's renewable energy targets. The utility's FRR election covered more than 60 generating units totaling more than 18.1 GW, including its 1.7-GW Surry nuclear power plant. All told, 175 generating units chose the FRR for the 2022/23 BRA, the second highest on record and more than double the 85 units that chose the FRR option for 2021/22. (See [Dominion Opts out of PJM Capacity Auction.](#))

To get back to a three-year forward schedule for PJM's capacity auctions, FERC in October approved a compressed schedule for auctions through 2024.

PJM received approval from the commission to push the 2023/24 BRA to Jan. 25, after initially scheduling it for December, because

of FERC-required changes related to the market seller offer cap. The RTO said the auction delay was necessary to give capacity market sellers and the Monitor a "realistic opportunity" to appeal PJM's final decisions on unit-specific offer cap requests resulting from the MSOC changes.

But the BRA has been delayed once again, after the commission last month partially reversed its May 2020 decision on PJM's proposed energy price formation revisions. PJM must submit a compliance filing with the commission within 30 days proposing a new schedule for the BRA and subsequent capacity auctions impacted by the delay. (See related story, [FERC Reverses Itself on PJM Reserve Market Changes.](#))

Fast-start Pricing

In May, FERC accepted PJM's compliance filing on its rules for fast-start resources, allowing tariff changes to take effect on an issue that had been before the commission since 2017 ([ER19-2722](#)). (See [FERC Accepts PJM Fast-start Tariff Changes.](#))

PJM's proposal added a new section to its Operating Agreement defining a fast-start resource as "capable of operating with a notification time plus start-up time of one hour or less, and a minimum run time or minimum down time of one hour or less, based on operating characteristics."

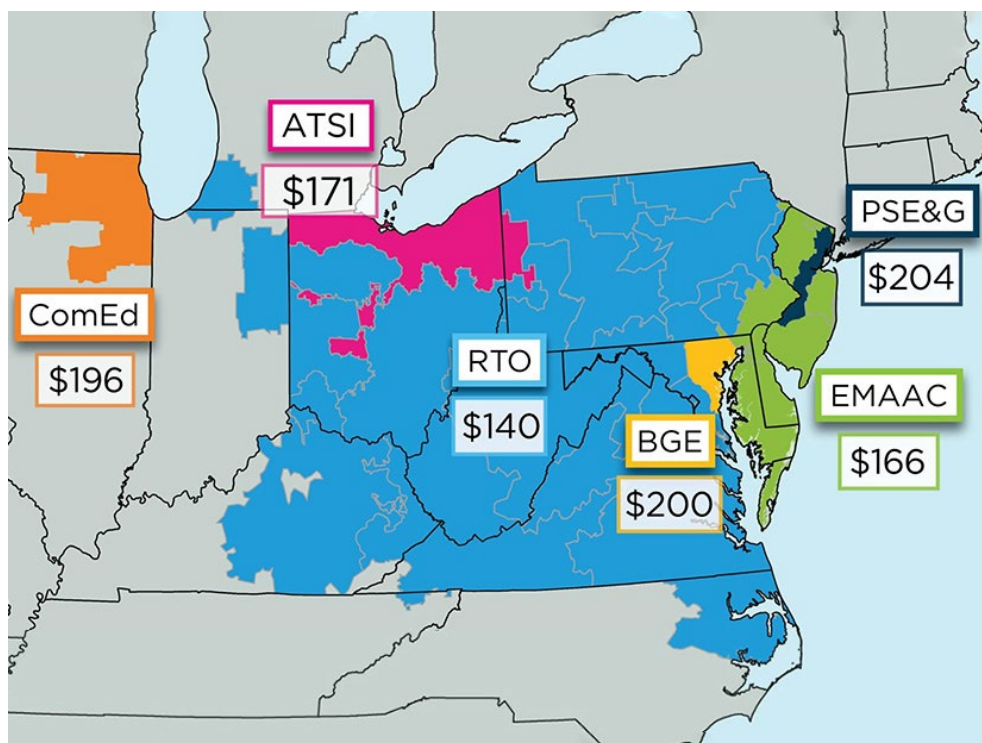
Resource Adequacy

The Resource Adequacy Senior Task Force (RASTF), a new senior task force aimed at addressing resource adequacy topics and recommending possible changes to the capacity market, won stakeholder approval in October.

David Anders, director of stakeholder affairs for PJM, called the task force the "central clearinghouse" for work related to resource adequacy following stakeholder discussions on the MOPR.

The task force was partially the result of a [letter](#) issued by the board in April urging stakeholders to address a series of topics related to the capacity market, including the evaluation of characteristics of the appropriate level of capacity procurement and the examination of the need to strengthen the qualification and performance requirements on capacity resources.

Stakeholders suggested including a discussion on opportunities to address the social cost of carbon; procurement of clean resource attributes in the RTO's capacity, energy and ancillary services markets; FRR rules; and



Capacity price results from the 2021/22 Base Residual Auction in May | PJM

PJM News



generation performance assessments.

The RTO is looking to implement an *issue charge* for the RASTF this month, with work in the task force expected to be completed by late 2023 in time for implementation in the 2027/28 BRA in May 2024.

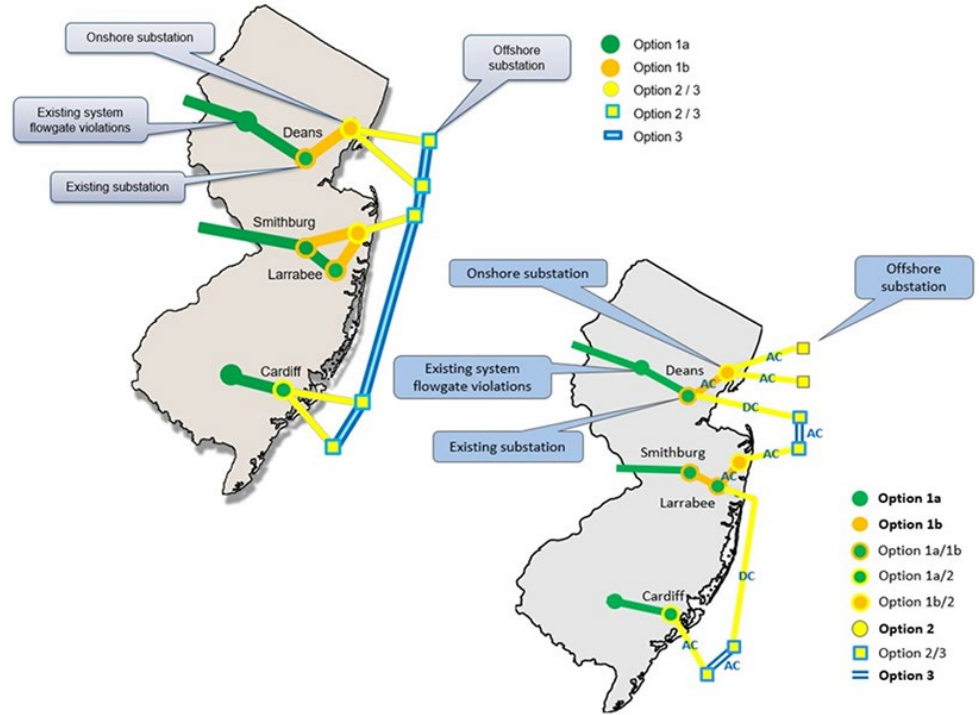
Energy Transition

PJM announced in October that it received 79 proposals addressing both the onshore and offshore demands of New Jersey's ambitious offshore wind program as part of the RTO's "state agreement approach" under FERC Order 1000.

The RTO is currently evaluating issues around reinforcing networks and preparing reviews of the offshore elements of the proposals by collaborating with consultants with offshore wind expertise.

The New Jersey Board of Public Utilities has already awarded three offshore wind projects in two solicitations: the 1,100-MW Ocean Wind 1 and 1,148-MW Ocean Wind 2 projects, both developed by Ørsted, and the 1,510-MW Atlantic Shores project, a joint venture between EDF Renewables North America and Shell New Energies US. The BPU is planning to hold three more solicitations over the next five years to help the state reach its goal of supplying 7,500 MW of offshore wind by 2035. (See *NJ Awards Two Offshore Wind Projects.*)

The BPU has issued a guidance *document* indicating certain processes to be employed going forward during the project evaluations. New Jersey retains the right to elect



PJM gave an example of how proposals to New Jersey's solicitation for offshore wind transmission projects may look. | PJM

to move ahead with any of the projects and is targeting the end of the year to make final decisions.

Besides the offshore wind initiative, PJM in December kicked off what it said will be a multiyear initiative on the study of integrating the increasing number of renewable resources in the region. (See *PJM Energy Transition Study Released.*)

The paper, "*Energy Transition in PJM: Frameworks for Analysis,*" included the RTO's preliminary five-year strategy built on three pillars: facilitating state and federal decarbonization policies; planning for the grid of the future; and fostering innovation for the transition.

PJM said the study is designed to help identify gaps and opportunities in the current market construct and provide insights into the future of market design, transmission planning and system operations.

The study considers three scenarios in which an increasing amount of energy is served by renewable generation. The "base" scenario included 10% of the annual energy in the PJM footprint coming from renewable generation, while the "policy" and "accelerated" scenarios had renewables representing 22% and 50% of the annual energy, respectively.

In the accelerated scenario, up to 70% of the dispatch was considered carbon-free when combined with nuclear generation. The accelerated scenario includes 29 GW of offshore wind, 36 GW of onshore wind and 55 GW of solar. As of 2020, renewables represented 6% of PJM's annual energy.

Work on the study is expected to continue through 2022 with an updated report coming around the end of the first quarter of the year. ■



Windmills stand on a hill in Fayette County, Pa. | © RTO Insider LLC

PJM News



Consumer Advocates Request Rehearing on PJM Rate-base Network Upgrades

By Michael Yoder

A group of consumer advocates requested rehearing Dec. 21 of FERC's decision in November to open a paper hearing on PJM transmission owners' proposal to add network upgrades to their rate base ([ER21-2282](#)).

The Maryland Office of People's Counsel, the D.C. Office of the People's Counsel and the Delaware Division of the Public Advocate argued the TOs do not have "exclusive and unilateral rights to file under Section 205" of the Federal Power Act to change network upgrade rules in the tariff, "particularly the rules impacting major elements of the market structure such as those relating to network upgrades affected in this proceeding."

"There are good public policy reasons for the existing division of filing rights," the advocates said. "Significant changes to PJM market design should be carefully considered by all stakeholders in the PJM market,

either through a stakeholder process or their interactions with the RTO. This process allows PJM and, through its review of PJM's filing, the commission to receive a balanced perspective that considers generation and consumer interests as well as those of transmission owners. The PJM TOs' unilateral filing rights, which by definition are necessarily parochial in nature, are appropriately limited to areas related to rate design and revenue adequacy."

The TOs had *asked* the commission on June 30 to allow them the option to fund network upgrades and add them to their rate bases. Under PJM's "participant funding" model approved in 2004, generators provide the capital for network upgrades, while the additional infrastructure is added to rate bases at zero cost, allowing TOs to recover only their operations and maintenance expenses from network transmission customers. (See [FERC Establishes Paper Hearing on PJM Rate-base Network Upgrades](#).)

The advocates said the tariff modifications

would impede PJM's "exclusive rights to change terms and conditions related to billing and cost recovery" because they would change how the RTO collects payments for network upgrades. They also said FERC's order "interferes" with PJM's responsibility to review public policy objectives when evaluating projects and needs in the Regional Transmission Expansion Plan.

"The authority granted to the PJM TOs by the November 2021 order must be part of a market design that is consistent with or superior to the market design approved in Order No. 2003, but, as reflected in the June 30 filing, it is not," the advocates said.

FERC had previously set a deadline of Monday for initial responses to its November order, but the TOs filed a *motion* last month to extend the deadline to Jan. 13 for initial responses and Feb. 28 for reply comments because of the holiday season and a compressed time frame. The commission *accepted* the deadline extension request on Dec. 9. ■



PJM News



NRC Preparing to Cite Davis-Besse Nuclear Plant on Safety Issue

Owner Failed to Inspect Emergency Generator Switch for 15 Years

By John Funk

The Nuclear Regulatory Commission is preparing to cite Energy Harbor, the owner of the Davis-Besse nuclear power plant in Ohio, for failure to develop a preventative maintenance schedule for electric switches installed in 2006.

The field flash selector switches (FFSS) enable the plant's two emergency diesel generators (EDGs) to actually begin to produce electricity once their turbines are spinning.

A team of NRC inspectors earlier this fall determined that the switches had not been inspected in the 15 years since installation and that "degradation" of electrical contact surfaces had occurred.

Each EDG is designed to power the plant's complex safety systems, including the emergency cooling equipment, if the reactor shuts down and the facility is also cut off from grid power. Their functioning in an emergency shutdown is crucial. They failed to generate power during five routine periodic

tests between 2019 and 2021, the company reported.

The EDG problems and a July incident that began with the plant's main steam generator, causing the reactor to automatically and safely switch off, prompted NRC to send a special inspection team to the plant, located about 30 miles east of Toledo on Lake Erie.

Davis-Besse's own engineers had determined that two other switches were not designed for the plant's EDG system, and they were replaced. But the plant's management disagreed with NRC's finding that its failure to develop an inspection of the FFSS had caused the problem.

"After the special inspection concluded and during the development of the preliminary significance determination, you provided the perspective, based on a vendor analysis, that the EDG FFSS failure during the fast-start test was most likely the result of foreign material between the switch electrical contacts, as evidenced by the presence of nickel on the contact surface," the commission noted in a

letter sent to Davis-Besse managers Dec. 16 and released to the public Dec. 21.

"You concluded that the failure was not caused by the lack of inspection and long-term switch electrical contact degradation. The NRC has preliminarily determined this vendor analysis does not rule out contact degradation due to lack of inspection as a significant contributing cause of the failure," the commission countered.

"There is sufficient operating experience on electrical contact failure due to contamination to reasonably consider this degradation mechanism to be credible. Therefore, we continued to conduct our significance determination with this assumption."

If NRC does cite the company as it appears ready to do, the citation would remain on the plant's safety record while the commission conducts additional on-site inspections. The commission is attempting to assess the risk the problem with the switches posed.

Energy Harbor did not respond to a request for comment. ■



Davis-Besse nuclear plant in northern Ohio | NRC

PJM News



DC Circuit Reverses FERC on PATH Refunds

Recovery Denied on 'Influence' Spending

By Rich Heidorn Jr.

Reversing FERC, the D.C. Circuit Court of Appeals ruled Dec. 28 that developers of the abandoned Potomac-Appalachian Transmission Highline (PATH) transmission project must refund \$6 million spent to influence public officials to approve the project (20-1324).

The \$2.1 billion, 765-kV “coal by wire” PATH project was approved by PJM in 2007 to run from American Electric Power’s John Amos coal generator in St. Albans, W.Va., to New Market, Md.

By 2011, however, PJM said the need for the line had moved several years beyond 2015 because of reduced load growth following the Great Recession. After ordering transmission owners to suspend work on the line pending a more complete analysis, the PJM Board of Managers terminated it in 2012. PATH’s developers, AEP and FirstEnergy’s Allegheny Energy, sought to recover \$121.5 million they spent on the abandoned project.

At issue was \$6 million that PATH passed on to customers in 2009-2011 for public relations and advocacy activities related to its effort to win certificates of public convenience and necessity to build the line.

After denying recovery of the expenses in 2017, FERC reversed itself in a ruling in January 2020 (Opinion 554-A, ER09-1256, *et al.*). (See [FERC Grants Recovery on PATH Project Costs.](#)) FERC later rejected a rehearing request by PATH opponents Keryn Newman and Alison Haverty of West Virginia (Opinion 554-B), prompting them to file a *pro se* petition with the D.C. Circuit.

PATH booked the expenses in accounts designated for “Outside Services Employed” and “General Advertising Expenses.”

But Judge Cornelia “Nina” Pillard, writing for a three-judge panel, agreed with the petitioners that the expenses belonged in Account 426.4 for “Expenditures for Certain Civic, Political and Related Activities,” which would exclude them from being passed through to ratepayers.

FERC’s instructions state that 426.4 “shall include expenditures 1) for the purpose of influencing public opinion with respect to the election or appointment of public officials,



Proposed PATH transmission line | © RTO Insider LLC

referenda, legislation or ordinances (either with respect to the possible adoption of new referenda, legislation or ordinances or repeal or modification of existing referenda, legislation or ordinances), or approval, modification or revocation of franchises; or 2) for the purpose of influencing the decisions of public officials.”

PATH contended that account was intended only for expenses made to directly influence the decisions of public officials but that the spending was for “indirect” influence.

FERC agreed, saying the spending was more like an “operating expense” because it related to “general promotional efforts” on behalf of a line that had already been approved by PJM.

The commission said the spending would have belonged in Account 426.4 if it was intended to win “a franchise application — in which the utility competes for a potentially lucrative status for itself” — rather than an application “in service of an RTO-approved project — in which the utility represents not

only its own interests but those of the RTO as a whole.”

But the court said FERC’s reasoning was “unpersuasive,” noting that PATH’s own internal statements confirm that the spending was intended to influence the decisions of public officials.

“FERC clearly erred in reading Account 426.4’s second clause as implicitly limited to expenditures for the purpose of directly influencing the decisions of public officials,” Pillard wrote. “We hold that the official-decisions clause includes expenditures for the purpose of indirectly as well as directly influencing the decisions of public officials. ... Because indirect influence of state officials responsible for certification decisions was the undeniable purpose of the expenditures at issue here, they should have been assigned to Account 426.4.”

The court vacated FERC’s opinions and remanded the case to the commission. ■

PJM News



FERC Reverses Itself on PJM Reserve Market Changes

Next BRA to be Delayed Again

By Michael Yoder

PJM's upcoming 2023/24 Base Residual Auction will be delayed again after FERC on Dec. 22 partially reversed its May 2020 decision on the RTO's proposed energy price formation revisions, requiring tariff and Operating Agreement revisions within 60 days (EL19-58).

In a 3-1 vote, the commission reaffirmed its previous decision directing PJM to consolidate its tier 1 and tier 2 reserve products, but it said it erred in its approval of changes to the shape of the RTO's operating reserve demand curve (ORDC). Commissioner James Danly was the lone vote against the decision, saying he would publish his full dissent in the future, while newly appointed Commissioner Willie Phillips did not participate in the order.

PJM filed its proposal unilaterally in March 2019 under Section 206 of the Federal Power Act because stakeholders could not come to a consensus on a single plan after more than a year of discussions and debate. (See [PJM Files Energy Price Formation Plan](#).)

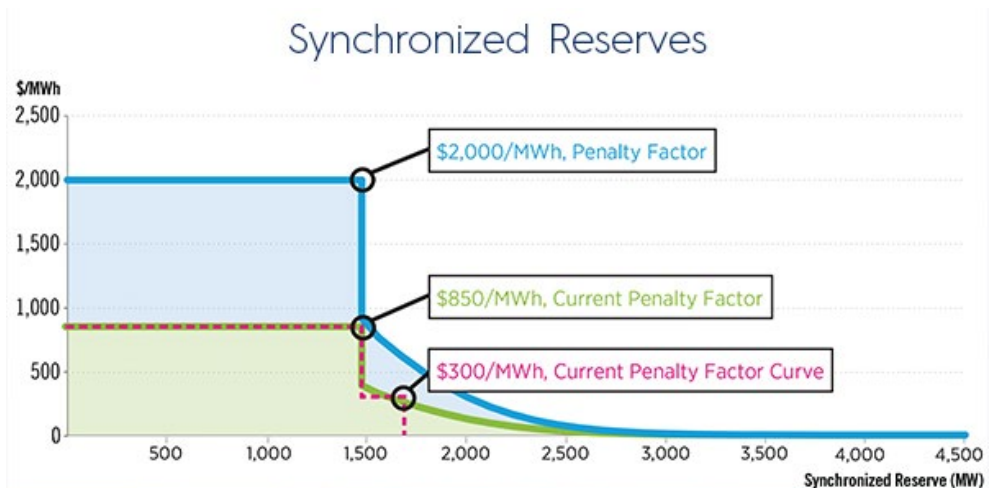
The RTO uses an ORDC and transmission constraint penalty factors to establish LMPs. Under its current rules, the maximum price the energy component of an LMP can reach is \$3,750/MWh.

But the "downward sloping" ORDC, approved by FERC in May 2020, allowed the RTO's LMPs to reach or exceed \$12,050/MWh in cases of extreme reserve shortages.

The commission approved the proposal in a 3-1 vote in 2020, with then-Commissioner Richard Glick issuing a strongly worded dissent that said he was "particularly troubled" that PJM's revision to the ORDC was accepted and that annual increased costs to load could reach up to \$2 billion. (See [FERC Approves PJM Reserve Market Overhaul](#).)

Public interest and consumer organizations challenged FERC's decision over the increased costs to ratepayers. In May, several petitioners, including state consumer advocacy agencies, [asked](#) the D.C. Circuit Court of Appeals to reverse the decision, and the court in August remanded it.

FERC said the 2020 order "relied on broad statements" concerning the amount of PJM's "operational uncertainty," the practice of "load forecast biasing" by its operators and the



PJM's operating reserve demand curve (blue) as approved by FERC in 2020, compared to a previously proposed version (green) and old version (pink dotted line) | PJM

"prevalence of reserve market uplift" in determining that aspects of the RTO's markets were unjust and unreasonable, including the "shape of its ORDCs beyond the minimum reserve requirements."

"Upon reconsideration, we find that PJM failed to demonstrate that the operator bias it cited is caused by its currently effective ORDCs, and thus that the biasing data PJM provides does not demonstrate that its ORDCs are unjust and unreasonable," FERC said.

FERC Directives

The commission ordered PJM to maintain its currently effective reserve penalty factors of \$850/MWh for the synchronized reserve requirement and primary reserve requirement and \$300/MWh for the extended requirements.

PJM argued that the \$850/MWh factors were no longer just and reasonable because FERC Order 831 directed the RTO to increase its cost-based incremental energy market offer cap to \$2,000/MWh, and thus "\$2,000/MWh is the lowest reasonable level at which the penalty factor can be set and still be consistent with the actions that system operators are required to take to maintain reserves." (See [New FERC Rule Will Double RTO Offer Caps](#).)

The RTO proposed a replacement rate design that would establish reserve penalty factors of \$2,000/MWh to align with the maximum

price-setting energy offer cap of \$2,000/MWh. But FERC said it disagreed with the RTO's arguments as to the necessity for the change.

"The costs of a resource providing reserves are mainly based on that resource's lost opportunity costs: the difference between the prevailing locational marginal price and its energy offer, i.e., its foregone net energy market revenues," FERC said. "Thus, even when LMPs in the PJM region exceed \$1,000/MWh, there is usually reserve capacity available at a cost much less than \$1,000/MWh."

The commission also reversed its decision on PJM's forward-looking energy and ancillary services (E&AS) offset, a key variable in calculating the net cost of new entry (CONE) for resources in capacity auctions. The RTO must now revert to the previous, backward-looking offset.

FERC said PJM's failure to demonstrate that its reserve penalty factors and ORDCs were unjust and unreasonable "undermined the fundamental basis" for the commission's determination that the backward-looking offset is unjust and unreasonable.

"Without these fundamental changes to the reserve market, there is insufficient evidence in the record to find that E&AS revenues will increase to such an extent that the backward-looking offset does not reasonably reflect future E&AS revenues and is therefore unjust and unreasonable," the commission said.

PJM News



Auction Delay

The commission said it recognized PJM will need to delay the BRA for the 2023/24 delivery year currently scheduled for Jan. 25 to implement the revised E&AS offset. FERC previously approved PJM's request in October to delay the BRA in response to the commission's order in September revising the RTO's market seller offer cap (MSOC). (See [FERC Accepts PJM BRA Delays](#).)

PJM must submit a compliance filing with the commission within 30 days proposing a new schedule for the BRA and subsequent capacity auctions impacted by the delay.

The commission said it will not require PJM to rerun capacity auctions that utilized the forward-looking offset because doing so would "undermine the expectations of the parties who are making commitments for the 2022/23 delivery year." Capacity prices fell sharply in the last BRA held in May, the first capacity auction held since a delay in 2018. (See [Capacity Prices Drop Sharply in PJM Auction](#).)

PJM spokeswoman Susan Buehler said the RTO was still reviewing the FERC order and

examining next steps.

Order Opinions

FERC Commissioner Mark Christie said in a concurring opinion that certain changes in PJM's reserve market construct proposal represented an "unacceptable risk that hundreds of millions of dollars of additional costs could be placed on consumers without a conclusive demonstration, in my view, of a commensurate increase in reliability."

Christie said he agreed with the majority of commissioners that PJM "failed to meet its demanding burden" under FPA Section 206 to show that aspects of its currently effective reserve construct were unjust and unreasonable. He also agreed that because the replacement ORDC construct and reserve penalty factors "formed the bases" of challenging the E&AS offset from backward-looking to forward-looking, it too was unjust and unreasonable.

Christie said the order does not prevent PJM from seeking the approval of a forward-looking offset in the future if a proper case can be made, and he said it also doesn't pre-

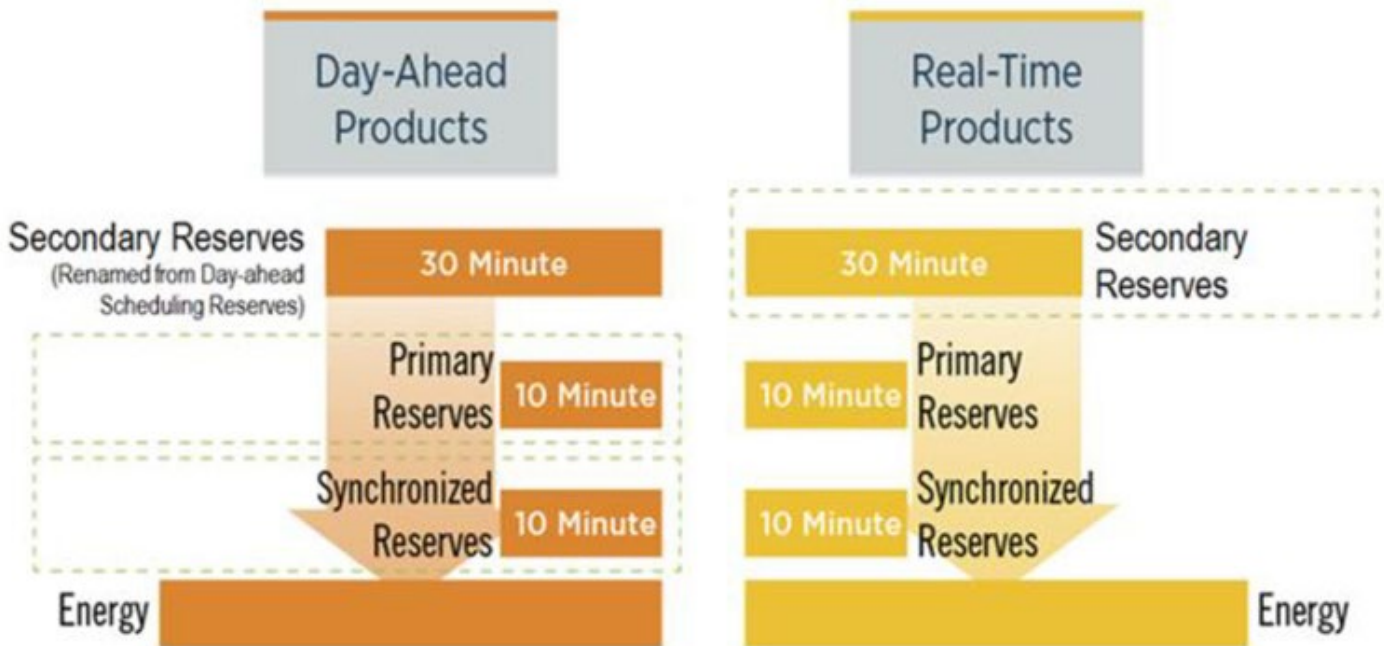
vent the RTO from proposing other modifications to the reserve market construct.

"Consumers deserve a reliable supply of power at the least cost (consistent with applicable laws)," Christie said in his concurrence. "The issues implicated by PJM's proposal to make major changes to its reserve market construct involve both reliability and consumer costs. Achieving the right balance is always the challenge in utility regulation."

In a Twitter [thread](#) published on Dec. 23, Kentucky Public Service Commission Chairman Kent Chandler gave praise to FERC for "rethinking a prior decision." Chandler said the previously approved ORDC "would have raised electricity prices by hundreds of millions of dollars, with little increase in resource availability or reliability."

"The real win for consumers from this order is the reduced risk of extended periods of high prices that don't increase reserves during emergency events," Chandler said. "Without a circuit breaker, the ORDC posed a risk of high prices that look to bring on new generation, even if no one can show up." ■

PJM Reserve Market Alignment



ORDCs and Offer Price Caps will be consistent between DA & RT for each product

SPP News

SPP Aspires to Increase its Western Footprint in 2022

Strategic Plan Includes Seams, Tx-planning Improvements

By Tom Kleckner

SPP traces its emphasis on collaboration — with staff, members, regulators, other stakeholders and even grid operators — to the RTO’s beginnings 80 years ago.

In the early days after the attack on Pearl Harbor, 11 Southeastern utilities shared their energy resources to help fuel an Arkansas aluminum plant. SPP says that collaborative spirit is alive today as “we tackle emerging challenges, create the unimagined and build the grid of the future.”

“Responding to crisis and change is in our DNA,” CEO Barbara Sugg said in a pre-holiday letter to stakeholders, rounding out a year of growth and challenges.

Case in point: The response to February’s Winter Storm Uri, when SPP lost more than a third of its generating capacity to freezing conditions and resorted to the first load sheds in its history. Within a month, five teams of several hundred staff and stakeholders were working on a comprehensive review of the RTO’s actions during Uri to determine how it could better prepare for future extreme reliability threats.

The report, “A Comprehensive Review of SPP’s response to the February 2021 Winter Storm,” was released in July. Staff is already working on the report’s 22 recommendations addressing the root causes, and a task force has been formed to take on issues related to fuel assurance and resource planning and availability. The Improved Resource Availability Task Force, led by Arkansas Commissioner Ted Thomas,

reports to the board and the Regional State Committee and will publish monthly status reports. (See *SPP Members Begin Response to February’s Winter Storm*.)

“While still navigating a pandemic, you helped us literally weather the storm,” Sugg said.

Despite its disastrous consequences, Uri didn’t stop SPP from reaching its four goals for 2021: launching the Western Energy Imbalance Service (WEIS) market; restructuring stakeholder groups to make them more efficient and productive; beginning to reengineer transmission planning; and creating a new, five-year strategic plan.

That plan, *Aspire 2026*, “frames the process and distills” the strategy’s key elements using mechanisms to “track and report progress toward aspirations and make mid-course adjustments.” SPP engaged its board, members, regulators and staff leadership through the planning effort.

“The most important driver of the process was a sincerely held belief that our stakeholders should be aligned around the direction we intend to travel together,” the report says.

Aspire 2026’s five strategic opportunities, meant to “strengthen [SPP’s] core” capabilities and “change the game,” include:

- implementing the Holistic Integrated Tariff Team’s (HITT) 21 recommendations by 2026;
- optimizing SPP’s seams;
- expanding its Western services;
- using innovative transmission-planning



Barbara Sugg | © RTO Insider LLC

processes; and

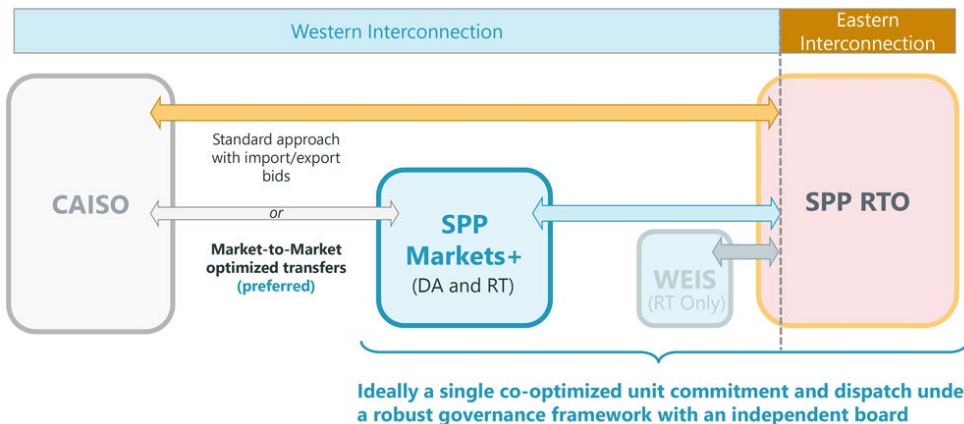
- anticipating and preparing for the grid of the future.

The HITT recommendations focus primarily on keeping market and transmission costs low, while the seams initiative allows SPP to build on its “recent intentional efforts” to maintain productive relationships with its neighbors. Sugg’s effort since becoming CEO in early 2020 to defrost the MISO relationship has paid dividends with the RTOs’ joint targeted interconnection queue study searching for interregional projects to alleviate their jammed generator interconnection queues. (See *No MISO-SPP Joint Study in 2021*.)

The innovative planning processes are expected to save \$3-\$4 million annually while also resolving growing stakeholder concerns about continued transmission investment amid rapid industry changes. That is why SPP is also working to improve its ability to anticipate grid changes so it can “proactively address, drive and shape” that change.

The grid operator is doing its part in the West, where it offers energy services to utilities in every state in the Western Interconnection. It provides RC services and its WEIS market, and is currently offering partial RTO services to several utilities in a region clamoring for RTOs. (See *FERC Commissioners Opine on Western RTO*.)

SPP is also administering the Northwest Power Pool’s Western Resource Adequacy Program (WRAP) for its 26 participants. Once



SPP foresees centralized unit commitment and dispatch leading to improved market services in the West. | SPP

SPP News



fully implemented, the WRAP will help Western balancing authorities respond to potential generation shortages during critical hours as the region addresses the retirement of thermal resources and its growing reliance on variable renewable resources. (See [Implementation Underway for NWPP's Western RA Market.](#))

The grid operator intends to expand its RTO footprint and develop a Western market system that is fully integrated with its existing market system, thus achieving “meaningful, equitable value creation for new and existing members.”

“Market growth will provide more value to both load and generation in our market footprint,” the RTO says. “The West provides opportunities for greater access to diverse resources and to tap into larger markets with a demand for SPP’s generation.”

To that end, the RTO has quietly unveiled its *Markets+ program*, which it says is not simply a day-ahead market offering but a “conceptual bundle of services.” By centralizing day-ahead and real-time unit commitment and dispatch, SPP says Markets+ will provide easy transmission service across the footprint and set the stage for the reliable integration of renewable energy’s growth.

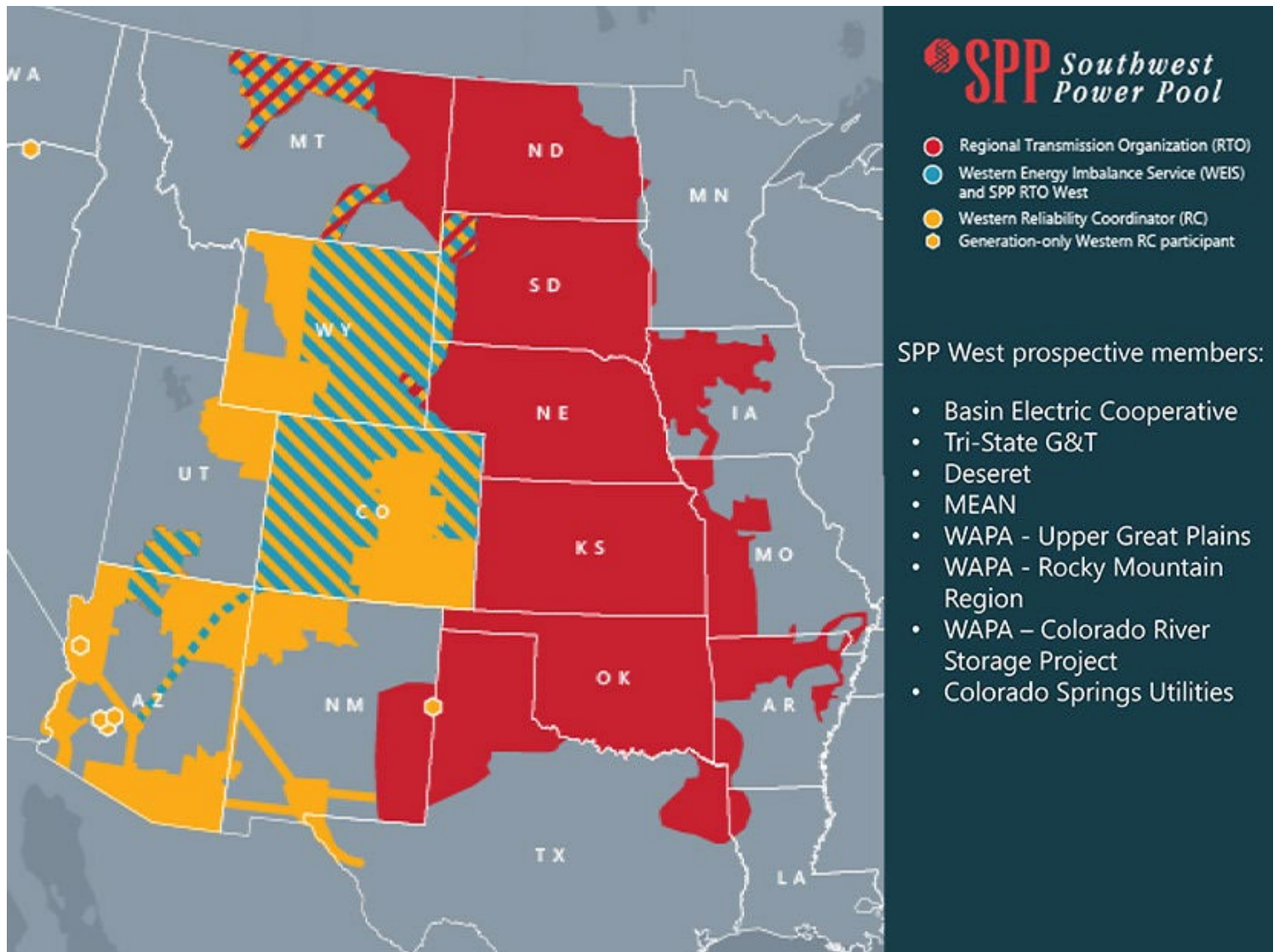
Staff *presented* the Markets+ model to interested participants during a virtual December meeting and plans to hold in-person forums in Phoenix, Portland and Denver by July. It is gathering information from interested parties, including the WRAP participants, as part of an extensive five-step process leading up to the program’s launch.

A year-end review of SPP would be incomplete without addressing another issue

related to the Tariff’s Attachment Z2, which reimburses transmission customers that fund network upgrades.

Staff is preparing to claw back and refund \$138 million in transmission-upgrade credits, dating as far back as 2008, as it waits on a response to its rehearing request of the D.C. Circuit Court of Appeals’ August ruling that FERC was correct in reversing a retroactive waiver it had granted the RTO over collecting Z2 upgrade costs. (See “SPP Asks for Z2 Rehearing,” *SPP Markets and Operations Policy Committee: Oct. 11-12, 2021.*)

“Our favorite topic from years gone by that we can’t get rid of ... the gift that keeps on giving,” Sugg said in October. “This will be a major undertaking for SPP and our stakeholders.” ■



SPP's current western footprint. | SPP

SPP News

SPP Again Delays In-person Stakeholder Meetings

SPP said last week it was once again delaying in-person meetings and staff's return to the office because of rising COVID-19 infections and flu cases.

In a Dec. 28 *message to stakeholders*, CEO Barbara Sugg said SPP is cancelling the in-person option for the Jan. 10-11 Markets and Operations Policy Committee and Jan. 12 Strategic Planning Committee meetings in Oklahoma City. Those meetings will revert to the virtual format of the last two years.

The Jan. 24 Regional State Committee and Jan. 25 Board of Directors/Members Committee meetings are still planned to be held at SPP's headquarters in Little Rock, Ark., although attendance will be limited for social distancing.

"I know this means that I will not get to see many of you in-person as soon as I hoped, but I'm confident our team will continue to facilitate virtual meetings with their usual standard of excellence," Sugg wrote. "Be well and stay safe."

Sugg cited a "dramatic trend" in COVID-19 infections and flu cases. She said daily new COVID cases have nearly doubled in Oklaho-



SPP headquarters in Little Rock, Ark. | WER Architects-Planners

ma since Dec. 18 and recent hospitalizations in Arkansas increased *7% in a day*.

"Although early data seems to show the Omicron variant is unlikely to severely affect healthy, boosted people, we still do not know what its impact will be on older, at-risk colleagues, friends and family," Sugg said.

The grid operator is also delaying the fourth phase of staff's return to the Little Rock offices until at least Jan. 18 while it continues to monitor community COVID cases. It warned *its plans* may undergo additional modifications "to appropriately respond to changing conditions." ■

— Tom Kleckner

NetZero Insider

Your Eyes and Ears on Climate Policy and Adaptation
Building & Transportation Electrification ■ Federal & State Policy



NetZero Insider is live!

The only publication covering climate policy from inside the room in D.C. and the state capitals.

MIDATLANTIC

The Mid-Atlantic in 2022: Offshore Wind, Decarbonization and Youngkin

MIDWEST

Decarbonizing Midwest Economies? It Depends

NORTHEAST

NY Officials Approve Draft Climate Action Plan

National Grid Wins Approval for \$15.6M Geothermal Demo

Here's the Top Decarbonization Challenge for the Northeast in 2022

NY Adds Clean Trucks Rule to Low Emissions Vehicle Program

WEST

Winds of Climate Change Policy Sweep Through West in 2021

Colo. Regulators OK Revised Emissions Standards for Oil and Gas

Calif. Ponders Heavy-duty FCEV Expansion

Study Links Western Wildfires to Arctic Ice Melt

RTO Insider subscribers have access to two stories each month. Use your RTO Insider credentials to log in at rtoinsider.com/netzero

Company Briefs

AEP Completes Sale of Racine Hydro Plant



American Electric Power last week completed the sale of the 48-MW Racine hydroelectric

plant in Racine, Ohio, to Eagle Creek Renewable Energy. The sale price was not disclosed.

AEP announced on Feb. 9 that it had reached an agreement to sell the plant;

FERC finally approved the transfer on Dec. 17.

AEP Generation Resources' only remaining competitive facility is the 595-MW Cardinal Plant Unit 1, which is scheduled for retirement in 2028.

More: [AEP](#)

Tesla Sets Q4 Record, Sells Nearly 1M EVs in 2021

Tesla last week said it delivered 308,600

electric vehicles in the fourth quarter of 2021, beating its previous single-quarter record of 241,300 from the third quarter.

Tesla delivered 936,172 vehicles for the year, an 87% increase from 2020 when it reported its first annual profit on deliveries of 499,647. According to a consensus compiled by FactSet, Wall Street analysts had anticipated company deliveries of 267,000 in the fourth quarter and 897,000 for 2021.

More: [CNBC](#)

Federal Briefs

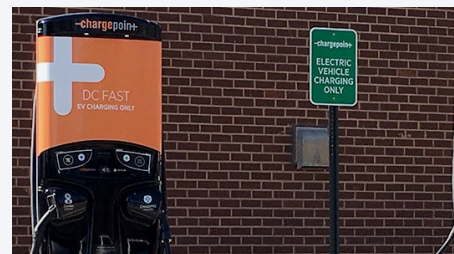
Battery Costs Slow Growth of EVs

Despite a dramatic drop in price and increased efficiency, electric vehicle batteries need more improvements to entice more Americans into buying EVs, said a report released by the Federal Reserve Bank of Dallas last week.

The Fed said only 2% of cars sold in recent years have been electric and cited consumer concerns about large up-front costs

and the limited distance a vehicle can go on a full battery. Most EVs use lithium-ion batteries, which cost just under \$500 per kWh. The prices of two types of lithium-ion batteries — nickel manganese cobalt and nickel cobalt aluminum — are expected to fall below \$100 per kWh by 2024.

Still, the Fed warned that developing more efficient and cheaper batteries could take decades. Lithium-ion batteries, for example, were first researched in the 1970s, but a prototype wasn't introduced until 1986



and took another five years to become commercially available.

More: [Houston Chronicle](#)

State Briefs

OKLAHOMA

Corporation Commission OK's PSO Rate Hike

Public Service Company of Oklahoma (PSO) customer bills will rise \$5.07 a month on average under a rate review approved by the Corporation Commission last week.

The company said its current prices are based on 2018 expenses and, with the adjustment, rates will remain at or below state, regional and national averages. It will also continue to invest in its systems to improve and maintain the grid.

Customers will see the new base rates on their bills no sooner than February, pending final approval from the Corporation Commission's Public Utility Division.

More: [Tulsa World](#)

Winter Storm Leaves Thousands Without Power in Freezing Temps



More than 18,000 OG&E customers were without power

on New Year's Day because of below-freezing temperatures and winds gusting 30 to 40 miles per hour.

The utility said two-thirds of those people had their power restored by 11 a.m.

Most of the outages hit the Oklahoma City and Tulsa metro areas.

More: [The Oklahoman](#)

TEXAS

Report Says Solar Will Double

Solar energy is poised for rapid growth in Texas over the next five years, said a report

by the IEA and analysis by Environment Texas.

Lennis Barlow, a clean energy associate with Environment Texas, said the state ranked second in the U.S. in net solar generation growth from 2011 to 2020, with an increase of more than 12,000%. That growth is expected to accelerate. He also said filings with ERCOT show solar and utility-scale battery projects are expected to nearly double the amount of power capacity they generate by the end of 2022. With 10,096 MW on the grid now, solar is expected to be able to produce as much as 19,520 MW by December.

More: [Houston Chronicle](#)

State Puts Final Death Estimate from Feb. Winter Storm at 246

The Department of State Health Services last week added 36 more deaths to the

official death toll from the February snow and ice storm to bring the total to 246.

The deaths occurred between Feb. 11 and June 4 and include people who were injured in the storm but did not die until later, and people whose bodies were found after the storm.

The deaths spanned 77 counties and included victims ranging from younger than 1 year old to 102 years old. About two-thirds of the deaths were from hypothermia.

More: [The Texas Tribune](#)

WEST VIRGINIA

DEP Grants Permit for Mountain Valley Pipeline

The Department of Environmental Protection last week approved a water quality permit for the Mountain Valley natural gas pipeline that cuts through the state.

The permit was needed before the U.S. Army Corps of Engineers could move forward with dredge-and-fill permits.

More: [The Associated Press](#)



Save your 10 to 1 odds for Vegas.

You never want to chance too much in this market.



RTO Insider. Stay informed.

Staying on top of the trends and policy changes in the wholesale energy market is a mighty challenge. That's why you subscribe to *RTO Insider*. Offering unlimited access to comprehensive coverage, timely unbiased reporting and information delivered directly from reporters inside the room at almost all RTO/ISO meetings, *RTO Insider* makes staying informed and prepared effortless.



Save your obstacle courses for weekend Mud Runs.

Getting the information you need shouldn't wear you out.



RTO Insider. Stay informed.

Staying on top of the trends and policy changes in the wholesale energy market is a mighty challenge. That's why you subscribe to *RTO Insider*. Offering unlimited access to comprehensive coverage, timely unbiased reporting and information delivered directly from reporters inside the room at almost all RTO/ISO meetings, *RTO Insider* makes staying informed and prepared effortless.

