

# RTO Insider

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

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May 18, 2021

## CAISO Could See More Outages this Summer

*Drought will Limit Hydropower, Heat Waves Could Limit Imports, ISO Says*

By Hudson Sangree

Despite a large influx of new resources, California could experience capacity shortfalls this summer during severe heat waves because of limited imports and low hydroelectric production, CAISO said in a report Wednesday.

CAISO expects supply in 2021 to be better than in 2020, with similar demand under normal circumstances, but "a second year of significantly lower-than-normal hydro [generation] and an increased possibility of extreme weather events indicate the ISO may still face challenges in meeting load this summer," the *Summer Loads and Resource Assessment* said.

If that happens, it could cause a repeat of the rolling blackouts of Aug. 14-15 or the close calls over Labor Day weekend when demand

for air conditioning remained high in the evenings as solar dropped offline and temperatures stayed high.

The state has been struggling to make the switch from fossil fuels to renewable resources under hotter, drier conditions in recent years. Last year's shortfalls triggered a more urgent response by CAISO, the California Public Utilities Commission and the state Energy Commission, which examined what went wrong and adopted measures meant to correct resource adequacy problems. (See *CPUC, CAISO Take Major Steps for Summer Reliability*.)

### Summer Outlook

CAISO's summer 2021 assessment looked at

*Continued on page 21*

## PJM Defends Dominion FRR Filing

*FERC Unlikely to Rule Before Auction*

By Rich Heidorn Jr.

PJM on Wednesday defended its handling of Dominion Energy Virginia's decision to opt out of the May 19 capacity auction, rejecting a complaint by LS Power (EL21-72).

But the RTO's Independent Market Monitor and two groups of independent power producers joined LS Power in calling for FERC to block Dominion's fixed resource requirement (FRR) election.

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Clockwise from top left: former FERC Commissioners Marc Spitzer, Tony Clark, Norman Bay and Colette Honorable | *Energy Bar Association*

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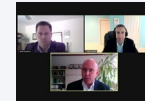
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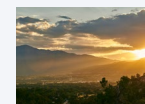
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**NetZero Insider is now live!**

See p.52 for this week's coverage.

# Counterflow

By Steve Huntoon

## Big Transmission — Still Not the Right Stuff

By Steve Huntoon



Every couple years I critique Big Transmission. My original long-play version from 2015 is here.<sup>1</sup> And updates are here.<sup>2</sup> Just to be clear at the outset, by Big Transmission I mean long extra-high-voltage lines (typically DC voltage) — not

incremental expansions like MISO’s MVP Projects and SPP’s Priority Projects, which make sense and get built.<sup>3</sup>

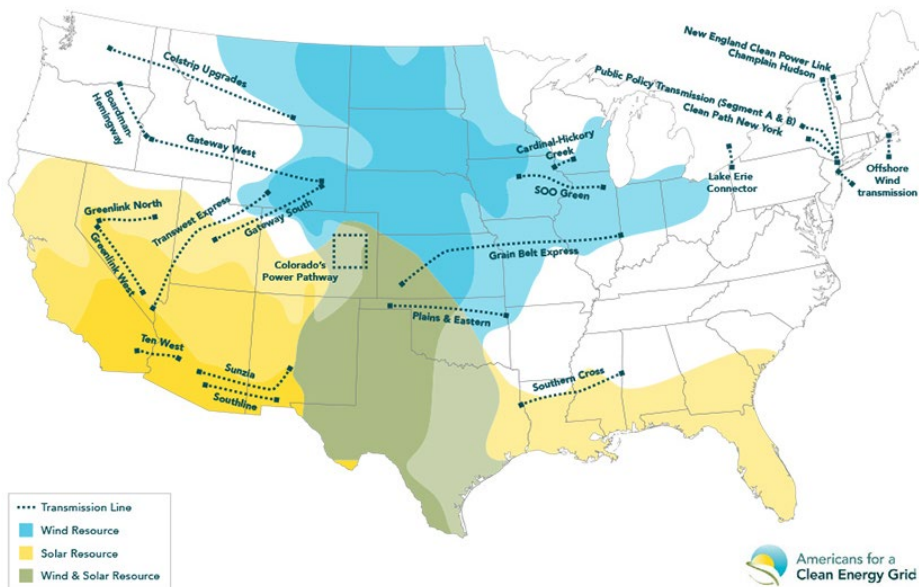
### As Scotty Said, ‘Ye Cannae Change the Laws of Physics’

The core problem with Big Transmission is the laws of physics. Unlike vehicles on the highway system — the oft-cited analogy for the grid — *electrons don’t actually move (or least not more than glacially).*<sup>4</sup> That’s why, as I have said before, nine times out of 10, the most efficient and fastest way to increase transmission capability to move new renewables to market is incremental upgrades of the existing grid.

To put it in practical terms, an upgrade of some substation equipment in PJM costing \$2 million could potentially increase the transfer capability from MISO to PJM by 2,000 MW, whereas a new high-voltage transmission line adding equivalent transfer capability could cost \$2 billion. The former could be done in less than a year while the latter could take 10 years (if ever). And, as I noted above, there are larger incremental projects worth doing that are not Big Transmission, such as MISO’s MVP Projects and SPP’s Priority Projects.

And then there’s the matter of emergency (contingency) ratings. As I’ve said before, many transmission owners outside of PJM don’t use unique emergency ratings for planning and interconnection studies.<sup>5</sup> Not to repeat the detail on why this matters (you can check out my column in the footnote for that) but suffice it to say that failure to use unique emergency ratings dramatically understates the true capability of the grid, and thus the ability to accommodate the renewable generation we need.

Unfortunately, these two sensible means of increasing renewable generation interconnection don’t get the attention they deserve. Instead, much political and media attention is



Regionally significant transmission projects identified by Americans for a Clean Energy Grid as "shovel ready." | ACEG

devoted to expensive Big Transmission projects that seldom make sense and are unlikely to get built.

And this focus on Big Transmission also distracts from non-grid means of reducing carbon emissions, such as the nine measures I offered in my last column.<sup>6</sup>

### The Latest

Big Transmission has had a revival of late. Most recently the Biden Administration has bought into Big Transmission with a White House fact sheet promoting 22 “shovel ready” transmission projects as shown on this map.<sup>7</sup>

Most of the projects are Big Transmission that, as I’ve said, seldom make sense and are unlikely to be built.

This is illustrated by Princeton University’s massive study released last December on pathways to net zero. Of relevance is the high electrification pathway with a huge transmission expansion costing \$2.4 trillion by 2050, as shown on this map.<sup>8</sup>

So here’s the question: How many of the Biden Administration’s 22 projects have some parallel in the Princeton study’s \$2.4 trillion transmission expansion?

By my count, nine. So the remaining 13 Biden Administration projects don’t make the Princeton study’s cut for the best way to spend \$2.4

trillion on transmission.

### Wrong Rights of Way

The Biden Administration concurrently promoted Big Transmission’s use of existing highway rights of way.<sup>9</sup> Big Transmission generally requires a 160-200 feet right-of-way,<sup>10</sup> while the design “clear zone” off the travel lanes of the largest highways is 46 feet.<sup>11</sup> It is unclear how 160-200 feet might fit into 46 feet (or less).

Not to mention the federal requirement that right-of-way use not impair the “aesthetic quality” of the highway.<sup>12</sup> I’m not sure what impairment of the aesthetic quality of a highway might be, but I have a feeling that Big Transmission might qualify.

The Princeton study reflects the rational planning concept of using existing transmission rights of way.

Experience in PJM shows the importance of using existing transmission rights of ways to upgrade the grid. The Potomac-Appalachian Transmission Highline (PATH) project, not principally in existing transmission rights of way, encountered enormous resistance and ultimately failed. The Trans-Allegheny Interstate Line (TrAIL) and the Susquehanna-Roseland projects, sited almost exclusively in existing transmission rights of way, were certificated and built.<sup>13</sup>



# Counterflow

By Steve Huntoon

## Not Shovel Ready

As noted above, the White House claims there are 22 “shovel ready” Big Transmission projects that need only X to start. X is an amorphous concept.

Let’s pick one of the projects and take a closer look: Southern Cross.

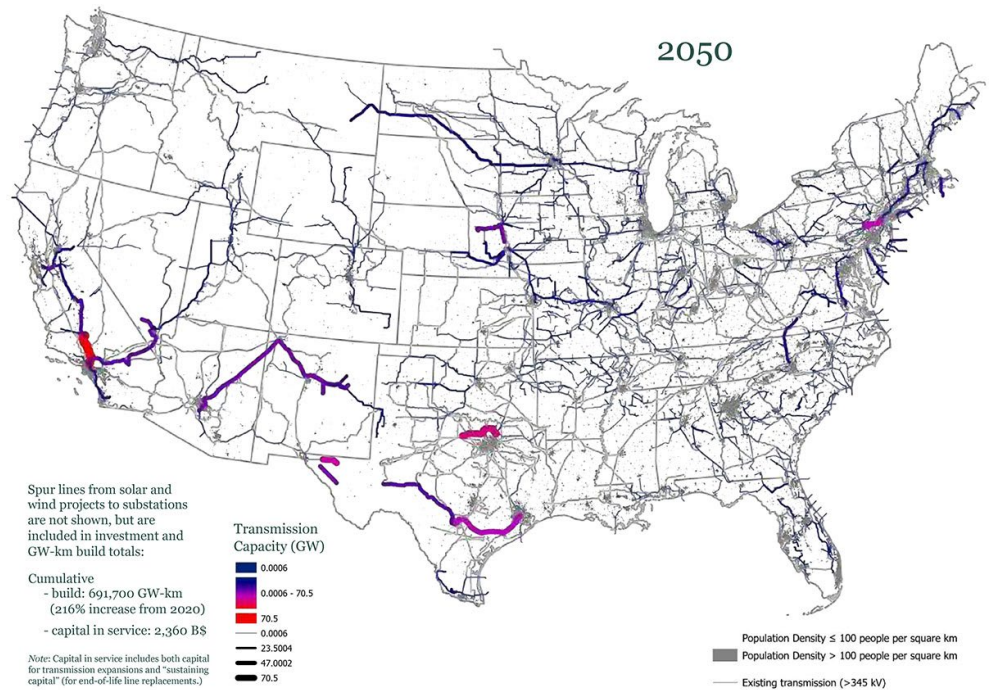
Yes, it’s a great CSN song.<sup>14</sup> No, it’s not “shovel ready.”

In a nutshell this project, which has been around for more than 10 years, proposes to transmit 2,000 MW of Texas wind from the east Texas border to eastern Mississippi.<sup>15</sup> Exactly how west Texas wind is transmitted to the east Texas border isn’t entirely clear, but be that as it may.

The Texas Commission imposed 14 tasks to be completed before the portion of the line in Texas could be done. ERCOT says Southern Cross has completed five tasks, is in progress on six and has not started three.<sup>16</sup>

Meanwhile in Mississippi, Southern Cross filed for a certificate in 2017, and it doesn’t seem any progress has been made since then.<sup>17</sup>

In Louisiana, it appears no state commission filing has been made. It seems a certificate isn’t necessarily required there,<sup>18</sup> but every landowner who refuses Southern Cross’ offer can force litigation on, among other things, whether the project’s attempted expropriation interferes “more than is necessary, with the convenience of the landowners.”<sup>19</sup> Good luck with hundreds of Louisiana landowners on that.



Note: Transmission expansion is visualized along existing rights of way (>160 kV); paths are indicative not definitive.

Transmission expansions to support wind and solar generation in E+ scenario assuming aggressive end-use electrification with Base siting availability, 2050 | Princeton University

The FERC order in 2016 required Southern Cross to file a report on its open solicitation of customers.<sup>20</sup> No report has been filed, so it seems there’s been no solicitation and thus no customers.

And presumably no financing. Maybe that’s where the U.S. taxpayer comes in.

## Wrapping Up

Big Transmission projects seldom make sense and are unlikely to get built. Incremental grid expansions focusing on existing transmission facilities and rights of way make sense and can get built. Not to mention the many non-grid measures that make eminent sense. ■

<sup>1</sup> <http://www.energy-counsel.com/docs/The-Rise-and-Fallof-BigTransmission-Fortnightly-September2015.pdf>.

<sup>2</sup> <http://www.energy-counsel.com/docs/The-Test-of-Time.pdf> and <http://www.energy-counsel.com/docs/big-transmission-is-still-dead.pdf>.

<sup>3</sup> <https://cdn.misoenergy.org/MTEP17%20MVP%20Triennial%20Review%20Report117065.pdf>; <https://www.spp.org/documents/35297/the%20value%20of%20transmission%20report.pdf>.

<sup>4</sup> Discussed at length in my original article. A cute writeup is here, [https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.bpa.gov/PublicInvolvement/CommunityEducation/CurriculumActivities/CurriculumDocuments/ride\\_the\\_surprisingly\\_slow\\_electron\\_express.doc&ved=0ahUKEwjAw7r7srVXAhUYwWMKHZuZALUQFggmMAA&usg=AOvVaw32-osi7Og-w5GRMue1G-tAS](https://www.google.com/url?sa=t&source=web&rct=j&url=https://www.bpa.gov/PublicInvolvement/CommunityEducation/CurriculumActivities/CurriculumDocuments/ride_the_surprisingly_slow_electron_express.doc&ved=0ahUKEwjAw7r7srVXAhUYwWMKHZuZALUQFggmMAA&usg=AOvVaw32-osi7Og-w5GRMue1G-tAS). And another here, <https://www.khanacademy.org/test-prep/mcat/physical-processes/current-and-resistance/a/do-electrons-move-rapidly-through-direct-current-circuits>.

<sup>5</sup> <http://energy-counsel.com/docs/waste-not-what-not.pdf>.

<sup>6</sup> <http://energy-counsel.com/docs/we-see-through-a-glass-darkly.pdf>.

<sup>7</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/27/fact-sheet-biden-administration-advances-expansion-modernization-of-the-electric-grid/>; <https://acore.org/new-report-identifies-22-shovel-ready-regional-and-interregional-transmission-projects/>; <https://cleanenergygrid.org/wp-content/uploads/2019/04/Transmission-Projects-Ready-to-Go-Final.pdf>. (page 5).

<sup>8</sup> [https://netzeroamerica.princeton.edu/img/Princeton\\_NZA\\_Interim\\_Report\\_15\\_Dec\\_2020\\_FINAL.pdf](https://netzeroamerica.princeton.edu/img/Princeton_NZA_Interim_Report_15_Dec_2020_FINAL.pdf) (slide 136).

<sup>9</sup> [https://www.fhwa.dot.gov/real\\_estate/right-of-way/corridor\\_management/alternative\\_uses\\_guidance.cfm](https://www.fhwa.dot.gov/real_estate/right-of-way/corridor_management/alternative_uses_guidance.cfm).

<sup>10</sup> <https://www.transmissionhub.com/transmission-101/basics>.

<sup>11</sup> [https://epg.modot.org/index.php/231.2\\_Clear\\_Zones](https://epg.modot.org/index.php/231.2_Clear_Zones); [https://epg.modot.org/files/6/69/231.2\\_Clear\\_Zone\\_Distance\\_2019.docx](https://epg.modot.org/files/6/69/231.2_Clear_Zone_Distance_2019.docx)

<sup>12</sup> 23 C.F.R. § 645.205.

<sup>13</sup> The history of these projects is provided in my 2015 article in footnote 1.

<sup>14</sup> A great music video of the song is here, <https://www.youtube.com/watch?v=Bw9gLjEgJrw>

<sup>15</sup> [http://www.ercot.com/content/meetings/rpg/keydocs/2010/0813/Southern\\_Cross\\_RPG\\_Presentation\\_Aug\\_13\\_2010\\_FINAL\\_TO\\_ERCOT.PDF](http://www.ercot.com/content/meetings/rpg/keydocs/2010/0813/Southern_Cross_RPG_Presentation_Aug_13_2010_FINAL_TO_ERCOT.PDF)

<sup>16</sup> [http://www.ercot.com/content/wcm/key\\_documents\\_lists/163228/PUC\\_Project\\_46304\\_Directive\\_Status\\_Dashboard\\_v12152020.pptx](http://www.ercot.com/content/wcm/key_documents_lists/163228/PUC_Project_46304_Directive_Status_Dashboard_v12152020.pptx)

<sup>17</sup> <https://www.psc.state.ms.us/trinityview/mspsc.html> (search for Case Year 2017, Case Type UA, Case No. 79). I also can’t find any sign of federal permitting activity (Army Corps of Engineers, National Park Service, Fish and Wildlife Service), but it’s hard to prove a negative.

<sup>18</sup> [http://www.lpsc.louisiana.gov/\\_docs/\\_Orders/General%20Order%202010-10-2013%20\(R-26018\).pdf](http://www.lpsc.louisiana.gov/_docs/_Orders/General%20Order%202010-10-2013%20(R-26018).pdf)

<sup>19</sup> <https://law.justia.com/cases/louisiana/supreme-court/1978/360-so-2d-848-1.html>

<sup>20</sup> Southern Cross Transmission LLC, Docket No. ER16-2420, 157 FERC ¶ 61,090 (2016).

## 2021 EBA Annual Meeting

# Former FERC Commissioners Look at Agency's Present, Future

By Jason York

When FERC Chair Richard Glick *announced* the creation of a new senior position to incorporate environmental justice and equity concerns into the commission's decision-making process, he wanted to ensure these areas "finally get the attention they deserve."

Four former commissioners discussed this and other FERC issues under President Biden during a panel Wednesday for the Energy Bar Association's annual meeting and conference, which was virtual this year.

Marc Spitzer, a FERC commissioner from 2006 to 2011, said that during the 2020 U.S. presidential election, the Biden campaign seemed focused on three issues: COVID-19, climate and energy, and racial injustice, which he said are aligned and combined with environmental justice.

Colette Honorable, commissioner from 2014 to 2017, said the commission has experience working on issues related to health disparities when it does its environmental reviews of energy facilities in low-income or rural communities.

"So much of it is about being proactive and being thoughtful about how we do this work and in the communities that we serve," said Honorable, a member of Reed Smith's energy and natural resources group. "I think we will all be looking to FERC to provide certainty,

guidance and best practices."

Honorable gave a "tip of the cap" to another panelist, former FERC Chair Norman Bay, who suggested best practices for developing energy projects when he led the commission.

### Office of Public Participation

Tony Clark, commissioner from 2012 to 2016 and currently a senior adviser for energy and telecommunications clients at the law firm Wilkinson Barker Knauer, said the efficacy of the Office of Public Participation (OPP) is largely going to depend on "if it can better facilitate information both ways from communities of interest."

"The thing that the commission will need to make sure that it guards against is it just doesn't become sort of another office of bureaucracy and more red tape in a process that honestly has a lot of red tape in it right now," Clark said. "When you talk about certification of large projects, to me, that's the opening and opportunity to facilitate greater information flow."

During a "listening session" in March, landowners across the country told FERC they doubted OPP would improve the decision-making process for natural gas infrastructure. The vast majority of these were landowners who fought with gas companies exercising eminent domain to build pipelines, compressor stations and LNG facilities. (See *Public Skeptical of New FERC*

*Participation Office.*)

### Transmission

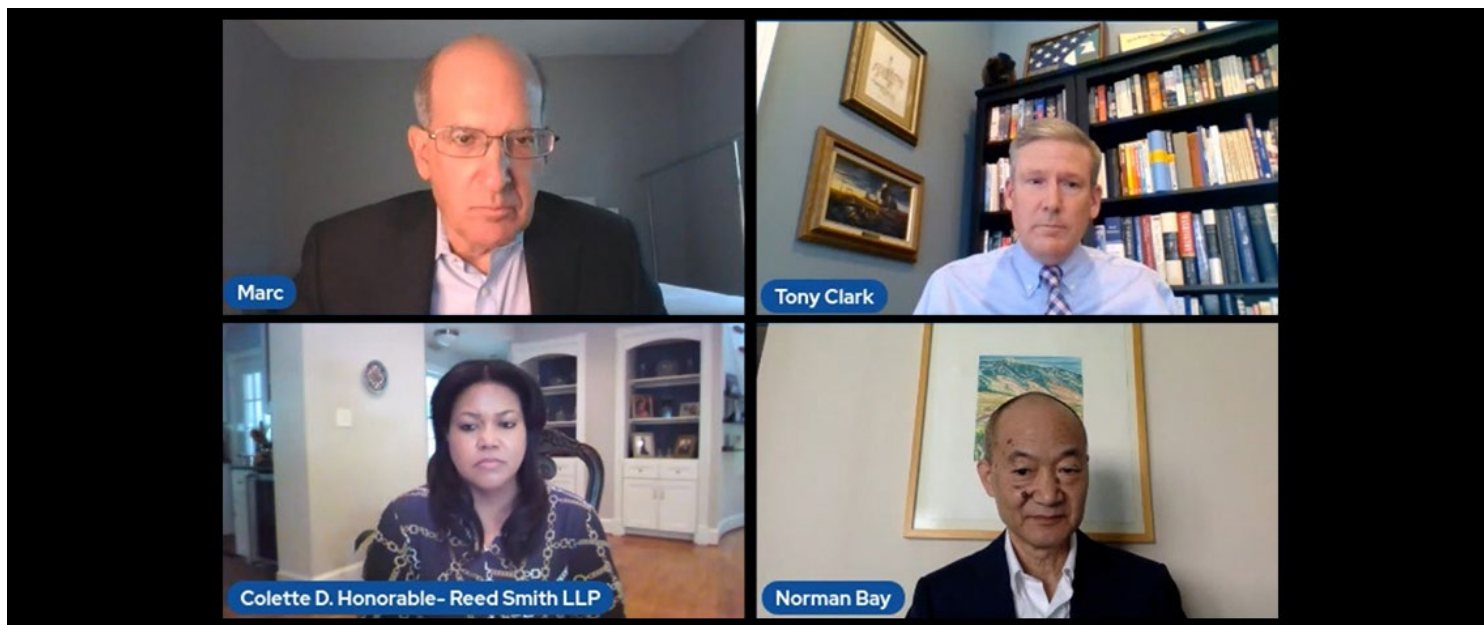
As carbon-reduction mandates drive the electrification of the building, heating and transportation sectors, there will be a need for additional transmission. Bay said that everyone on the panel "has had to grapple with the difficulties in getting transmission built." There are three interrelated and recurring problems with transmission for FERC, according to Bay.

"There's siting over which FERC has almost no authority," Bay said. "There's cost allocation, which is always difficult because people recognize the benefits of transmission, but no one wants to pay." And the third problem is planning.

"We've got Order 1000, which has now been on the books for a decade, and I think everyone on the commission would probably agree that it has not lived up to its lofty promise, and particularly with interregional planning," Bay said.

He noted that the Biden administration is trying to achieve zero carbon emissions by 2035; there is about 38% carbon-free electricity right now.

"If you're trying to close over the next 14 years, there's no way you're going to do that without transmission, so I think the challenge is pretty clear for the commission," Bay said. "I think there are things that it can do under Order 1000 to try to speed things along." ■



Clockwise from top left: former FERC Commissioners Marc Spitzer, Tony Clark, Norman Bay and Colette Honorable | Energy Bar Association

## 2021 EBA Annual Meeting

# EBA Panel Says Decarbonization a Must by 2035

By Amanda Durish Cook

Decarbonization experts called for an all-hands-on-deck approach to a net-zero electricity sector, telling the Energy Bar Association last week that the industry has little choice but to decarbonize — and fast.

Thompson and Knight partner George Humphrey said during a May 11 panel discussion before the EBA that 2020 represented a “sea change in the way the world is looking at climate change and renewables.”

“For my entire career, there’s always been talk that we’re going to go to renewables and that climate change is real,” he said. “Last year, we really saw that.”

Humphrey said several automakers made electric vehicle pledges while oil and gas companies diverted huge amounts of capital to a green economy. “I don’t know what it was last year — the pandemic, believing the science ... It’s been truly remarkable.”

Humphrey said oil usage may be peaking, but the demand for natural gas isn’t slowing. That is partly because of a belief that gas-fired generation is needed to shore up an intermittent energy supply, he said.

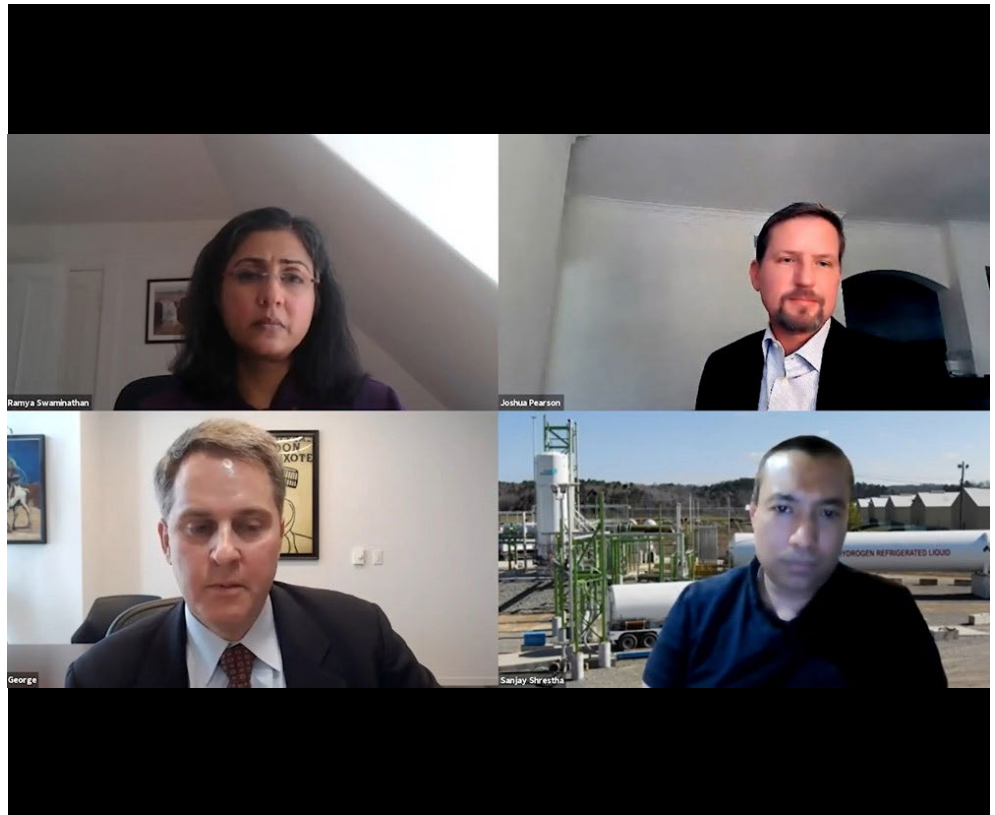
Joshua Pearson, legal vice president of EDF Renewables North America, said climate beliefs are shifting because many people are living through brutal natural disasters.

“I think those personalized experiences are having a real impact in the changing attitudes,” he said. “You have a much different perspective on whether or not the warming of the planet is something that we should pay attention to if you’ve lived through a wildfire or lived through a disastrous hurricane or the Texas freeze.”

Pearson said 2035 — President Biden’s target for achieving 100% carbon-free electricity — is approaching faster than many think.

“This energy transition, maybe five or 10 years ago, there was a question whether it was possible. I think the consensus now is it’s happening, and it’s going to continue,” he said. “The real question is how quickly and what can we do to accelerate it. [There’s] not a lot of time to accomplish this.”

Pearson predicted a “rapid deployment” of storage assets, saying that storage is on the same cost curve and growth trajectory that solar panels were a decade ago.



Clockwise from top left: Malta Inc. CEO Ramya Swaminathan; EDF’s Joshua Pearson; Plug Power’s Sanjay Shrestha; and Thompson and Knight partner George Humphrey | © RTO Insider LLC

He also predicted more transmission, offshore wind, geothermal energy and upgrades to existing run-of-river dams.

“The electrical transmission grid has been in need of a massive upgrade for quite some time,” Pearson said. “There is a lot of hydro-power generation that has not been upgraded in 80 or 90 years.”

Plug Power Chief Strategy Officer Sanjay Shrestha said some natural gas pipelines will be retrofitted to transport green hydrogen.

“How do we get to 2035? We need all of these solutions,” Malta Inc. CEO Ramya Swaminathan said. “It is time to deploy demand-side and supply-side solutions.”

Swaminathan said the industry has entered an era of immense renewable generation expansion, fossil plant retirements, “massive” electrification, and worsening reliability from grid architecture that wasn’t designed to handle so many intermittent resources, some of which are situated far from load.

“Pricing on renewables makes this an economic reality that is inexorable,” she said. “What

you’re seeing is the economic reality of really, really cheap generation kind of driving the landscape.”

Swaminathan also said this confluence requires developing long-duration storage technology and meaningful compensation for it. She said storage is not currently compensated for the ancillary services it provides customers who are not accustomed to paying for reliability services.

She said new policies should contain financial incentives for cutting-edge technologies, “anything that helps folks putting out those new technologies in dealing with that premium that is paid for first unit costs is going to be very helpful in catalyzing innovation.”

It’s critical that some new technologies become bankable and not hampered by current regulations, Swaminathan said.

“When you deploy ... first-of-its-kind technologies, there is essentially a premium that is paid on the first unit relative to the nth unit,” she said. ■



## 2021 EBA Annual Meeting

# Overheard at the Energy Bar Association 2021 Annual Meeting

The Energy Bar Association marked its 75th anniversary at its virtual annual meeting last week, which included sessions on capacity markets and resilience and remarks by FERC Chair Richard Glick. Here's some of what we heard.

### Glick and Federal Policy

Glick opened the meeting by answering several attendees' questions related to President Biden's ambitious clean energy goals.

One attendee asked how FERC is working with other federal agencies to advance the administration's policies. The commission, as an independent agency, doesn't coordinate with the White House or other agencies, Glick said, but it has reached out to the Department of Energy to offer assistance in performing reviews under the National Environmental Policy Act. "We also have expertise related to transmission planning that I think the other agencies don't quite have," he said.

The commission's examination of an offshore grid to better interconnect wind resources — specifically whether there are any impediments in RTO/ISO tariffs to developing one — will also help the administration in its goal of



FERC Chair Richard Glick and 2020-2021 EBA President Jane Rueger, of Perkins Coie | *Energy Bar Association*

deploying 30 GW by 2030.

"It's amazing to me ... to see the secretary of energy [Jennifer Granholm] talk about transmission time and time again and how important it is to the transition to the clean energy future," he said. "To me, that's a dramatic change, and a welcome one."

Another attendee asked what FERC can do to ensure reliability and resource adequacy if Congress enacts a clean energy standard. Glick answered that he does not think the commission's responsibilities would change, though it could depend on the legislation. But regardless of whether any such law is passed, states, utilities and grid operators need to

rethink their approaches to resource adequacy anyway, he said. "We know investments are being made because demand is coming from consumers, from businesses, from utilities themselves and obviously from state policy-makers as well." The commission's examination of PJM's capacity market is part of that "rethink."

"The old model in some parts of the country of ... essentially paying generators to sit there and do nothing, I'm not sure that's necessarily the right way to go," he said.

### Calpine, AMP Make Cases for Changes to PJM Capacity Design

One panel discussion gave attendees a glimpse of the current debate among PJM stakeholders over FERC's 2019 order extending the minimum offer price rule (MOPR) to state-subsidized resources. The order was issued under Republican Chair Neil Chatterjee. Glick, who became chairman in January, has called for eliminating the MOPR, saying it is "not sustainable" because it is hampering state efforts to decarbonize. (See *PJM MOPR in the Crosshairs at FERC Tech Conference*.)

Panelist Sarah Novosel, senior vice president of government affairs for independent power producer Calpine, outlined the company's proposed "enhanced" Capacity Performance rules. They would require dispatchable resources to have 16 hours of guaranteed run time for three days through on-site or backup fuel or contracted LNG. The MOPR would only be used in instances of buyer-side market power.

Calpine's proposal would also expand the definition of performance assessment hours to increase the instances of such events; increase the annual stop-loss limit to three times the net cost of new entry; and limit excuses for nonperformance to transmission outages out of control of the generator.

"If we're going to let subsidized resources into



Clockwise from top left: Moderator Patrick Ferguson, Davis Wright Tremaine; Sarah Novosel, Calpine; Maria Gulluni, ISO-NE; and Steve Lieberman, AMP | *Energy Bar Association*

## 2021 EBA Annual Meeting

the market, we're going to have depressed pricing, so we need to figure out some other way to enhance pricing in the market and ensure that the resources ... that are supplying capacity are reliable resources and can actually provide the service when called on," Novosel said.

Limiting the MOPR to instances of buyer-side market power would essentially eliminate it, said Steve Lieberman, assistant vice president of transmission and PJM affairs for American Municipal Power (AMP).

"In PJM, there's only one real buyer and that is PJM. They're not exercising buyer-side market power," he said.

AMP proposes a different solution, saying PJM should make the capacity auction voluntary.

"Rather than forcing [load-serving entities], merchant generators and other market participants to adapt to constantly changing rules and requirements, the transition from mandatory capacity constructs to voluntary, short-term, residual markets is in the best interest of customers," AMP says. "States and LSEs should be allowed to utilize a combination of bilateral contracts, self-builds and market opportunities to meet resource adequacy requirements based on circumstances specific to each LSE, with appropriate state oversight."

Also appearing on the panel was Maria Gulluni, vice president and general counsel for ISO-NE, who discussed the region's difficulty adding more gas pipelines or electric transmission. Gulluni cited opposition in Maine to the proposed New England Clean Energy Connect (NECEC) transmission line that would deliver Canadian hydropower to Massachusetts.

On Thursday, the 1st U.S. Circuit Court of Appeals *vacated* an injunction that had prevented work on a northern stretch of the line, allowing an affiliate of Central Maine Power to begin full construction. However, a separate case pending in Maine's Superior Court and a referendum scheduled for November could require the state legislature to approve the project by a two-thirds vote.

"So we are in a pretty difficult spot," Gulluni said. "We have some real concerns about energy security."

She also said the RTO expects a need to "bulk up" the ancillary services market in the future, "because the capacity market alone [is] probably not sufficient to ensure that we have the reliability we're looking for."

In previous discussions of alternatives to Eastern grid operators' capacity markets, some



Clockwise from top left: Former FERC Chair Cheryl LaFleur; Paul McGlynn, PJM; Jason Reynolds, Entergy; and North Dakota Public Service Commissioner Julie Fedorchak | Energy Bar Association

have suggested considering an energy-only market, like the one used by ERCOT, saying it saves consumers because it doesn't result in the large capacity margins seen in PJM.

But that's "tough politically to talk about" in the wake of the February deep freeze that left millions of customers in ERCOT without power for days, Lieberman said.

Lieberman said the energy crisis that resulted from ERCOT's failure to winterize its generating units was compounded by a "financial crisis" resulting from days of prices at the cap of \$9,000/MWh, which he called an "inactionable price signal."

"Nobody could do anything about it, and as a result either companies lost billions of dollars [or] went bankrupt. For what?" he asked.

"You could find a way to make an energy-only market work as long as you avoid those inactionable price signals. The same is true even in PJM or ISO-NE or New York. You've got to make sure that the price signals either on the energy side or on the capacity side are actionable. ... If you're going to penalize people because things are tripping offline or a transmission line falls and it's no fault of the generator and now the generator's [held] at fault, what are we doing here?"

### Extreme Weather Events

Former FERC Chair Cheryl LaFleur moderated a panel on maintaining the resilience of electric and natural gas systems as extreme weather events become more frequent.

Because weather is no longer mirroring

historical patterns, LaFleur said, planners must start thinking differently about resilience. Increasing use of variable renewable generation and natural gas with just-in-time fuel delivery networks must also be taken into account, said LaFleur, now a member of the ISO-NE Board of Directors and distinguished visiting fellow at Columbia University's Center on Global Energy Policy.

"How resilient our energy system is, how much it can keep going when bad things happen, depends on how it's planned, constructed, maintained, operated, restored and how we learn from events," LaFleur said.

Paul McGlynn, executive director of system operations for PJM, said it's necessary to have a long-term view of resilience and constantly re-evaluate and update plans.

Resilience at PJM is about "preparing for, operating through and recovering from events," McGlynn said, adding that PJM's market designs are one of the most important features incentivizing market participants to maintain reliability.

McGlynn said it's also important for grid operators to regularly stress test the system to know where the breaking points are. While they have typically done stress testing by looking at higher-than-normal load and other contingencies, McGlynn said, they need to consider more extreme scenarios and longer-duration events, including extended heat waves and severe cold snaps.

Jason Reynolds, vice president of system planning and operations for Entergy, said the



# 2021 EBA Annual Meeting

utility's service territory on the Gulf Coast puts it in a "unique storm risk" region.

Reynolds said Entergy is constantly examining its resilience, especially after the 2020 hurricane season, which saw three named storms — Laura, Delta and Zeta — directly impact Louisiana in the span of 62 days. Reynolds said Entergy was able to mobilize 26,000 workers from 31 states to conduct recovery and restoration of the system. (See *Entergy, in the Eye of the Storms, Beats Expectations.*)

Entergy has taken other actions to bolster the electrical system, Reynolds said, including adding 17,000 MW of generation since 2020, and addressing fuel supply issues. The company has also started including the month of September in its summer readiness study because of its higher temperatures.

"We're no stranger to risks to our system," Reynolds said.

North Dakota Public Service Commissioner Julie Fedorchak likened resilience to the

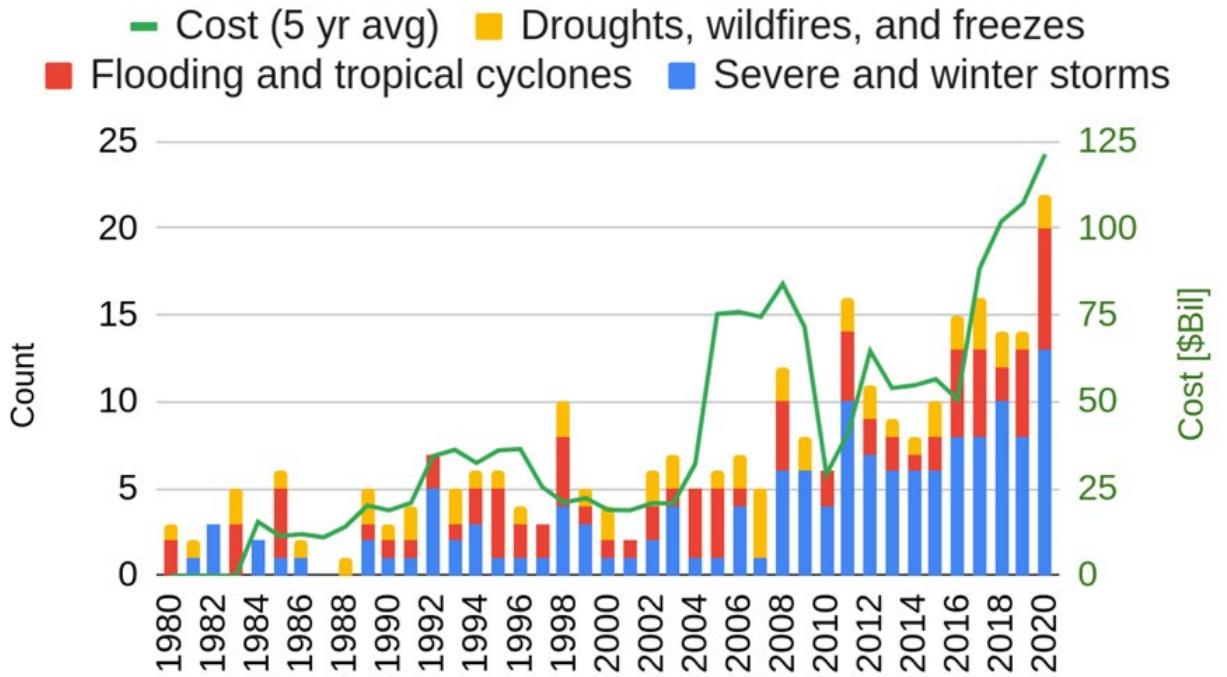
foundation and pillars of a structure that can withstand strong tremors.

Fedorchak said the resilience of the electrical system depends on four pillars: the generation resources, the transmission system, the market structures and communication systems. Transmission must be expanded to accommodate new generation, Fedorchak said, while market structures and the communication systems between generation and natural gas pipelines are both "antiquated" and need to evolve.

As more renewables are added, policymakers need to make sure to not "get ahead" of the technology and find themselves without enough dispatchable resources in an extreme weather event or other emergency, she said.

"In this time of transition, we need to focus on maintaining generation diversity and not getting a little bit too eager before the system is able to handle it," Fedorchak said. ■

— Rich Heidorn Jr., Michael Yoder and Michael Brooks



The frequency and cost of severe storms and weather-related events affecting the electric system have quadrupled over the past 40 years, according to the National Oceanic and Atmospheric Administration. | NOAA

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# 2021 EBA Annual Meeting

## Transmission Rx: Federal Standards, Broader Evaluation

Officials of AEP, SCE, SPP, NJ BPU Share Recommendations at EBA Conference

By Rich Heidom Jr.

More uniformity in transmission planning standards and broader considerations of benefits are needed to ensure the grid can handle increasing renewables and help states meet climate goals, speakers told the Energy Bar Association's annual meeting Wednesday.

Officials from SPP, American Electric Power, Southern California Edison and the New Jersey Board of Public Utilities shared their recommendations in a session titled "Transmission is the Answer: The Question is Can We Build It?"

Michael Deggendorf, AEP's senior vice president for regulated infrastructure development, said planners should expand the "value proposition" of interregional transmission to include geographical load, resource diversification and reducing curtailments of renewables.

But he said inconsistencies in regional planning standards are preventing interregional projects, calling on FERC to set "minimum bulk power transfer standards" to support reliability and resilience.

"We think that will give the RTOs the comfort and the authority to build that sort of planning assumption into their established planning processes," he said.

He also said the commission should require all



Speaking at the Energy Bar Association's annual meeting were (clockwise from left) moderator and former FERC Commissioner Phil Moeller, of the Edison Electric Institute; Joe DeLosa, New Jersey BPU; Michael Deggendorf, AEP; Dana Cabbell, Southern California Edison; and Paul Suskie, SPP. | Energy Bar Association

grid operators to use transmission planning "best practices," including longer planning horizons and use of "multiple and robust" scenarios that treat projects as having "multivalued benefits."

"Each RTO has an element of these best practices today, but they don't line up particularly well," he said. "That's why we see the

challenges of getting benefits to align on an interregional basis."

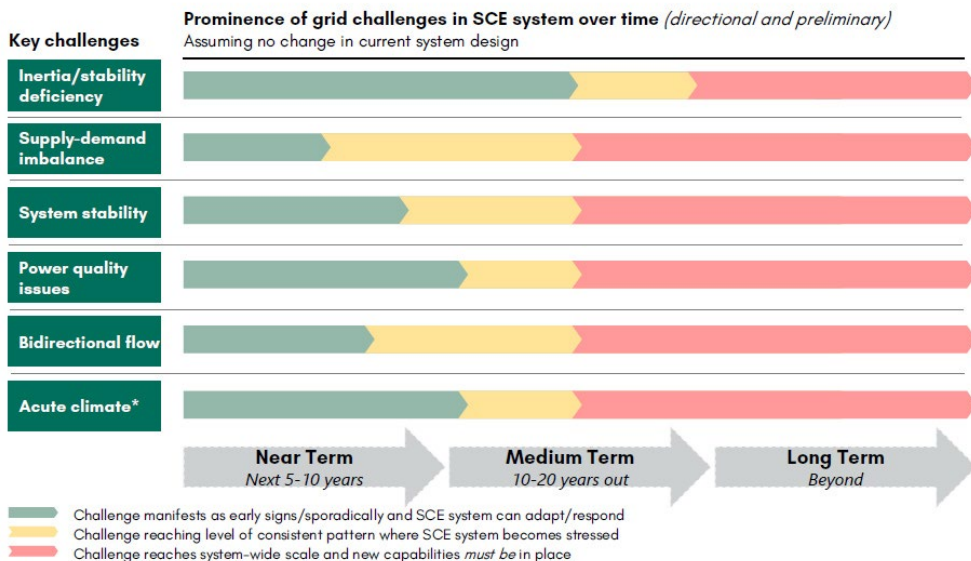
Planners have consistently underestimated the penetration rates of renewable generation "and, because of that, underinvested in the transfer capabilities within the region and outside the region," he added.

Also needed is better alignment of state needs and federal policies, he said, citing a transmission project in Pennsylvania and Maryland whose need was identified by PJM in 2014. Transource Energy, a joint venture of AEP and Evergy, was awarded the project in 2016. "We're still waiting for the final state approval to start construction," he said.

Although the Maryland Public Service Commission approved a settlement allowing the project to proceed last June, it has not been cleared by Pennsylvania regulators. (See *Md. PSC OKs Independence Energy Connection Deal.*)

Dana Cabbell, director of integrated system strategy for SCE, agreed with the need for longer planning horizons, saying the 10-year focus should be extended to 25 years.

In California, she said, it takes 10 to 12 years between conceiving a project and putting it into service. "It's just too long, especially as we're looking [to meet climate goals in] 2045. We should have started last year."



Southern California Edison identified six emerging challenges not addressed by current transmission solutions, saying they will reach "critical mass" in the mid-2030s. | Southern California Edison



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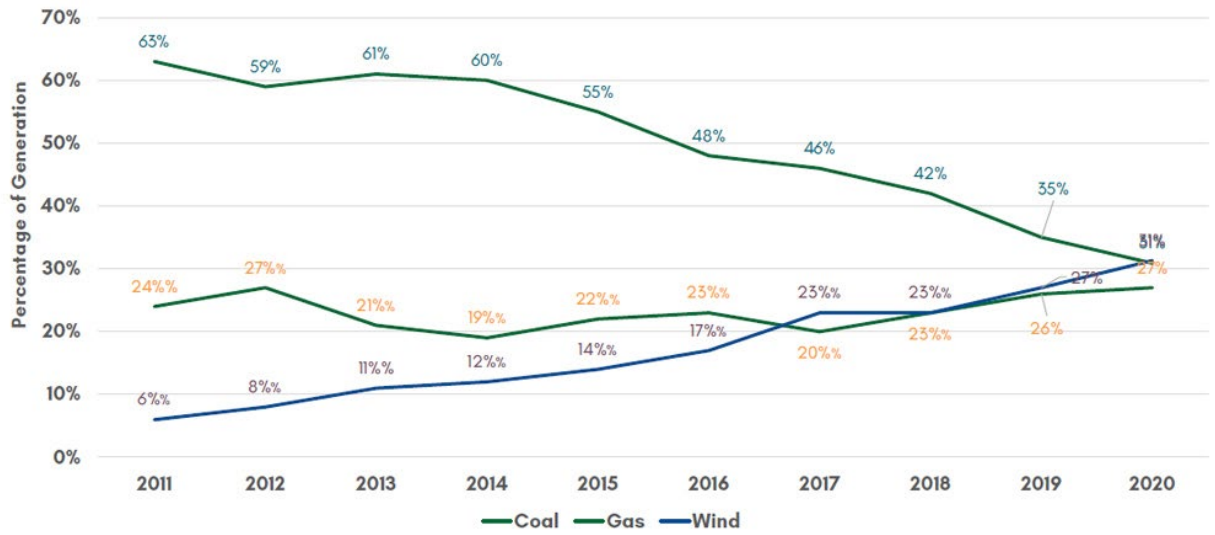
Cabbell listed six grid “challenges” that she said current transmission solutions don’t address, including bidirectional power flows; maintaining system stability despite increasing distributed energy resources; and a loss of system inertia as inverter-based resources supplant traditional synchronous generators. She also cited limited power supply in locally constrained areas to support high density loads such as electric vehicle transport corridors.

“These challenges are showing up today at a smaller scale but will grow and reach critical mass around the mid-2030s,” she said.

Joe DeLosa, chief of the New Jersey BPU’s federal and regional policy bureau, said FERC should revise Order 1000’s fourth cost allocation principle, which limits allocation to within a single transmission planning region unless those outside voluntarily assume costs.

It “really constrains the ability for the commission to assign beneficiaries to other regions,” he said. “If there is a more holistic evaluation of the benefits, I think that would be a marked improvement.”

He also complained about what he called the “siloes nature” of transmission planning in PJM.



In 2020, SPP saw wind supplant coal as its largest generation source. | SPP

“The supplemental project planning process [done by incumbent utilities] never talks to the [PJM] market efficiency planning process, [which] never talks to the” state agreement approach under Order 1000, he said. “Customers are spending lot of money on supplemental projects without those projects being necessarily the most efficient to also solve their public policy needs.”

The BPU initiated the state agreement approach in asking PJM to seek bids on transmission upgrades to support New Jersey’s goal of 7,500 MW of offshore wind by 2035. If the state pursues the upgrades, it would be required to pay for them in full, although they would also benefit others in PJM. (See *New Jersey Seeks OSW Transmission Ideas.*)

“Seeing whether a larger project could obviate other projects is not something, as I understand it, that really occurs in the PJM planning

process today,” DeLosa said. “And I see that as one of the main obstacles to broadening the planning process to consider these other clearly important public policy goals.”

Paul Suskie, executive vice president and general counsel of SPP, said FERC should reconsider its policies on generator interconnection queues.

“If you have a generating resource that has a [power purchase agreement] or a load-serving entity that has state commission approvals already to build, I think they need to move to the front of the line,” he said. “Speculative generators, I think, are bogging up the queue and creating real delays and hindering good transmission getting built.”

Noting the rapid changes in the generation mix he added: “The model of 100 years ago is not going to work in the future.” ■

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## Electrification Raises Concerns over Stranded Gas Assets, Customers

By Rich Heidom Jr.

Colorado regulator Megan Gilman worries that the electrification of home heating could leave fewer natural gas customers paying increasingly high bills.

But Consolidated Edison executive Marc Huestis told the Energy Bar Association's annual meeting Wednesday that could be avoided by continued use of natural gas infrastructure for delivering low-carbon fuel.

That's the hope of the *Low-Carbon Resources Initiative (LCRI)*, a joint project of the Electric Power Research Institute and the Gas Technology Institute that is exploring the role low-carbon chemical energy carriers such as clean hydrogen, bioenergy and renewable natural gas can play in an economy-wide decarbonization.

"The [local distribution companies] and the gas system could provide a very elegant solution to this problem," said Huestis, Con Ed's senior vice president of gas operations, during a panel discussion on the future of natural gas utilities in a carbon-constrained world. "If we can innovate and develop at scale affordable, low-carbon resources that leverage the existing natural gas infrastructure — there's 2.5 million miles of pipelines across this country — think of the potential: Instead of converting building by building, customer by customer, millions of separate locations, we can decarbonize the fuel at its source and use it in concert with electrification. We'll get there faster, and we'll get there cheaper."

Con Ed's system serves 3.4 million electric cus-



Clockwise from top left: Colorado Public Utilities Commissioner Megan Gilman; moderator Erin Overturf, Western Resource Advocates; Marc Huestis, Consolidated Edison; and Ben Passer, Fresh Energy. | Energy Bar Association

tomers and 1.1 million gas customers in New York City and Westchester County. "On a cold winter day, our gas system delivers three times as much energy as our electric system does on a peak summer day. So this is a huge transformation," he said.

Last month, New York City, Con Ed and National Grid released a [study](#) on pathways to a carbon-neutral future that concluded a path of heavy electrification would shift the current summer peaking electric system to a winter peak, increasing that peak by 86%.

"You can imagine in a dense urban environ-

ment of New York City that would be quite a logistical challenge to increase the demand and ability of the electric system that much," Huestis said. "The same study shows the low-carbon fuel pathway, combined with electrification, would significantly mitigate the impact on the electric system and actually keep it as a summer peaking system."

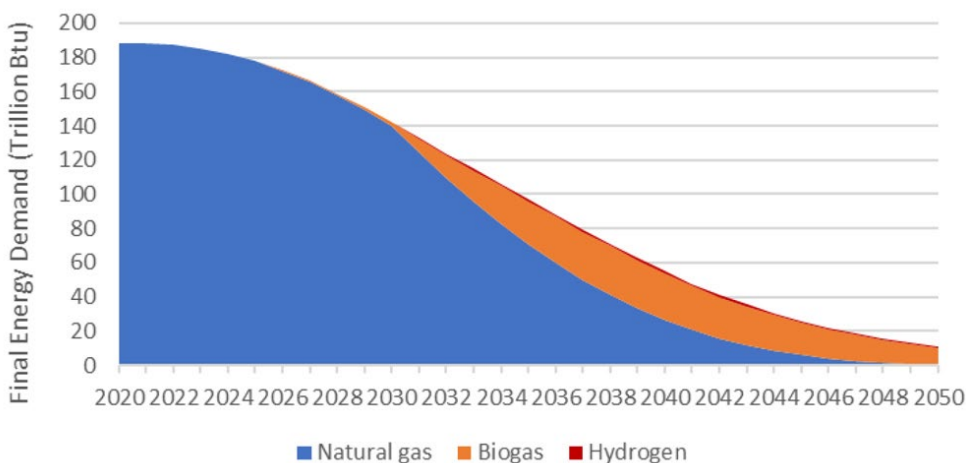
Policymakers should "leverage the resiliency of the natural gas system so we're not in an electric home, with an electric [vehicle] and the electric system has an outage," he said. "There's value in diversity. There's value in the resiliency of the gas system."

"It's going to take an integrated energy system, where we're leveraging the benefits of both the electric system and the gas system to make this work, because the gas system can really mitigate the impact on what we have to do with the infrastructure build out to support this decarbonization effort."

### 'A Sea of Ambiguity'

In 2019, Colorado lawmakers approved a bill requiring the state to reduce greenhouse gas emissions 26% below 2005 levels by 2025 (HB 19-1261). The legislation also targets a 50% reduction by 2030 and a 90% cut by 2050.

But the state hasn't set any targets for how natural gas use should be reduced, making regulators feel like they are "swimming in a sea of ambiguity," said Gilman, a member of the Colorado Public Utilities Commission.



Residential and commercial use of natural gas and replacement fuels, as envisioned under the targets of Colorado legislation passed in 2019 | Colorado PUC

# 2021 EBA Annual Meeting

“So, not to say we have it all figured out on the electric decarbonization side of things — I’m sure there will be a lot of hard decisions still to come — but the natural gas side of things feels so underdeveloped,” she said. “To me it’s really bound to produce both excitement and anxiety among different stakeholders as we all try to figure out what decarbonization in this sector and its end uses really look like.”

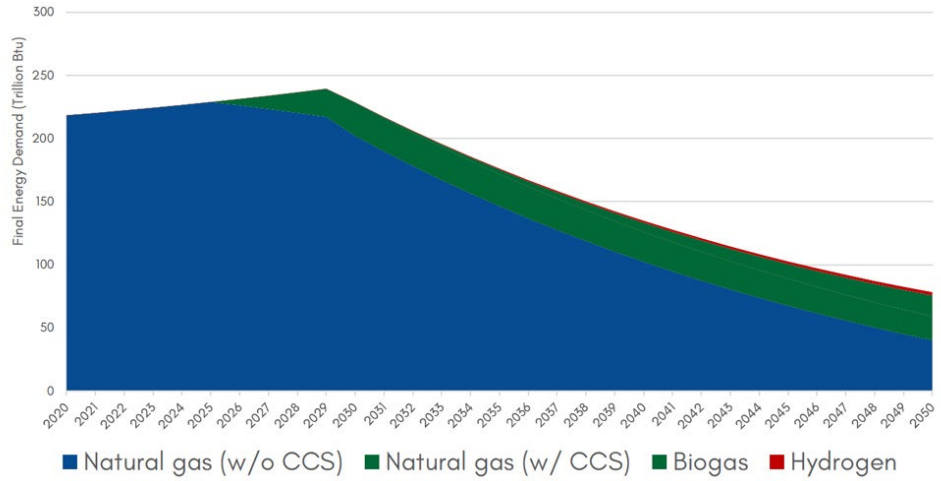
Gilman said the PUC has an important role in making sure the legislature’s targets are achieved.

“If we don’t plan properly and we get to the point where it’s either too expensive or we can’t avoid ... the worst circumstances for our lowest-income consumers, I think this could get politically untenable,” she said.

“If we do see considerable attrition to either customer accounts or load, it’s reasonable to assume that rates would potentially go up to cover the costs of operating the system. And so the assumption ... is that your lowest-income consumers lack the capital to electrify. What a lot of people are concerned about is if we saw rising costs, those folks would be left on a system that is getting increasingly less affordable.”

The PUC opened an investigatory docket last year on the future of natural gas, but Gilman said there are legal challenges to discussing the issue.

“There are always ongoing proceedings. ... There is never not a natural gas proceeding.



Industrial use of natural gas and replacement fuels as envisioned under the targets of Colorado legislation passed in 2019 | Colorado PUC

And so it’s very hard in some ways to talk about issues at the commission because we always have ongoing adjudicated proceedings that we have to stay away from. It can feel like a minefield where we’re tiptoeing around certain things.”

To avoid stranded gas assets, she said regulators will need to change depreciation rules to make the “useful life” reflect policy scenarios rather than the “material science perspective” they have used historically.

“Infrastructure going in right now is going to be depreciated past 2060 [under current rules],” she said. “That’s a long time.”

## Minnesota Activist Seeks Equity

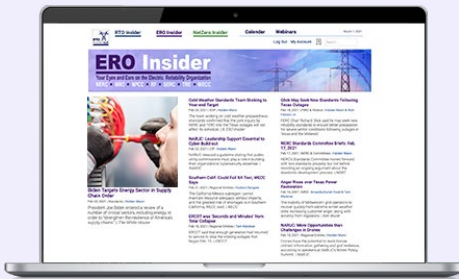
Also appearing on the EBA panel was Ben Passer, lead director for energy access and equity for *Fresh Energy*, a nonprofit that seeks “equitable carbon-neutral economies.” An attorney, Passer leads Fresh Energy’s advocacy efforts at the Minnesota Public Utilities Commission and state capital.

He called for investments in weatherization and “deep energy retrofits” to prepare homes for cold-climate air source heat pumps. Natural gas supplies heating to almost two-thirds of Minnesota households, he noted, well above the national average of below 50%. ■

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## FERC/Federal News



# Barrasso: Biden Climate Plan a Retread of Obama Failures

*Report Ignores DOE Loan Program Successes — Like Tesla*

By K Kaufmann

In the weeks since President Biden took office, Republican arguments against his plans to decarbonize the U.S. power system by 2035 have become relatively predictable: The plan is an attack on the fossil fuel industry that will destroy jobs, families, communities and America's energy independence, and what kind of environmental justice is that?

Now, Sen. John Barrasso (R-Wyo.), the ranking member on the Senate Energy and Natural Resources Committee, has upped the ante with a new *report*, attacking Biden's climate initiatives as costly retreads of what are viewed as failed policies from the Obama administration.

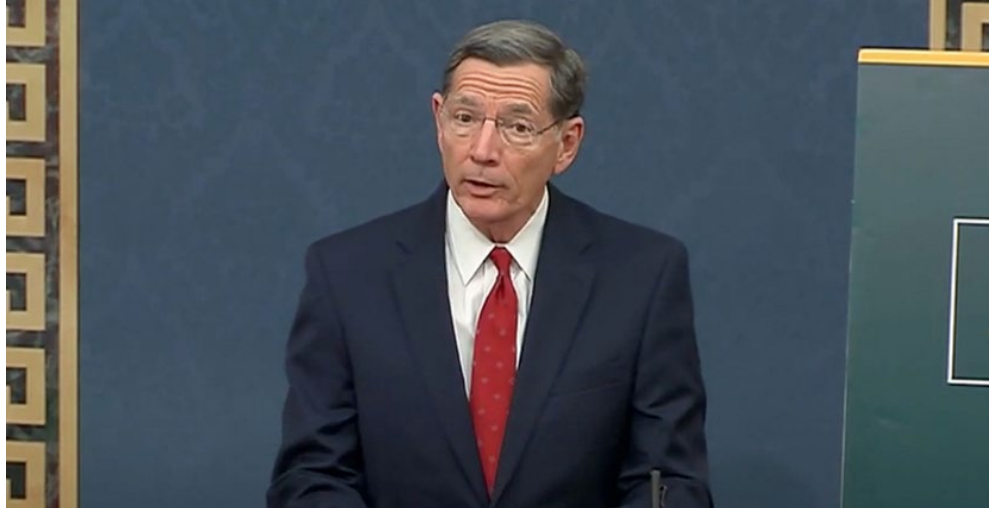
"The Biden administration seems blinded by the Solyndra Syndrome," Barrasso said in a speech in the Senate on May 10, invoking the 2011 bankruptcy of a solar startup, which defaulted on a \$535 million loan guarantee from the Department of Energy's Loan Program Office (LPO).

"President Biden wants to use the exact same playbook now, this time with a heftier price tag," Barrasso said, referring to the president's proposed \$2 trillion in infrastructure spending. "At the same time [that] the Biden administration is recycling far-fetched, so-called jobs plans, the Biden administration is attacking existing oil and gas jobs — good jobs that people have today."

Barrasso's report looks back to the Great Recession, the Obama administration's American Rescue and Recovery Act and its promise of 5 million green jobs, which, the report says, delivered only a tepid recovery.

"At the same time, the oil and gas sector was thriving, producing energy at a furious pace and helping make America the world's largest energy producer," the report says. "From the employment low point in February 2010 to the end of 2013, non-farm employment grew at a sluggish 1.4% per year, while oil and gas grew at a brisk pace of 5.4% per year."

Biden's executive orders canceling the Keystone XL pipeline and suspending new oil and gas leasing on federal land are particular targets because of their potential for significant local impacts. Almost half of the crude oil and 89% of the natural gas produced in Barrasso's home state of Wyoming come from production on federal lands, according to the report, and



Sen. John Barrasso addresses the Senate on May 10. | *Senate Energy and Natural Resources Committee*

the state could lose \$433 million in revenues related to that production.

The report also challenges Biden's plan to create millions of good-paying, union jobs in clean energy, arguing that oil and gas are the real job generators. Citing figures from the Bureau of Labor Statistics, the report notes that the solar industry is only expected to add about 6,100 new installer jobs by 2029 versus a total of 34,700 jobs across the oil and gas sector.

And while oil and gas jobs are "unambiguously American," solar and wind jobs could be undercut by competition from China, the report says.

### Failures and Successes

While not commenting directly on Barrasso's report, Dan Whitten, vice president of public affairs at the Solar Energy Industries Association, sees an opportunity for "hundreds of thousands of new, well paying solar jobs in the next decade alone, and many more in clean energy broadly."

"We are proud of the role solar energy can and will play in a clean energy economy, and we look forward to working with members of Congress in both parties to achieve our shared goals of economic growth, the creation of good jobs and reduced air emissions," he said.

Even Barrasso admits the BLS numbers are not definitive. While only looking at two categories of jobs in clean energy — solar installer and wind technician — the oil and gas sector numbers cited in the report include six different job categories.

*BLS figures for April 2021* show 137,200 jobs in the oil and gas sector, while the recently released *Solar Jobs Census* — from SEIA, the Solar Foundation and the Interstate Renewable Energy Council — pegs total solar employment in 2020 at 231,474. An *analysis* from the Global Wind Energy Council estimates that the U.S. wind industry currently employs about 115,000.

Barrasso's report also fails to mention that Biden's executive order on oil and gas leasing on federal land covers only new leasing and does not affect current jobs or production.

Harking back to the clean energy bankruptcies of the recession — Solyndra, Beacon Power, A123 Systems and Fisker Automotive — ignores the loan program's notable successes, such as providing essential loan guarantees for the nation's first utility-scale solar projects of 100 MW or more. One of those projects, the 250-MW Genesis project in the Southern California desert, paid off its \$852 million loan guarantee 18 years ahead of schedule, according to the program's 2020 *portfolio status update*. Tesla received another early loan guarantee — \$465 million in 2010 — which it paid off in 2013, nine years ahead of schedule.

"Every active LPO borrower repaid principal in FY 2020, achieving \$1.2 billion in principal retirement and \$500 million in interest payments to the U.S. Treasury," the update said.

Barrasso did not respond to *RTO Insider's* request for comment. ■



# FERC/Federal News



## BPC Proposes \$1 Trillion Infrastructure Compromise

*GOP, Democratic Leaders Express Optimism after Meeting with Biden*

By Rich Heidorn Jr.

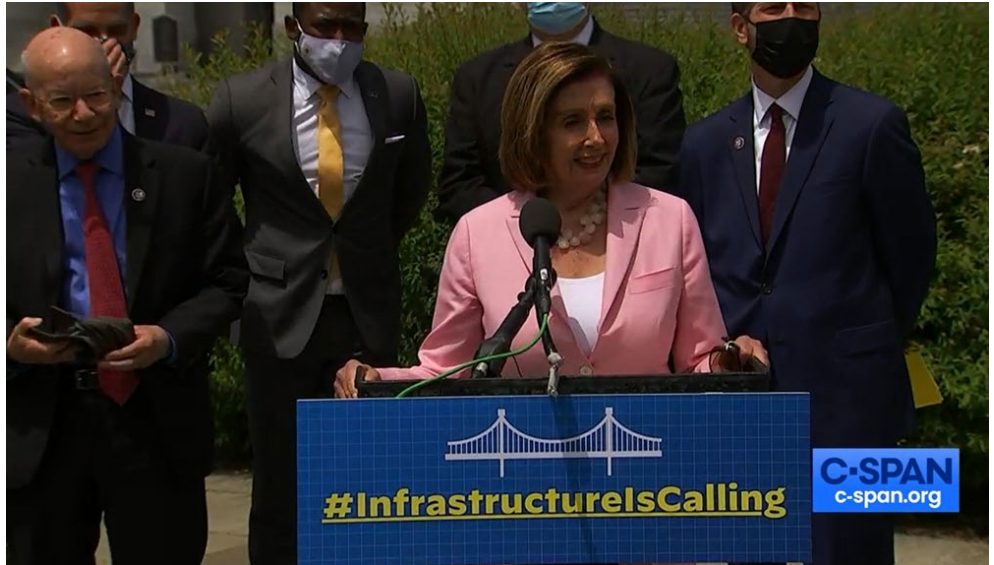
The Bipartisan Policy Center on Wednesday proposed a compromise \$1 trillion infrastructure package that would authorize \$300 billion in spending for a clean energy transition, paid for by a combination of increased corporate taxes and user fees.

The BPC announced its *proposal* after House and Senate leaders emerged from a White House meeting with President Biden expressing cautious optimism on the chances for a bipartisan agreement.

In March, Biden proposed a \$2.3 trillion American Jobs Plan that would be paid for by raising the corporate income tax from 21% to 28%. (See *Biden Infrastructure Plan Would Boost Clean Energy*.) Senate Republicans countered with a \$568 billion proposal paid for by increased user fees.

The BPC said that the numbers cited by the proponents of both plans are misleading because of their disparate treatment of \$360 billion in existing “baseline” funding.

“The Republican \$568 billion plan includes current funding levels ... in all but its broadband numbers,” making its proposal appear larger than it is, BPC said. “The president, in contrast, underrepresents the true costs of his proposal by neglecting to include the \$360 billion in baseline infrastructure funding and by undercounting the cost of renewable energy



Speaker Nancy Pelosi (D-Calif.) speaks at a press conference with House Transportation and Infrastructure Committee Chair Peter DeFazio (D-Ore.), left. | C-SPAN

tax credits. When including these expenditures, the true cost of the administration’s plan approaches \$3 trillion over eight years.”

Comparing the proposals is also complicated by use of different time horizons, with the Republicans spending over five years, as is traditional for surface transportation legislation, while the administration proposes spending other than surface transportation over eight years. “Adjusting the administration plan to five years, assuming ‘straight line’ spending,

reduces its cost from nearly \$3 trillion to just over \$2 trillion,” BPC said.

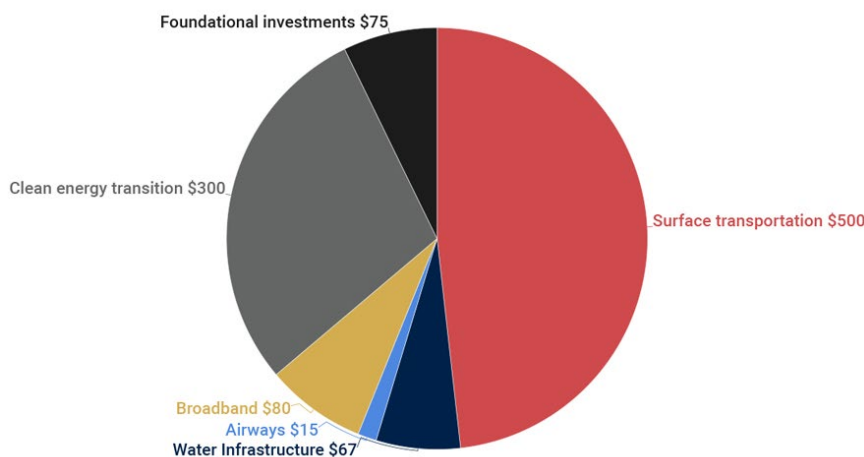
BPC’s proposal would spend \$1 trillion over five years, adding nearly \$700 billion to the baseline.

“BPC believes that it is possible to generate bipartisan support for a package that is considerably broader than traditional infrastructure investments while maintaining a focus on the built environment inclusive of targeted investments in surface transportation, clean energy, childcare facilities, and affordable housing,” it said.

The group acknowledged skepticism that an agreement could be reached, but said the effort must be made because it is preferable to a Democrat-only package pushed through the reconciliation process to avoid a Senate filibuster. “An effective national infrastructure plan must include regulatory, administrative, permitting and environmental provisions — none of which can be included in a budget reconciliation bill,” it said. “For example, under the historic process, spending from the federal highway trust fund cannot be authorized through reconciliation.”

“It is by no means certain that Senate Democrats can create unified support for a partisan infrastructure package and highly implausible that a Democrat-only approach will contain all the elements of the administration’s nearly \$3 trillion Jobs Plan,” it continued. “The bottom

● Surface transportation ● Water Infrastructure ● Airways ● Broadband ● Clean energy transition ● Foundational investments



The Bipartisan Policy Center infrastructure proposal includes \$300 billion in spending on the “clean energy transition.” | BPC

# FERC/Federal News



line: The chance of enacting a bipartisan \$1 trillion+ program, like that outlined [by the BPC], is equal to or greater than the chance of Democrats enacting a \$3 trillion package using the reconciliation process.”

## Clean Energy Transition Spending

The BPC proposal would spend \$300 billion on the “clean energy transition” over five years, compared with about \$467 billion in the Biden plan and none in the GOP plan:

- Innovation and Scaling: \$100 billion for clean energy research and development and efforts to accelerate commercial-scale demonstration of technologies, including carbon capture and storage (CCS), low-carbon manufacturing, advanced nuclear facilities and carbon removal.
- Deployment: \$100 billion to extend and expand clean energy tax credits for offshore and onshore wind, solar, CCS and direct air capture, nuclear technologies, hydrogen and energy storage.
- Transmission: \$50 billion to expand and upgrade the electric grid to increase resiliency and connect renewables to load centers.
- Electric Vehicles: \$50 billion for charging infrastructure, particularly for medium- and heavy-duty vehicles, and development of vehicle manufacturing capabilities and a domestic supply chain for critical minerals.

BPC also called for implementing 23 recommendations made in April by its Smarter, Cleaner, Faster Infrastructure *task force* to modernize the permitting process for infrastructure projects. “The imperative to achieve net-zero-carbon emissions by 2050 is an enormous undertaking that will not succeed unless

we modernize our permitting processes to match the required breakthroughs in energy technology,” BPC said.

The federal government should preapprove federal land for clean infrastructure projects and create a grant program for states to identify and preapprove sites as well, BPC said. “Further, Congress should authorize a new National Grid Planning Authority and update the Energy Corridors program to reflect current clean infrastructure needs.”

It also proposed a competitive grant program to encourage states to reduce their greenhouse gas emissions.

## Paying for it

The group would pay for the spending by combining the user fees and corporate tax increases proposed in the Republican and Democratic plans. “This balance will address the regressivity and competitiveness concerns that result from relying solely on one approach or the other,” it said.

It would offset the \$500 billion of spending on surface infrastructure with user fees, including adding 15 cents to the current excise fees on motor fuels (18.4 cents/gallon for gas and 24.4 cents/gallon for diesel fuel) — which has not increased since 1993 — and indexing it for inflation.

To address the increase in electric vehicles, it also called for a transition to a vehicle miles traveled (VMT) fee.

Another \$300 billion in federal income taxes would come from tougher tax enforcement and \$150 billion would come from reprogramming unspent money from the pandemic recovery bills.

The corporate tax rate would rise from 21% to 25%, which would generate \$400 billion over 10 years, the BPC said, adding that the rate would be near the OECD weighted average of 25.85%. Republicans cut the rate from 35% in 2017.

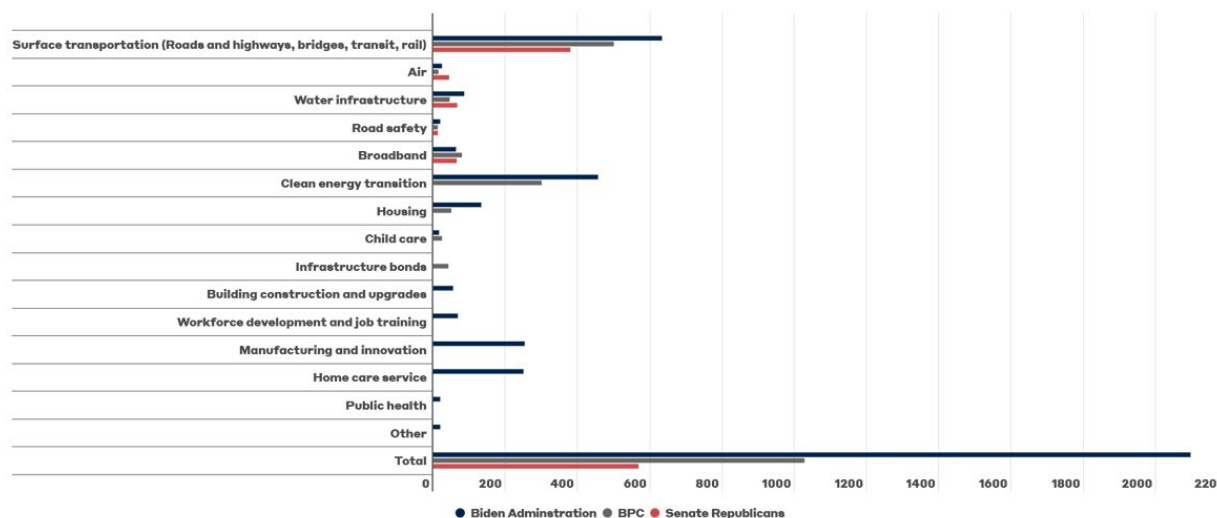
## ‘Red Line’

“There is certainly a bipartisan desire to get an outcome,” Senate Minority Leader Mitch McConnell (R-Ky.) said after the 90-minute meeting with Biden. But he said any increase in the corporate and personal income tax rates set in the 2017 bill was a “red line” Republicans would not cross.

House Minority Leader Kevin McCarthy (R-Calif.) also said the GOP continues to oppose the breadth of the Biden plan, which includes spending on home health aides and colleges as well as roads and bridges. “We first have to start with a definition of what is infrastructure,” he said. “That’s not home health. That’s roads, bridges, highways, airports, broadband.”

House Speaker Nancy Pelosi (D-Calif.) said she was encouraged by the meeting. “I’m more optimistic now about being able to do so in a bipartisan way, but we’ll see,” she said in a press conference afterward. But she said she opposes increasing user fees and acknowledged the Republicans disagreed with including funding for electric vehicles.

House Transportation and Infrastructure Committee Chair Peter DeFazio (D-Ore.) said his panel hopes to approve an infrastructure bill “in the near future” and bring it to the House floor before Congress’ July 4 recess. ■



The Bipartisan Policy Center infrastructure proposal, as compared with the Biden proposal and one from Senate Republicans (billions of dollars). | BPC

# FERC/Federal News



## Transmission ITC Could Add 20 GW of New Capacity to Grid

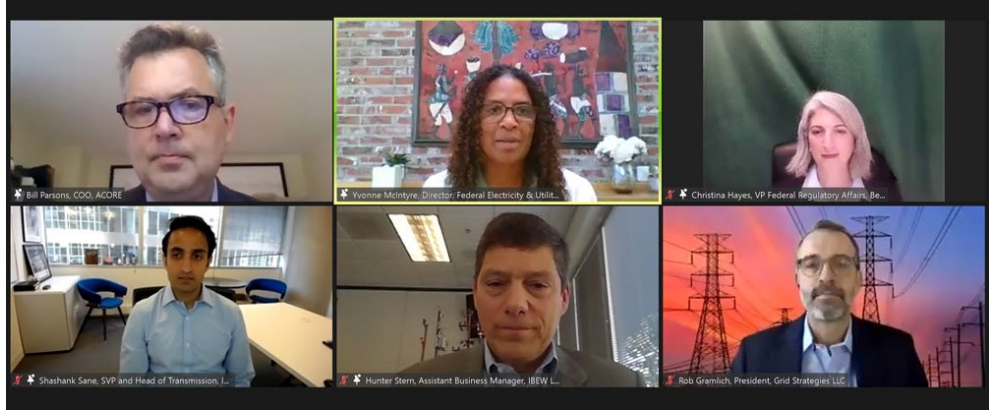
*ACORE Report Says Tax Credit is Best Solution to Cost Allocation Challenges Projects Face*

By K Kaufmann

The problem with building large interregional transmission lines is that the benefits of these projects may be spread over a range of stakeholders but, at the same time, be difficult to monetize, which is why — a *new report* argues — the energy industry needs a federal investment tax credit specifically for transmission.

“Private developers of transmission currently see little price signal to invest in large-scale regionally beneficial lines, as many of the economic, reliability, resilience and carbon-reduction benefits of transmission do not accrue to them,” says the report released Thursday by the American Council on Renewable Energy. “Since cost allocation policies do not capture many of the benefits of interregional transmission, a tax credit is the simplest way to capture and spread the cost as widely as possible.”

The study looks at 22 “regionally significant” transmission projects currently in various stages of development across the U.S. that could benefit from the 30% federal ITC that the report advocates for as part of President Biden’s \$2 trillion infrastructure plan. Reaching Biden’s ambitious goal of decarbonizing the U.S. grid by 2035 will require a massive, and fast, buildout of new high-voltage transmission, and a transmission ITC is “the right



Featured speakers at the ACORE webinar included (clockwise from top left): Bill Parsons, ACORE; Yvonne McIntyre, NRDC; Christina Hayes, Berkshire Hathaway; Rob Gramlich, Grid Strategies; Hunter Stern, IBEW; and Shashank Sane, Invenery. | ACORE

tool for the job,” said Rob Gramlich of power industry consultant Grid Strategies and one of the authors of the ACORE report.

“Tax credits are well known to the electricity business,” said Gramlich, one of several speakers at a Thursday webinar to launch the report. “Developers know how to use them; investors know how to finance projects with them. It works for the type of regionally significant, large-scale, regional and interregional lines that are not really getting built today.”

He defined “regionally significant” as a project

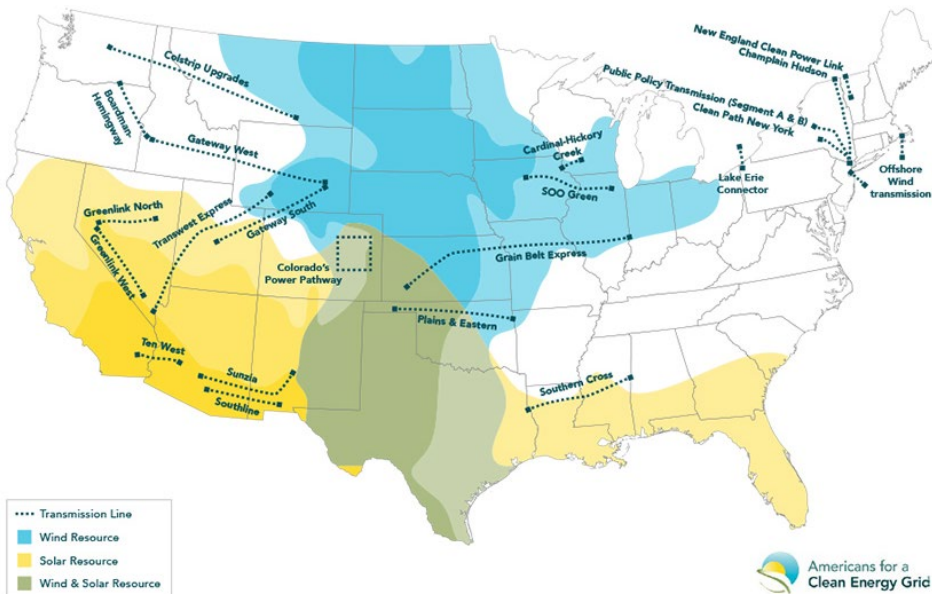
of 275 kV or more, which “significantly influences the regional power flow.” As outlined by the White House, *Biden’s American Jobs Plan* calls for a transmission ITC but does not specify a percentage or any other details on projects that would qualify.

While the ACORE report admits that only about half of the 22 projects mentioned might actually get built, those lines could add 20.6 GW of capacity to the U.S. power system and support the interconnection of another 30 GW of renewable energy capacity. New jobs created would include 330,000 in transmission and another 320,000 in renewable energy, the report says.

But the strongest selling point for a transmission ITC may be the need for improving grid reliability and resilience. “It shouldn’t take extreme winter storms in Texas for us to see that our transmission infrastructure and electrical grid are in desperate need of an update and an overhaul,” said Sen. Martin Heinrich (D-N.M.), who first introduced a bill for a 30% transmission ITC in 2019 and reintroduced an updated version (*S.B. 1016*) this year.

One of the projects referenced in the report, Pattern Energy’s Southern Cross transmission line, would provide a 500-kV, 2,000-MW connection between SERC Reliability’s territory and ERCOT, and is targeting 2022 to begin construction according to a *project fact sheet*.

Under Heinrich’s bill, projects eligible for the ITC would have to be over 275 kV and a minimum capacity of 500 MW, and be able to deliver power produced in either a rural area or offshore. Both AC and DC projects would



Regionally significant transmission projects identified by Americans for a Clean Energy Grid as “shovel ready.” | ACEG



# FERC/Federal News



be covered.

## Who Wants to Pay?

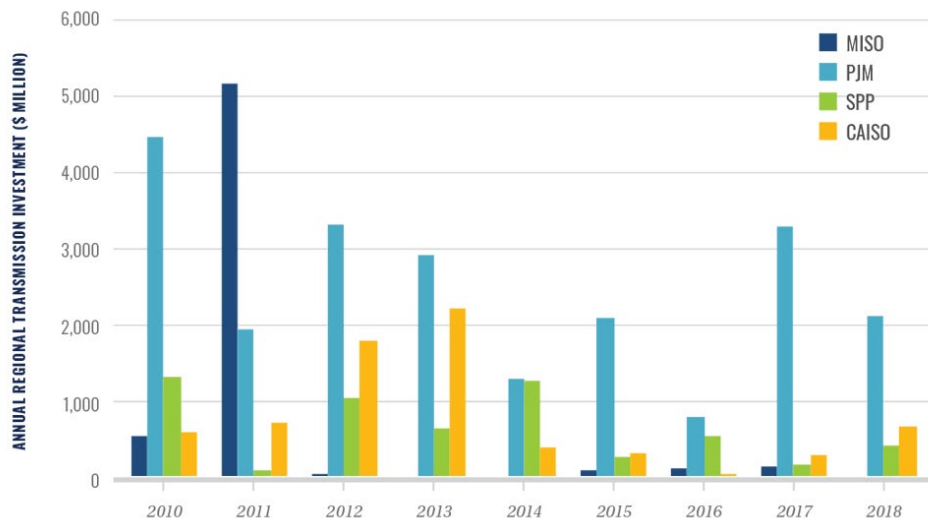
Financing large-scale, interregional transmission can be particularly challenging for merchant developers, said Shashank Sane, senior vice president and head of transmission at Invenergy. “The beneficiaries of these projects can be diverse, and so in order to monetize the value of those lines, we have to find the stakeholder who is willing to pay for a certain benefit and create those links,” Sane said. “That’s really not the right model.”

For example, he said, Invenergy’s Grain Belt Express project now under development is aimed at bringing wind power from Kansas across Missouri, Illinois and ultimately to Indiana, providing a connection to MISO and PJM.

“The ITC is the key tool that will enable [the project] because it addresses the cost allocation problem and paying for those multiple benefits a single beneficiary is not willing to pay for,” Sane said.

Gramlich said the ITC could help both merchant developers and RTOs stand up more large-scale, interregional transmission. “There’s no RTO tariff to recover the costs,” he said. “What we have is a current environment where everybody sits around these RTO stakeholder tables and says, ‘I don’t want to pay for this. Do you want to pay for it?’ And they kind of stare at each other, and nothing gets planned.”

The report notes that, despite FERC Order 1000 and other policies aimed at stimulating transmission planning, very few large-scale RTO projects have been built in the past decade, and with the notable exception of PJM, investment in regional transmission has fallen off in the past five years. If the ITC can help draw investors to even half the projects mentioned in the report, the total capital involved



Regional transmission investment in RTOs/ISOs (\$ million) | ACORE

could top \$15 billion, the report says.

But as negotiations begin on Biden’s infrastructure plan, whether a transmission ITC will emerge as part of any compromise remains uncertain. ACORE CEO Gregory Wetstone is optimistic that the jobs and reliability benefits that large-scale transmission projects offer will help “bridge the partisan divide,” he said in an email to RTO Insider.

## Permitting Reform

Even if it does pass, a transmission ITC does not address the complex, expensive and time-consuming challenges of getting large-scale transmission projects permitted. According to Christina Hayes, vice president for federal regulatory affairs at Berkshire Hathaway Energy, the company’s Gateway West project, which would bring Wyoming wind power to the Pacific Northwest, has been in development since 2007.

The project’s final segments may not come

online until 2030, according to PacifiCorp, the Berkshire Hathaway utility building the line with Idaho Power.

Meanwhile, Grain Belt is currently stalled in Missouri, where the company’s potential use of eminent domain to secure the land it needs for the project has resulted in opposition from landowners and lawmakers. A bill introduced Thursday in the state legislature would require the project to get statements of support from every county commission in the counties it would cross.

Heinrich recently introduced another bill (S. 1015) that, he said, would “direct FERC to improve its interregional transmission planning process.” He also pointed to Biden’s proposal to establish a new Grid Authority Office at the Department of Energy as a step in the right direction.

However, the report says, “compared to a tax credit, an overhaul of federal regulations takes years to be developed, enacted and implemented. The policy will have to meet cost allocations established by courts to demonstrate that every entity that pays receives benefits.”

Other kinds of federal assistance, such as DOE grants, could trigger the need for an environmental impact analysis under the National Environmental Protection Act — also expensive and time consuming, the report says.

ACORE COO Bill Parsons said a transmission ITC answers the need for urgency in ramping up renewable energy at the rate needed to decarbonize the U.S. grid by 2035. “This is not a time to be penny wise, pound foolish,” he said. “This is a time for a policy response on the order of the magnitude of the challenge.” ■



Rob Gramlich, Grid Strategies | ACORE



Sen. Martin Heinrich (D-N.M.) | ACORE

# FERC/Federal News



## Biden Administration Marshaling Agencies in Push for 30 GW of Offshore Wind by 2030

*DOE Sees '30 by 30' as Key to 110 GW by 2050 and an Industrial Renaissance*

By John Funk

The Biden administration's plan to invest in renewable energy to revitalize the economy while battling climate change became a lot clearer at the second virtual session of this year's Business Network for Offshore Wind's International Partnering Forum (IPF).

Held on the 126th day of President Biden's term and just two days after Bureau of Ocean Energy Management (BOEM) approval of the 800-MW Vineyard Wind project off the coast of Martha's Vineyard, the focus of the IPF session was the same as the president's jobs.

"Tackling the climate crisis has been a centerpiece of the president's agenda," BOEM Director Amanda Lefton said. "He has also clearly stated that when he thinks about the climate crisis, he thinks about creating jobs," she said.



Amanda Lefton, BOEM  
| BOEM

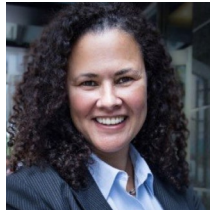
"As we build the offshore wind industry in the United States, we are doing so not only to address the threats of climate change, but also to create thousands of good paying union jobs. That's why the administration has called for a review of offshore renewable energy siting and permitting processes, set ambitious goals and focused on making measurable progress on advancing projects.

"We're demonstrating an all-of-government approach that will catalyze the industry in the United States," Lefton continued.

"A key to our success will be creating greater certainty for the industry, state and local governments, tribal nations, ocean users, and other partners and stakeholders. This includes an efficient and effective process for reviewing plans to develop existing leases, and an inclusive and expeditious process for identifying areas for potential future lease sales. We know the challenges we face regarding the climate crisis are too dire to delay, but let me stress that our desire to move forward will not outpace our steadfast commitment to do this right."

The half dozen representatives of other federal agencies provided more details about programs and funding the administration is

developing to bootstrap the U.S. economy into a robust industrial renaissance through decarbonizing the entire U.S. economy.



Kelly Speakes-Backman, DOE | DOE

Energy Efficiency and Renewable Energy.

"We need to integrate more renewable energy generation onto the grid while ensuring it's still reliable, secure and resilient. We need to start work now to accelerate the deployment of existing resources that are cost effective today. Wind and solar are already cost competitive in many parts of the country, but we need to scale up our efforts," she said.

Speakes-Backman also reiterated that the president's goal to build 30 GW of offshore wind by 2030 is just a start.

"We see this 30-GW goal not as an endpoint, but really as a steppingstone, and an analysis from our National Renewable Energy Laboratory shows that meeting the 30-by-30 goal will enable 110 GW of more projects deployed by 2050.

"We believe the fastest and the most cost-effective way to decarbonize our economy is to prioritize first the power sector," said Kelly Speakes-Backman, principal deputy assistant secretary for the Department of Energy's Office of

"It will spur \$12 billion in annual capital investment; it will drive construction of new domestic factories for each major wind farm component, including turbines, towers, foundations and subsea cables; and it will lead to the manufacturer of wind turbine installation vessels," she said.

"Achieving that 2050 level of deployment would open the door to another 135,000 total jobs: 77,000 in offshore wind and another 58,000 in communities. Plus annual capital investment of \$15 billion, increased manufacturing and steel demand, and at least \$3 billion in port upgrades," she said.

To make all of this happen, the administration is relying on an organization that DOE initially funded in 2018 — the National Offshore Wind Research and Development Consortium administered by New York State Energy Research and Development Authority — to develop "a comprehensive supply chain roadmap for offshore wind."

Urging industry and potential vendors to contact the consortium, Speakes-Backman brought the topic back to the administration's bottom line.

"We have to get as many American companies using as many sheets of American steel, employing as many American workers ... in offshore wind, driving economic growth from coast to coast." ■



Vineyard Wind



# CAISO/West News

## CAISO Launches 20-year Transmission Planning Process

*Targets Clean Energy, Out-of-state Renewables*

By Hudson Sangree

CAISO kicked off an extended 20-year transmission planning process (TPP) on Friday to support the state’s clean energy goals.

The long-term planning process, still in its conceptual stages, was launched in a two-hour stakeholder call covering its broad outline and inviting an initial round of comments from interested parties by May 28.

“How it ultimately gets shaped ... will evolve as we go through this process,” Neil Millar, vice president of transmission planning and infrastructure, told stakeholders. “We’re starting this with good intentions and high-level plans, but we’re looking for comments.”

Major objectives include supporting the California Energy Commission and Public Utilities Commission in their efforts to reach the targets of Senate Bill 100, which requires utilities to supply retail customers with 100% clean energy by 2045.

“We do see most of this work being triggered by ... state direction on resource planning considerations,” Millar said.

In his presentation, Jeff Billinton, director of transmission infrastructure planning, said the CPUC’s integrated resource planning portfolio envisions importing 3,000 MW of wind from Wyoming and New Mexico, potentially requiring both in-state and out-of-state transmission upgrades. (See [Wyoming Wind Power Revs up, but is it too much?](#))

“These portfolios include out-of-state re-



CAISO’s long-term transmission planning will focus partly on importing electricity generated by out-of-state resources, such as these wind turbines in Wyoming. | © RTO Insider LLC

sources, raising questions as to if or how the ISO would examine out-of-state transmission needs,” Billinton said in his [presentation](#).

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, Billinton said. He cited the TransWest Express Transmission Project, intended to bring Wyoming wind to California, as one example.

The 20-year process is meant to run in parallel

with the ISO’s 10-year TPP. 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 — is part of the agenda.

Additional stakeholder calls are being planned in the months ahead, and CAISO is aiming to produce a draft 20-year transmission document by Jan. 31. ■

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## CAISO/West News

# CAISO Could See More Outages this Summer

*Drought will Limit Hydropower, Heat Waves Could Limit Imports, ISO Says*

*Continued from page 1*

supply and demand conditions across its balancing authority area and, to a lesser extent, the rest of the Western Interconnection.

A positive difference this summer is the anticipated addition of nearly 4,000 MW of new capacity in CAISO between June and September, including about 2,000 MW of solar generation and 1,500 MW of batteries to store excess solar power. The batteries will help “meet system needs during the net peak period, when solar production ramps down and is no longer available,” the ISO said.

However, “California hydro energy supply will be significantly lower than normal during 2021,” the assessment said. “California is in a second consecutive year of below-normal precipitation statewide. Snow water content for 2021 peaked at 60% of normal, similar to the 63% level for 2020.”

In addition, “2021 runoff from snowmelt has occurred earlier than in 2020, which was earlier than normal itself, and the average water levels of large reservoirs for 2021 was 70% of normal, which compared to 101% of normal in 2020,” it said.

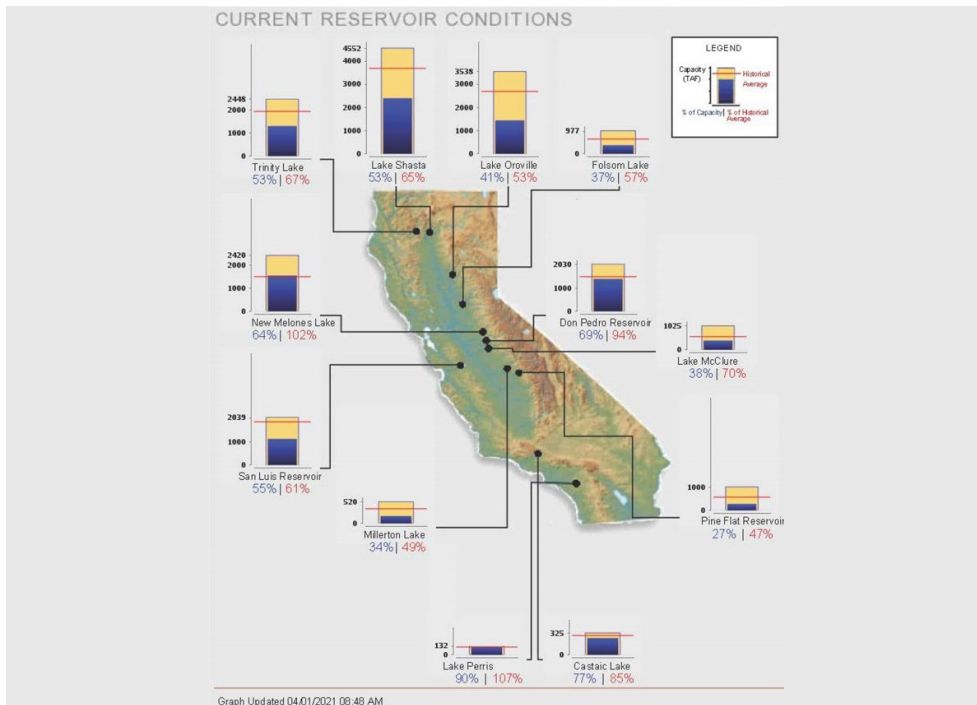
CAISO used [Northwest River Forecast Center](#) projections to assess hydropower imports this summer from the Pacific Northwest. NRFC predicted reservoir storage at The Dalles Dam on the Columbia River, a key indicator, will be 89% of average from April to September.

Hydropower accounts for about 14% of California’s summer peak capacity, making it the second largest generation source after natural gas, which fills 57% of the state’s resource needs. Solar makes up 10.6% of the summer resource mix.

### Extreme Heat Risks

Last year’s triple-digit temperatures across the West also raised forecasted peak demand levels in extreme heat, CAISO said.

“The 1-in-2 and 1-in-5 forecast levels are virtually unchanged for 2021, [but] the 1-in-10 forecast is significantly higher than the 2020 forecast,” CAISO said. “The higher loads associated with a 1-in-10 weather event are attributable to including last year’s extreme weather events in the historical weather database that is used to develop the range of load forecasts. This changed the high temperature



A second dry winter has left reservoirs low in California, diminishing hydropower at major generators such as Lake Shasta and Lake Oroville. | [California Department of Water Resources](#)

end of the weather distribution profile such that the probability of the historical extreme heat events are now within the range of a 1-in-10 weather event.”

CAISO’s highest risk demand forecast is now 50,968 MW, 6% higher than in 2020, which could potentially strain the ISO’s grid. Projected system capacity in September, for example, falls well below that figure at 47,385 MW because of waning hydro and solar generation.

One forecast model showed CAISO’s system has a 6.4% probability of reaching a stage 2 emergency and a 4.8% probability of reaching stage 3, both of which occurred on multiple days last summer.

If demand in neighboring states limits imports during Western heat waves, CAISO’s system has a 14% probability of operating at a stage 2 emergency, a 12.5% chance of reaching stage 3 and a 12.4% chance of having unserved load, a sensitivity case study showed.

That could lead to more rolling blackouts in late summer.

“If the ISO is limited to the more conservative net import levels of the sensitivity case, the probability of having to shed firm load to main-

tain required operating reserves is significantly increased,” the assessment said. “This indicates that the ISO will be at the greatest operational risk during a late summer widespread heat wave that results in high ISO loads and low net imports due to high peak demands in its neighboring balancing authority areas, concurrent with the diminishing effective load carrying capability of solar resources and the wane of hydro generation.”

CAISO said it has taken steps to address that scenario through load reduction protocols. Additional blackouts were avoided last summer by consumer conservation and measures that included removing U.S. Navy ships from shore power. (See [CAISO Provides More Details on Blackouts](#).)

“Capacity shortfalls this summer may be mitigated by additional extraordinary measures accessed under extreme or emergency conditions to limit the risk of actual firm load shedding,” it said. “The ISO will continue to find and act on such opportunities ... but is guardedly optimistic regarding its operations this summer given the measures already taken, including greater coordination [with other state entities].” ■

## CAISO/West News

# Nev. Bill Would Ramp up Tx, EV Spending, Prepare for RTO

By Elaine Goodman

Nevada Sen. Chris Brooks on Thursday introduced a wide-ranging energy bill that would expand transmission and boost the availability of electric vehicle charging across the state.

*Senate Bill 448*, which has six primary sponsors including Brooks (D), was referred to the Senate Committee on Growth and Infrastructure.

Brooks discussed the bill Thursday during an energy roundtable hosted by Gov. Steve Sisolak.

Brooks said the bill would lay the groundwork so that the state could create or enter a regional electricity market by 2030.

"This bill would create a framework by which we could then develop transmission lines across the state of Nevada and be able to access wind in Wyoming, solar in the Southwest, hydro in the Northwest, and provide power to our neighbors in Southern California and Central California," Brooks said.

The text of the bill had not been filed on Thursday. But according to a written overview of the bill from Brooks' office, SB448 would require Nevada's electric utility, NV Energy, to file by Sept. 1 a transmission infrastructure plan that would include high-voltage transmission lines

and associated facilities that could be in operation by the end of 2028.

The transmission plan would be designed to meet goals — including expanded transmission access to renewable energy zones — and provide support for development of regional transmission interconnections needed for Nevada's full participation in a future competitive regional wholesale electricity market.

The bill would also create a Regional Transmission Coordination Task Force to advise the governor and the legislature on actions needed to join or form an RTO.

In terms of EV charging infrastructure, the bill would provide for an initial investment by NV Energy of \$100 million from 2022 to 2024 for a variety of EV charging programs.

The bill would also align the utility planning process with the state's decarbonization goals.

Nevada's 120-day legislative session runs through May 31. The deadline to introduce bills has passed, but deadlines were waived for Brooks' bill. (See *Nev. Land-use, EE, Tx Buildout Bills Head for Home Stretch*.)

Environmental groups weighed in on the bill on Thursday.

"This bill provides opportunities for Nevadans

to plug clean vehicles into clean electricity," Max Baumhefner, senior attorney with the Natural Resources Defense Council, said in a *news release*.

Cameron Dyer, staff attorney with Western Resource Advocates in Nevada, said the bill "would create much needed provisions for utility planning, transportation infrastructure investment, and transmission expansion that can support future regionalization to facilitate the use of clean energy and help Nevada reach its targets for reducing the carbon pollution that causes climate change."

The bill has also picked up support from leaders of various International Brotherhood of Electrical Workers locals, who pointed to the "widespread harm" that the COVID-19 pandemic has caused their members over the past year.

"As this dark cloud begins to lift, it is critical that Nevada move to incentivize and approve infrastructure projects like electric vehicle charging infrastructure build outs that will put our members back to work and infuse the economy with hundreds of millions of dollars-worth of investment and economic activity while simultaneously helping the state meet its renewable energy and carbon reduction goals," the IBEW leaders said in a statement. ■



Nevada Sen. Chris Brooks (center) introduced a comprehensive energy bill Thursday that enjoys the backing of both unions and environmental groups. | NRDC



# CAISO/West News

## Western Drought Increases Wildfire Risks

### WECC Webinar Examines Danger to Grid and Prevention Efforts

By Hudson Sangree

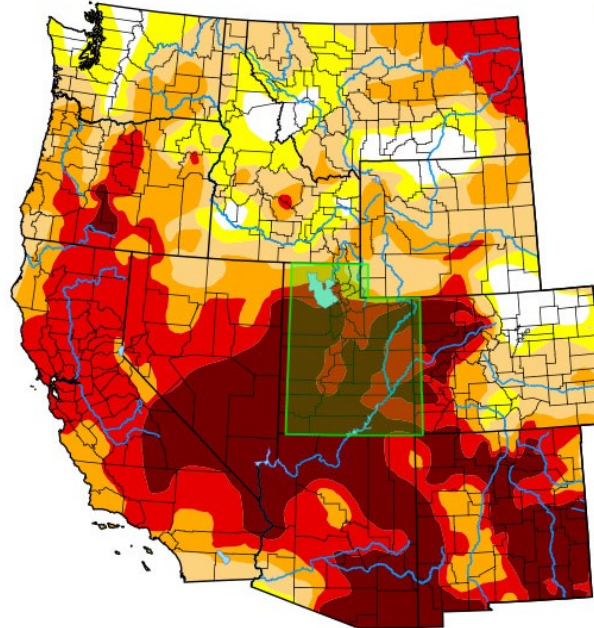
Utility wildfire experts told WECC last week that another expected year of hot, dry weather will increase the danger of major fires in California, Arizona and the Pacific Northwest that could threaten the electric grid during the West's annual fire season.

"If you look at any of the indices across the Southwest, certainly the potential is there for some very large and frequent fires this year," said Wade Ward, fire mitigation specialist with Arizona Public Service (APS).

In Arizona, an extended drought has produced hazardous conditions in the state's vast ponderosa pine forests atop the Colorado Plateau, the site of massive wildfires in prior years, including the state's largest wildland blaze, the 538,000-acre Wallow Fire in 2011 and the 469,000-acre Rodeo-Chediski Fire in 2002.

Trees on the Mogollon Rim, which marks the southern edge of the plateau, are so stressed by drought that they are bursting into flames during controlled burns by the U.S. Forest Service intended to reduce ground fuels near power lines, Ward said.

"These drought-stressed trees are not acting



Map released: Thurs. May 13, 2021  
Data valid: May 11, 2021 at 8 a.m. EDT

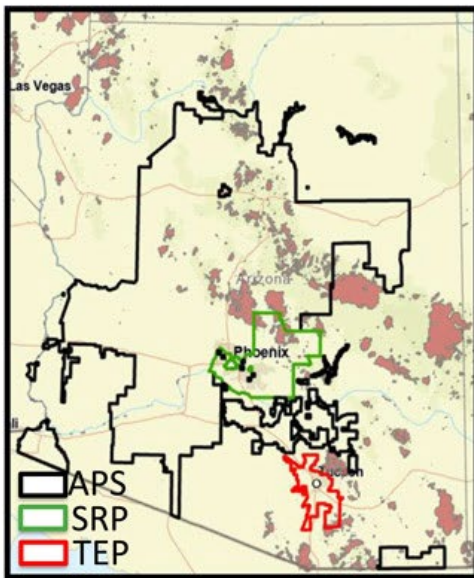


Extreme or exceptional drought conditions covered much of California and the Desert Southwest in May. | U.S. Drought Monitor

and reacting the same way to prescribed fire as they did in years past," Ward said. "They're so drought-stressed that in what is typically mod-

erate fire activity or even low fire activity ... these trees are torching out, and we're ending up with miles of hazard trees right outside of

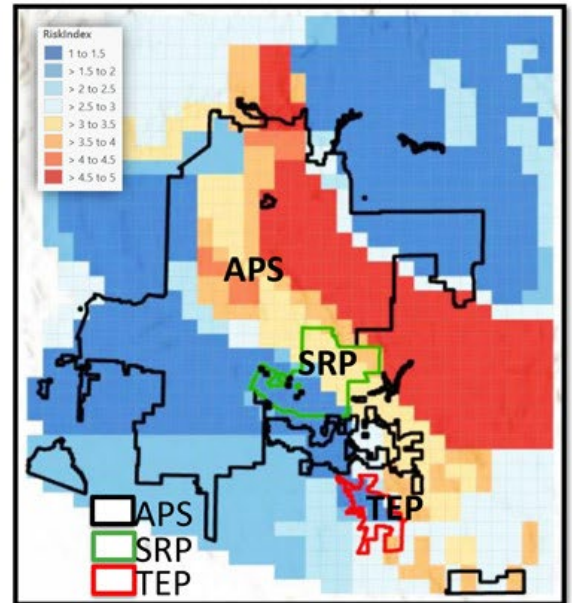
### Service Territory Wildfire Threat Ground to System (GTS)



Wildfire risk data and historic fire data from the past ten years show APS service demonstrates a significant risk.

Large fires (greater than 100 Ac) from 2000-2019 within each service territory.

APS – 677  
SRP – 116  
TEP – 13



Arizona's drought-stressed forests present an increased fire risk this year. | Arizona Public Service



# CAISO/West News

our right of away.”

The utility has undertaken measures to remove the dead trees to prevent them from falling on lines, he said.

WECC's [webinars](#) on Wednesday and Thursday focused on a key part of WECC's reliability efforts, with presenters from APS, Southern California Edison (SCE), Pacific Gas and Electric, San Diego Gas & Electric, the Los Angeles Department of Water and Power and the Bonneville Power Administration (BPA). The utilities outlined risk factors and discussed strategies to prevent fires.

APS developed an index that shows areas at highest risk for wildfires as a “big red stripe” crossing the state from the Grand Canyon in the northwest to the New Mexico border in the southeast, Ward said. Major transmission lines traverse the red zone.

“Our transmission system of over 5,000 miles and our distribution of over 29,000 miles pretty much can't go anywhere in this state without fire impacting our system,” Ward said. “Just in the last week, we've had three large fires that either have impacted or are potentially impacting our system right now, so the fire season here has started off really, really fast.”

## California

Utilities in California also are facing daunting fire conditions this year after a second dry winter.

Gov. Gavin Newsom declared a drought emer-

gency for 41 of the state's 58 counties after unseasonably warm conditions in April and May caused the already thin snowpack to melt faster than usual. The snowpack in the Sierra Nevada and other mountain ranges supplies the state with water during its dry season, which generally lasts from May to October.

“With the reality of climate change abundantly clear ... we're taking urgent action to address acute water supply shortfalls in Northern and Central California,” Newsom said in a statement May 10.

With warmer, dryer conditions, a big concern is that this year's fire season could equal or exceed last year's record-breaking season. Five of the six largest fires in state history occurred in summer and fall of 2020.

By the end of the year, “nearly 10,000 fires had burned over 4.2 million acres, more than 4% of the state's roughly 100 million acres of land,” the California Department of Forestry and Fire Protection (Cal Fire) said. “California's August Complex fire [in Northern California] has been described as the first ‘gigafire,’ as the area burned exceeded 1 million acres. The fire crossed seven counties and has been described as being larger than the state of Rhode Island.”

Southern California is in jeopardy, too.

Raj Roy, principal manager of wildfire resiliency oversight at SCE, told the WECC audience that more than a quarter of the company's territory lies within high-risk fire areas.

Wildfires last year threatened transmission lines and, in some circumstances, resulted in lines being shut down. During a severe heat wave in September, wildfires raging in Central and Southern California took 1,600 MW of transmission capacity out of service, forcing CAISO to declare a Stage 2 energy emergency. (See [CAISO Avoids Blackouts amid Brutal Heat, Fires.](#))

“Last year was a record year ... and it's showing the effects of climate change,” Roy said. “Talking to our fire scientists, we actually have more drier fuels at this time of year. That's something we have to prepare for.”

## Pacific Northwest

BPA has recognized the growing threat of wildfires in the Pacific Northwest and adopted public-safety power shutoff (PSPS) plans like those used by California's investor-owned utilities.

“We have been noticing our fire seasons getting longer, and the longer those fire seasons get, the greater the chance that you're going to have a ‘red flag’ situation, [with] very dangerously low humidity, very dry fuels, maybe even lightning — combined with a high-wind event,” Erik Pytlak, BPA's supervisory meteorologist, said in April. (See [With Wildfire Season Looming, BPA Prepares Shutoff Plan.](#))

The normally lush Pacific Northwest experienced wildfires in recent years more like the wildfires usually seen in drier regions to the south. One conflagration engulfed large, heavily forested areas of Western Oregon last September, prompting widespread evacuations and blanketing the region in heavy smoke for more than a week. At least 11 deaths have been attributed to the event.

A lawsuit blames Pacific Power, the state's second largest utility, for one of the fires, although the cause is still under investigation. (See [Pacific Corp Faces Class Action over Wildfire Response.](#))

Oregon's largest electricity provider, Portland General Electric, implemented the state's first-ever PSPS in the Mount Hood area just before the fires flared up over the Labor Day weekend. (See [High Fire Danger Prompts First Oregon PSPS Event.](#))

To prepare its PSPS plan, BPA met with SCE and other California utilities to learn from them, said James V. Hillegas-Elting, project manager of BPA's effort, in Wednesday's webinar. Like those utilities, BPA prepared its plan because of the “critical need for asset protection [and] for public safety protection in the midst of these evolving environmental conditions,” Hillegas-Elting said. ■



The LNU Lightning Complex of fires burned more than 363,000 acres in Northern California last year. | [Cal Fire](#)

# ERCOT News



## Cramton, Garza Discuss ‘Lessons Learned from Texas’ After Feb. Storm

By Jason York

Beth Garza and Peter Cramton have unique insight into the extreme weather event that affected Texas in mid-February. A winter storm, followed by historically low temperatures, plunged the state into an energy crisis. It then grew into a natural gas market disaster punctuated by financial tumult, political turmoil and scapegoating renewable energy resources.

Garza and Cramton spoke Wednesday during a Northeast Energy and Commerce Association webinar, “Lessons Learned from Texas,” that focused on the calamitous weather event.

Garza, director of ERCOT’s Independent Market Monitor from 2014 to 2019 and now a senior fellow on electricity policy for R Street Institute, still lives in Austin and did not have electricity for 81 hours. She said that ERCOT went from serving record winter peak demand on the evening of Feb. 14 to shedding 10 GW of firm load six hours later.

“The magnitude of curtailment was just huge, and that played into the effects of this event being so large,” Garza said. “Just to compare, the amount of load shed was probably about 30% of expected demand ... for almost three days.”

Garza said the last time that “any kind of curtailment of firm demand” occurred was 2011 during another winter storm, but that was “6 to 8% of expected demand,” and the total curtailment period was about four hours.

One thing she said she is learning from this is that “every good crisis has to start with blaming someone.” She said all forms of generation were affected “in some respect,” with the loss of almost half of ERCOT’s natural gas-fired generation the most significant portion of it. [Power was cut to gas infrastructure](#) not listed as critical load.

Garza added that the increased codependence of electricity and natural gas systems is a “dysfunctional relationship framework.”

“Two industries are absolutely reliant on each other. They do not work well together and are not well coordinated,” she said.

It is also hard to deal with the present repercussions and future changes when the Public Utility Commission of Texas and ERCOT were “basically decapitated” in the aftermath of the storm.

The PUC saw all three of its commissioners

resign amid the finger pointing. Two replacements were finally appointed last month and held their first open meeting this month. (See [Revamped Texas PUC Faces ‘Heavy Lift’](#).) Five members of ERCOT’s Board of Directors, who were all from out of state by design to maintain distance from market participants, including Cramton, also resigned. ERCOT fired its CEO, Bill Magness, and replaced him with former NYISO CEO Brad Jones. (See [ERCOT Board Chooses Jones as Interim CEO](#).)

The ERCOT market faces a more than \$3 billion shortfall after short-term electricity prices reached the \$9,000/MWh cap during widespread generator outages. Brazos Electric Power Cooperative, which declared bankruptcy on March 1, accounts for more than half of that total, owing \$1.86 billion. Rayburn Country Electric Cooperative, another troubled publicly owned utility, is short \$570.4 million. (See [Is the ERCOT ‘Casino’ Going Bust?](#))

“If you were to ask me who made money in this event, my flippant answer is the natural gas companies made money, and lawyers are going to make money going forward,” Garza said. “I won’t dwell on any of the specifics. Just know that it’s a mess and will be a mess. Sorting these things out will take years to accomplish.”

### Fixing Communication

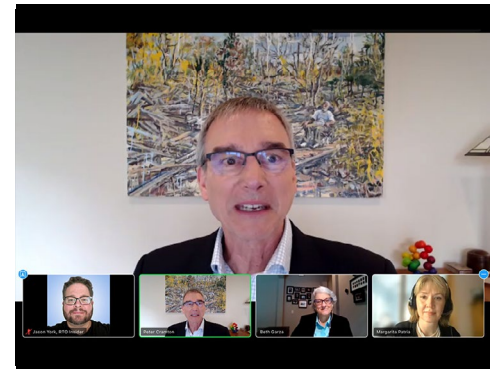
Cramton had served on ERCOT’s board as an independent director since 2015 and was elected its vice chair in the days leading up to the storm. An economics professor at the University of Cologne and the University of Maryland College Park, he has researched auctions and market design for 37 years, focusing on complex markets. He has advised many governments on market design and dozens of bidders in major auctions.

So, what is the first thing Cramton wants to fix ahead of the next extreme weather event? Communication.

“That can be fixed at very low cost,” Cramton said.

Cramton said there was a lack of effective communication from Gov. Greg Abbott in advance of the storm “to prepare people to take actions for an event that was entirely foreseeable.”

“The governor was instructed on Saturday that significant load would be shed,” Cramton said. “We didn’t know the exact quantity, but at that point, he should be talking about how to pre-



Former ERCOT Director Peter Cramton addresses a NECA webinar. | NECA

pare for a winter storm because many Texans are not familiar with extreme winter weather.”

Cramton said a strong message from Abbott encouraging people to conserve by turning their thermostats down to 55 degrees would have enabled “more Texans to have power and have their temperature at 55 rather than 10 degrees. There’s a huge difference between 10 and 55 in terms of the amount of destruction.”

“Those kinds of public service messages were missing. Instead, shortly after the outages began, the communications were fingers pointing rather than valuable public service messages,” he said.

Cramton agreed with Garza on the importance of fixing the natural gas market. “One cannot have reliable electricity without a reliable gas supply.”

One thing that Cramton would not fix is ERCOT’s energy-only market. He said capacity markets such as those in ISO-NE or NYISO are like training wheels on a bike. “It can help you learn to ride a bike, but it might not be the best, especially after it goes through the stakeholder process.”

Cramton said ERCOT needs “simpler tools” than a capacity market. His proposal for Texas would be a voluntary forward energy market “so that parties can land in real time in a balanced position that manages the risk as best as it can be managed.”

He concluded that in the long term, more robust interconnection would transform Texas from the legacy energy capital of the country to the future energy capital by exporting “a lot of solar and wind to the rest of the United States. This would help reduce the cost of the energy transition and make the system much more reliable.” ■



## ISO-NE News

# ISO-NE: No Difference Between FCEM and ICCM — Yet

By Jason York

In March, ISO-NE [presented](#) a memo to a NEPOOL Participants Committee working group session on “Pathways to the Future Grid,” outlining some of the outstanding market design questions that needed answers before Analysis Group could begin its modeling efforts for the RTO.

One design question was whether Analysis Group would model a forward clean energy market (FCEM) or integrated clean capacity market (ICCM).

However, ISO-NE does not believe stakeholders need to choose between the two designs at this time. Analysis Group’s modeling approach is consistent with both of them, according to a [presentation](#) and [memo](#) discussed with the PC during a “Pathways” meeting last week.

The memo details a pair of examples that include the same set of resources and parameters. The first is awards, prices and compensation when clean energy and capacity are procured simultaneously in an ICCM. The second is procuring clean energy first with an FCEM and subsequent capacity in the regular Forward Capacity Market.

### Making Assumptions

There are five assumptions consistent with Analysis Group’s modeling approach in which the FCEM and ICCM would yield identical awards and compensation to all resources:

- Resources submit offers for capacity and clean energy based on their missing money, defined as the revenue they would need to receive, in addition to that from the energy and ancillary service (EAS) markets, to recover their costs.
- The markets for renewable energy certificates (RECs) and clean energy certificates (CECs) are competitive so that the marginal resource recovers its missing money. If REC or CEC markets were not competitive, and the marginal resource recovered more than their missing money, additional resources would enter the markets to profit themselves. As more resources enter the markets, competition would increase until the marginal resources did not earn a profit.
- Resources offer to sell the entirety of their clean energy and capacity capability forward. For example, if a clean energy resource expects to produce 3,000 MWh of clean ener-

gy for each megawatt of capacity during the delivery year, they would offer to sell their entire production in the forward markets.

- Resources submit “non-lumpy” offers for capacity.
- Resources have “perfect foresight” to “exactly predict” the capacity clearing price, award, real-time profits and clean energy production.

The last assumption “may not hold in practice,” as actual capacity prices will differ from those expected by resources when formulating the clean energy offer prices. Without this assumption, the RTO said there could be “divergent outcomes” between the FCEM and ICCM, especially when the resources have different beliefs about the expected capacity prices.

### Modeling Efforts, Next Steps

Analysis Group’s modeling approach does not distinguish between a sequential FCEM and a simultaneous ICCM. More specifically, its capacity expansion model will conduct a single, global optimization to determine the resource mix for each framework. The model will include constraints corresponding to capacity demand, renewable energy demand and clean energy or carbon emissions reduction. This modeling approach is consistent with either an FCEM where resources correctly internalize the actual capacity price when formulating their clean energy offer price, or an ICCM where there is jointly procured clean energy and capacity.

ISO-NE said consideration of how these beliefs may vary across resources and how these might inform market design decisions is outside the scope of the modeling exercise.

Under an FCEM, resources incorporate future capacity revenue when determining how much missing money they must recover by selling clean energy forward. When these capacity revenue predictions are accurate, there are matching results under FCEM or ICCM designs.

ISO-NE said it seeks written feedback by this Friday so it can post comments ahead of the working group’s scheduled June 11 meeting. The final report on modeled market outcomes will be shared with stakeholders in the first quarter of 2022. ■



ISO-NE headquarters in Holyoke, Mass. | ISO-NE



## ISO-NE News

# BOEM Approves 800-MW Vineyard Wind I

## Legal Challenges Could Come from Fishing Industries

By Emily Hayes

The Bureau of Ocean Energy Management on May 11 approved the final permit for Vineyard Wind I, signaling the start of commercial-scale offshore wind energy in the U.S.

The Vineyard Wind project will bring 84 turbines to the Atlantic Ocean off the coast of Martha's Vineyard. They are expected to generate 800 MW of electricity, enough to power 400,000 homes.

"Today's Record of Decision (ROD) is not about the start of a single project, but the launch of a new industry," Vineyard Wind CEO Lars Pedersen said in a statement. "It's been a long road to get to this point, but ultimately, we are reaching the end of this process with the strongest possible project."

The [decision](#) comes after significant delays during the Trump administration, which tried to halt the permitting process. The Biden administration pledged to build 30 GW of offshore wind in the U.S. by 2030, and Vineyard Wind's final approval is expected to kick-start the approval of more plans in the pipeline.

Federal approval also enables the beginning, this year, of construction of the offshore wind farm, which is expected to start delivering energy by 2023.

Vineyard Wind, a joint venture between Copenhagen Infrastructure Partners and Avangrid Renewables, predicts the project will create about 3,600 jobs and cut carbon emissions by more than 1.6 million metric tons per year.



Vineyard Wind I received final federal approval on May 11 for construction off the coast of Martha's Vineyard, seen here. | Shutterstock

The company is based in New Bedford, Mass., and will use the city's port terminal for onshore operations.

"After years of planning and key investments in infrastructure and workforce development, New Bedford is poised to lead the industry's rollout and facilitate its successful coexistence with the commercial fishing industry," New Bedford Mayor Jon Mitchell said in a statement.

The Biden administration has indicated it will fast-track permits for offshore wind projects off the East Coast, use existing authorities in the Title XVII Loan Guarantee Program to support new projects and hold the additional lease sales needed for states to achieve their offshore wind capacity goals.

Massachusetts, Connecticut, New York and New Jersey have committed to 22 GW of offshore wind energy by 2035.

### Potential Legal Challenges

Now that the BOEM has issued final approval for Vineyard Wind I, a significant regulatory precedent, it is likely groups, such as fishermen, that are opposed to offshore construction projects will file legal challenges to the project. (See [Massachusetts Fishermen Brace for Offshore Wind](#).)

The Responsible Offshore Development Alliance (RODA) criticized BOEM's environmental impact statement, released in March, for failing to address its concerns about lost fishing areas. The group also condemned the project's approval, which the group claimed in a statement includes "effectively no mitigation measures to offset impacts to critical ocean ecosystems and commercial fisheries."

The ROD incorporates a voluntary and unenforceable measure for Vineyard Wind to cooperate with the National Marine Fisheries Service (NMFS) to mitigate environmental impacts and measure the windfarm's impact on the marine environment.

Vineyard Wind agreed to pay \$23.4 million in funding for direct compensation to Massachusetts and Rhode Island fishermen for revenue or equipment loss caused by the turbines or cables.

The company will also allocate \$12.5 million to establish a Rhode Island Fisheries Future Viability Trust, and work with the Massachusetts

Executive Office of Energy and Environmental Affairs to establish a Fisheries Innovation Fund for \$1.75 million.

"For the past decade, fishermen have participated in offshore wind meetings whenever they were asked and produced reasonable requests only to be met with silence," Anne Hawkins, executive director of RODA, said in a statement. The ROD demonstrates that the federal government "cares more about multinational businesses and energy politics than our environment, domestic food sources or U.S. citizens," Hawkins said.

In a [letter](#) signed by 1,700 people, fishing industry and community members requested 12 mitigation measures in the ROD to "ensure the continued success of the U.S. fishing industry"

The requests included supporting the continuation of federal fisheries surveys, safe vessel transit, long-term biological and environmental monitoring plans, avoidance of sensitive habitat and improved communication with fishermen.

The ROD states that the requested two- to four-nautical miles-wide vessel transit lane through the development area would cause "economic and technical difficulties," making it an unreasonable alternative to the one-by-one nautical mile-wide pathways between the turbines.

Vineyard Wind previously stated that wider transit lanes would increase cable lengths, which increase environmental impacts and potential transmission losses.

According to RODA, spacing the turbines one-by-one nautical mile apart is insufficient to ensure safety at sea for all types of fishermen and other seagoing vessels.

"The U.S. government is relinquishing protection for our precious ocean resources and jobs that provide healthy, low-carbon protein to Americans, and tether thousands of coastal communities to their heritage," the alliance said. "If today's actions set any precedent, our oceans are at risk of becoming fields of steel and fiberglass."

Legal disputes over environmental impacts and other concerns significantly delayed the Cape Wind project in Nantucket Sound several years ago, resulting in National Grid and Northeast Utilities terminating its power purchase agreements with the project in January 2015. ■

## ISO-NE News

# Early Solar Adopters Oppose Mass. REC Program Change

By Emily Hayes

Massachusetts is trying to balance affordable electricity rates with the need to properly compensate early adopters of solar in the state.

The Department of Energy Resources in 2019 suggested a *change* to the state's renewable portfolio standard that it says is necessary to save ratepayers money. Others, however, are critical of the proposal, which would limit participation in the state's first solar renewable energy certificate (SREC I) program to 10 years.

The legislature's Joint Committee on Telecommunications, Utilities and Energy held a *hearing* Wednesday to query suppliers and clean energy experts on DOER's final proposed RPS changes.

Altering the eligibility period would reduce SREC I benefits for 11,000 qualified projects, according to Steven Kaufman, managing director of SREC management provider Clean Asset Partners.

"It would end the program about three years early for the earliest participants and by at least one quarter for the last projects to begin participating," he said.

SREC I was launched in 2010 as a carve-out to the state's RPS, and a second but similar iteration of the SREC program launched in 2014. In 2018, the state launched its Solar Massachusetts Renewable Target program, which is tariff-based instead of REC-based.

The first SREC round has been an expensive part of the RPS for ratepayers.

In 2019, the SREC I program cost for an average ratepayer was \$3.46/month, while the cost for clean energy resources that are not part of the solar carve-out cost the average ratepayer \$1.23/month, Eric Steltzer, director of DOER's renewable energy division, said during the hearing.

In addition, he said, SREC I from 2010 to 2019 accounted for 40% of the RPS program costs while providing 11% of the RPS program generation. By comparison, other resources under the RPS program accounted for 28% of the total program total costs and provided 78% of the generation.

DOER's proposed change to SREC I, Steltzer said, would provide savings to ratepayers without causing a reduction in clean energy to

the market.

SREC I projects have seen a "meaningful amount of return on investment over 10 years," Steltzer said, adding that, in some cases, the returns have exceeded 50% of the initial cost of the system. When projects are no longer eligible for SREC I, they will still be able to receive revenue on regular RPS program RECs, he said.

The Solar Energy Business Association of New England believes the agency's approach to realizing ratepayer savings is the wrong path forward.

"Admittedly, many receiving credits under the SREC I program have done well financially," the association's director, Nick d'Arbeloff, said. "But this is not about levels of financial gain; it is about consistency and the erosion of confidence in Massachusetts solar policy."

Berkshire East Mountain owner Jon Schaefer told legislators his ski resort made financial commitments to renewable energy projects based on SREC I regulations put forward by DOER.

"How can DOER and the leadership of the commonwealth ask citizens and businesses to invest in the grid of tomorrow when it can't own its commitments today," Schaefer said.

The need to keep consumers' electricity rates down and encourage clean generation is creating tension in the state.

"We want to reward early adopters, but we have to electrify everything," Sen. Mike Barrett (D) said.

The rate per kilowatt must be low if the state is going to require residents to charge their cars instead of filling them with gasoline or keep their house warm with electricity instead of natural gas, he said.

Early adopters of solar and wind projects, he said, "have made good money, and we've got to keep rates for electric ratepayers low because they, in the end, will pay all of this."

But Roger Freeman, a small business owner with a 200-kW rooftop solar system, said every system is different.

"This hasn't been some giant money winner for us," Freeman said. Most of the revenue from his solar project comes from REC sales, which he uses to pay the loan he took out to build it.

If he loses the RECs, he will be thousands of dollars in debt every month.

Freeman said DOER's proposed change should not be retroactive, because it "does have an impact on real people." ■



Early adopters of solar energy projects in Massachusetts, such as farmers, small businesses and municipalities, face lower returns on investment than they anticipated. | Shutterstock



## ISO-NE News

# NEPOOL Markets Committee Briefs

### Monitor: Winter Wholesale Costs Increased 31%

ISO-NE's winter wholesale market costs totaled \$2.33 billion, a 31% increase from the previous winter driven by higher energy costs, according to a *quarterly markets report* from the RTO's Internal Market Monitor delivered to the NEPOOL Markets Committee last week.

Average day-ahead and real-time hub LMPs increased to \$51.30 and \$51.66/MWh, respectively, which were a 69% to 72% increase from \$30.32 and \$29.97, respectively, in *winter 2020*.

The average natural gas price was \$5.83/MMBtu (or \$45.47/MWh assuming a 7,800 Btu/kWh heat rate), up 71% from last winter's price of \$2.42/MMBtu (\$18.88/MWh). The average hourly load of 14,283 MW was up by 2%, primarily because of colder weather and less behind-the-meter solar generation.

On the capacity side, payments were down 19% to \$607 million. Winter 2021 was the third quarter of the Forward Capacity Auction 11 commitment period, with clearing prices of \$5.30/kW-month for Rest-of-System, compared with an FCA 10 price of \$7.03/kW-month.

Gross real-time reserve payments totaled \$2.1 million, a 23% increase from the same period a year ago, with all payments going for 10-minute spinning reserves (TMSRs).

The frequency of non-zero TMSR pricing in winter 2021 was similar to the prior year. However, the average non-zero hourly spinning reserve price increased relative to 2020, from \$7.56/MWh to \$9.75/MWh, because of

higher LMPs, which increased redispatch costs to provide reserves rather than energy.

Energy market opportunity costs (EMOCs) were greater than \$0/MWh for the first time this past winter as a sustained drop in average temperatures for seven days in February was sufficient to produce non-zero EMOCs for two small generators. The average EMOC was \$7.54/MWh across that week.

### Discussing Order 2222 Compliance

ISO-NE Director of Demand Resource Strategy Henry Yoshimura *told* the MC that the RTO has determined that several design elements of its FERC Order 2222 compliance proposal do not require changes. Still, parts are under review, with likely refinements ahead of the RTO's requested filing extension.

Order 2222, issued last September, ordered RTOs and ISOs to open their markets to distributed energy resource aggregations, now limited mainly to providing demand response. Although FERC declined to allow local or state regulators to prohibit DERs from participating in the wholesale markets through an opt-out, the commission said regulators could prevent resources from participating in both retail and wholesale programs. (See *FERC Opens RTO Markets to DER Aggregation*.)

Yoshimura said that ISO-NE might modify participation models to include Order 745-compliant DR resources. The RTO has enabled thousands of DR resources to participate in its markets. As technology advances and small DR aggregators proliferate, some resources may be unable to meet minimum size and performance requirements. Order 2222 says that through aggregation, more of

these resources might meet the requirements and be able to participate in wholesale markets alongside traditional resources to provide flexible services to the power grid.

As for metering and telemetry requirements, the RTO's present configuration permits DERs to be metered directly at the device, provided that consumption or production are separately reported and do not also increase or decrease the facility's load reported at the point of interconnection or retail delivery.

The Forward Capacity Market (FCM) *design* will need modification if Order 745-compliant DR resources are part of an aggregation. According to Yoshimura's presentation, ISO-NE will need to specify the rules for determining the qualified capacity of an aggregation that includes both generation and DR. The provisions in the design applying the existing rules for overlapping interconnection impacts to DERs could also be revised following a review.

Possible changes to rules regarding delisting and retirement, treatment of new and existing capacity, and installed capacity requirement development would be handled through the Reliability Committee.

ISO-NE will seek votes on its Order 2222 compliance proposal, as developed in the stakeholder process, and any potential amendments at the December meetings of the Markets, Reliability and Transmission committees. The RTO will request a vote from the Participants Committee at its January 2022 meeting, with a filing at FERC by Feb. 2, 2022, if the commission approves the RTO's compliance filing deadline extension request. ■

— Jason York

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## MISO News

# MISO Begins Pondering Future Market Changes

By Amanda Durish Cook

MISO said its markets will need renovation as it braces for systems rife with renewables and extreme weather uncertainty.

Jordan Bakke, senior manager of policy studies, said staff is pulling together a “markets of the future” report for publication at year’s end. The report will outline new operational requirements that MISO is likely to need, he said.

“We’re trying ask more questions, like, ‘Will MISO will be resource-adequate in the future given the current market mechanisms?’” Bakke said during a Market Subcommittee meeting May 13.

He said the grid operator is conducting an initial evaluation and wants members’ ideas on how its markets must evolve. Bakke said staff would like to hold one-on-one conversations with members to gather feedback.

He added that MISO will draw on its other analytical works — transmission planning futures, the Renewable Integration Impact Assessment and the newly announced long-term resource

assessment — to get an idea of what resources it will be managing. MISO will pay special attention to its Future I scenario, the least aggressive of all three transmission planning futures, he said.

“I think what you’re presenting here will raise the questions that MISO really needs to think about,” Clean Grid Alliance’s Natalie McIntire said.

But WEC Energy Group’s Chris Plante said the RTO’s first planning future, with a projection of about 600 MW of battery storage by 2040, falls short. WEC alone will develop 500 MW of new storage devices by 2025, he said.

“We’re looking a battery storage being a large piece of the resources we bring online, at least at my company. ... It seems to me that gap is extremely huge,” Plante said. “How are you going to take into account that Future I is extremely light on battery storage?”

Bakke said Future I will serve as a starting point for the report. “We need some place to try to draw agreement and alignment from,” he said.

Some stakeholders called for a data refresh

of the futures so that they contain the most up-to-date information on integrated resource plans and generation retirements.

Others said MISO should take care to avoid a chicken-and-egg situation, where the grid operator stymies emerging technologies by not having market products in place and by delaying the new technologies’ participation, compensation and businesses cases. They urged staff to avoid creating a self-fulfilling prophecy where technologies are a no-show because market mechanisms are not in place.

Bakke said MISO will examine what a retooled market should be able to accomplish, telling stakeholders, “That’s what this is about.”

MISO CEO John Bear has said the processes and procedures that have served MISO well for years are simply no longer adequate to manage harsher weather and a fleet peppered with renewable resources.

“The February cold weather and emergency operations was ... another event showing the greater velocity of changes needed,” Bear said during an April informational forum. “We can’t wait forever, because the place we stand isn’t sustainable.” ■



MISO control room | MISO



## MISO News

# MISO to Recycle Participation Models for Order 2222

By Amanda Durish Cook

MISO last week said that it will skip over the participation of small distributed energy resource aggregations in its FERC Order 2222 compliance plan in order to simplify the market design.

RTO staff presenting at a May 10 workshop on DERs said MISO faces a daunting market software transition if it fully accommodates the 0.1-MW minimum aggregation size outlined in Order 2222. Instead, aggregations under 1 MW will have to self-commit in the markets in order to participate.

But they also said its plan will not impose a maximum size threshold on any individual DER within an aggregation.

To facilitate participation of DER aggregations in its markets, MISO plans to combine its existing dispatchable intermittent resource and electric storage resource participation models. The dispatchable intermittent resource type is well suited for DER aggregations with variable energy outputs, the RTO said, while the storage definition works for groupings with flexible capabilities. MISO is unlikely to make “substantial changes” to the existing definitions.

In relying on those models, MISO won't change its market optimization engines to establish a 0.1-MW size limit, arguing that Order 2222 doesn't “require all existing participation models to accommodate 0.1-MW” aggregations.

Reaction varied, with some stakeholders calling the size limit reasonable in the short term and others saying the self-commitment piece may become a barrier to the full participation of small aggregations.

MISO Market Design Adviser Bill Peters said the RTO will re-evaluate whether the self-scheduling of small aggregations “continues to be appropriate” in the future.

“Prior to significant software changes to implement [a] 0.1-MW minimum size, MISO is open to looking into interim solutions,” the grid operator said.

Peters said using MISO's existing market models will “minimize complexity, minimize implementation costs and minimize time to build” software. He said MISO is trying to “strike a balance” between respecting DER aggregations' capabilities and curbing its own administrative costs.

In early spring, the grid operator also decided it would be easier to limit a DER aggregation to

a single elemental pricing node in its markets. (See *MISO Wants Single Pricing Point for DER Aggregations*.)

DER Program Director Kristin Swenson said the RTO will be ready to present stakeholders with a “filing framework” by early June. “I don't mean to imply that by June we'll have a complete filing,” she clarified.

FERC has agreed to extend the deadline for MISO's Order 2222 compliance plan from mid-July to April 2022.

Swenson said MISO and its stakeholders have to ponder “what if” conversations around Order 2222, such as what happens if a regulatory authority approves an aggregation for a traditional calendar year, but the same aggregation clears in the MISO capacity market, in which a capacity year begins June 1 and ends May 31.

Stakeholders also asked how MISO will treat the more fluid capabilities of electric vehicle fleets.

“The charging infrastructure is likely not to move ... and could be demonstrated at a single [pricing] node,” Swenson said. “How might an aggregator pull that together and represent that to the grid? ... It's an evolving use case.” ■



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## MISO News

# MISO Resource Adequacy Subcommittee Briefs

## MISO to Create Long-term Resource Assessment

MISO said Wednesday it will make a first attempt at a long-term resource forecast, taking into account its members' evolving resource mix over a 20-year planning horizon.

"There's a lot happening in the world around us," Policy Studies Engineer Aditya Jayam Prabhakar said during a Resource Adequacy Subcommittee meeting. He listed the industry's embrace of renewables, storage advancements, electrification and decarbonization. He said staff will attempt to "translate this evolution into resource forecasts."

"Most utilities looked homogenous in the past, and now they're divergent," Jayam Prabhakar said. "Some will be solar-dominant and others will be wind-dominant."

He also said some states and utilities have more aggressive emissions-reduction goals than others. MISO will aggregate the different resource plans and goals to come up with zonal models and discern which parts of the footprints might need more resource sharing.

The assessment will also identify which zones are "over-relying" on a single fuel type and might have supply gaps, Jayam Prabhakar said.

"It's basically trying to get an understanding of all of the pieces from a resource standpoint," he said.

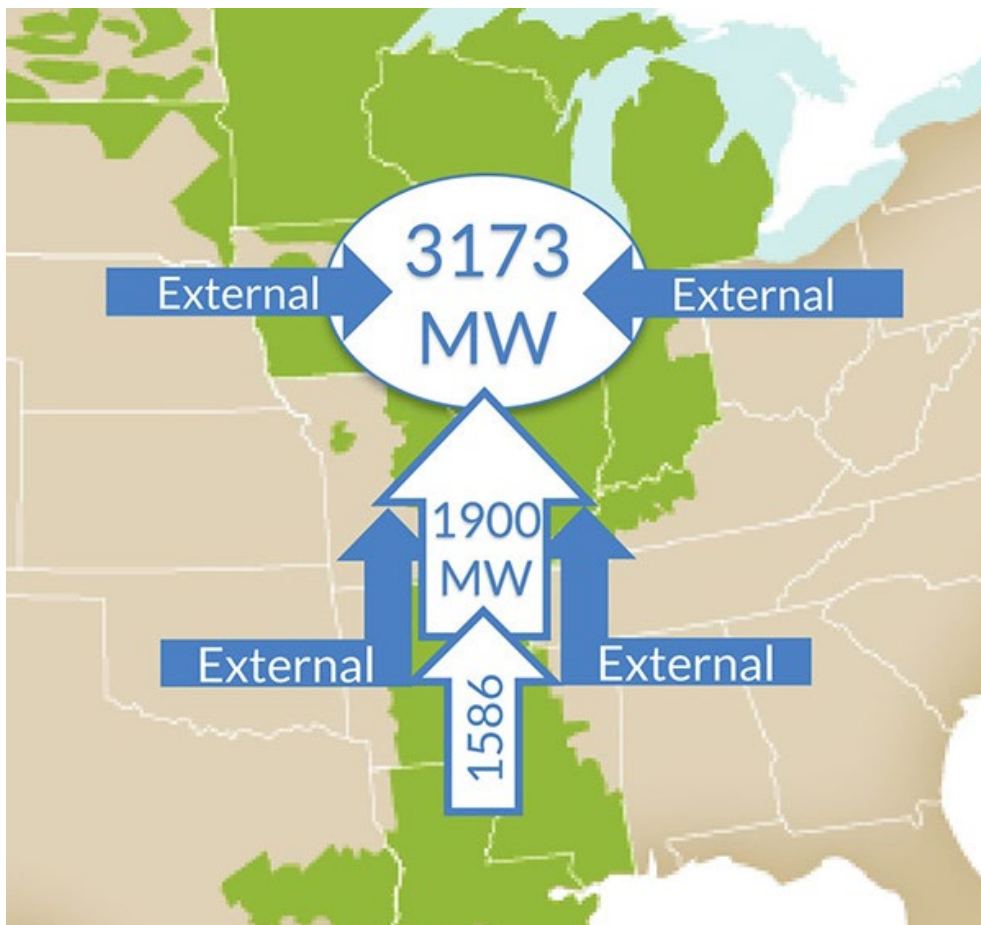
Jayam Prabhakar said the study reports can help members make resource planning decisions. Scott Wright, the grid operator's executive director of market strategy and design, said the assessment's purpose is to "inform," not create a MISO-imposed, region-wide integrated resource plan.

"It will definitely shed light on capabilities," Wright said.

Customized Energy Solutions' David Sapper thanked MISO for embarking on the assessment at a time when utilities and states are pursuing sundry retirements and resource additions.

"It's not clear to me that all these disparate resource plans will add up to reliability," he said. Sapper recommended the assessment highlight retirements that could be detrimental to reliability. He said MISO and members lack "any real mechanisms" on reliability coordination.

America's Power CEO Michelle Bloodworth



MISO Midwest capacity imports in the 2021-22 PRA | MISO

asked whether MISO would also incorporate "single points of disruptions" for fuel types, given the recent ransomware attack on the Colonial Pipeline system.

Jayam Prabhakar said staff would include those kinds of sensitivities. He said he would return to the subcommittee in the fall with more details on the assessment's design.

### South-to-Midwest Auction Flow

This year's Planning Resource Auction (PRA) resulted in MISO Midwest importing cheaper capacity from the South and neighboring regions.

The Midwest imported 3,173 MW in the 2021/22 PRA. External zones lent 1,273 MW, while MISO South contributed 1,900 MW, the maximum it could under the South-to-Midwest transmission transfer limit.

Bumping up against the South-to-Midwest limit caused a \$4.99/MW-day clearing-price separation.

The April PRA cleared MISO South zones, two months removed from emergency load shed orders, at just 1 cent/MW-day.

The Arkansas, Louisiana, Mississippi and Texas southern zones cleared at an all-time low of 1 cent/MW-day, while the Midwestern zones cleared at \$5/MW-day. (See *MISO Capacity Auction Values South Capacity at a Penny.*)

Despite the low-priced supply, Eric Thoms, manager of capacity market administration, said this year's offers were "roughly comparable" with MISO's two previous capacity auctions.

The grid operator disqualified an energy efficiency resource from participation in this year's auction. Thoms said staff disqualified the resource after they and the Independent Market Monitor conducted an energy efficiency audit on the resource. MISO does not reveal market participants that are barred from auction participation. ■

— Amanda Durish Cook

## MISO News

# Xcel Energy CEO Fowke to Retire

By Tom Kleckner

Xcel Energy on Thursday said that Ben Fowke will retire after 10 years as CEO and having turned the company into one of the nation's largest provider of wind energy.

Fowke's retirement is effective Aug. 18, but he will remain on the Xcel board of directors as executive chairman during a transition period with a focus on national energy policy. COO Bob Frenzel will succeed him as CEO.

Late last year, Xcel became one of two companies with more than 10 GW of wind energy on its system, thanks to Fowke's "steel-for-fuel" strategy launched in 2017. Berkshire Hathaway Energy is the other, having also reached the mark during the fourth quarter of 2020.

Under Fowke's leadership, Xcel has met or exceeded its carbon-reduction goals and financial commitments every year. The company became the nation's first major energy company to announce a vision to deliver 100% carbon-free electricity to its customers by 2050; it exceeded 50% reduction last year, compared to 2005 levels.

David Hudson, president of Xcel Energy's Texas and New Mexico subsidiary, Southwestern Public Service, praised Fowke's leadership in an email to *RTO Insider*.

"I have worked with Ben for over 20 years," Hudson said. "I have always respected and appreciated his bold and strategic leadership. Xcel Energy has made continuous progress over his 10 years as CEO."

"Ben has been an outstanding leader for Xcel Energy and a champion — at the company and throughout our industry — for building a clean energy future while maintaining affordability and reliability for our customers," Chris Policinski, Xcel's lead independent director, said in a [press release](#).

Fowke was named CEO in August 2011. He chairs the Edison Electric Institute and serves on the boards of the Nuclear Energy Institute and the National Infrastructure Advisory Council, the latter of which is a private-public partnership that advises the U.S. president and agencies at all levels of government on mitigating risk and ensuring the integrity of critical infrastructure.



Xcel CEO Ben Fowke | *Xcel Energy*

Frenzel joined Xcel as CFO in 2016. He was previously CFO at Luminant, a Vistra subsidiary.

"We have worked closely together for five years, and I am thrilled to be handing off the job to a strong successor," Fowke said in a statement.

Xcel's stock gained 95 cents Thursday, closing at \$71.12. It was trading at \$23.31/share when Fowke's tenure began. ■

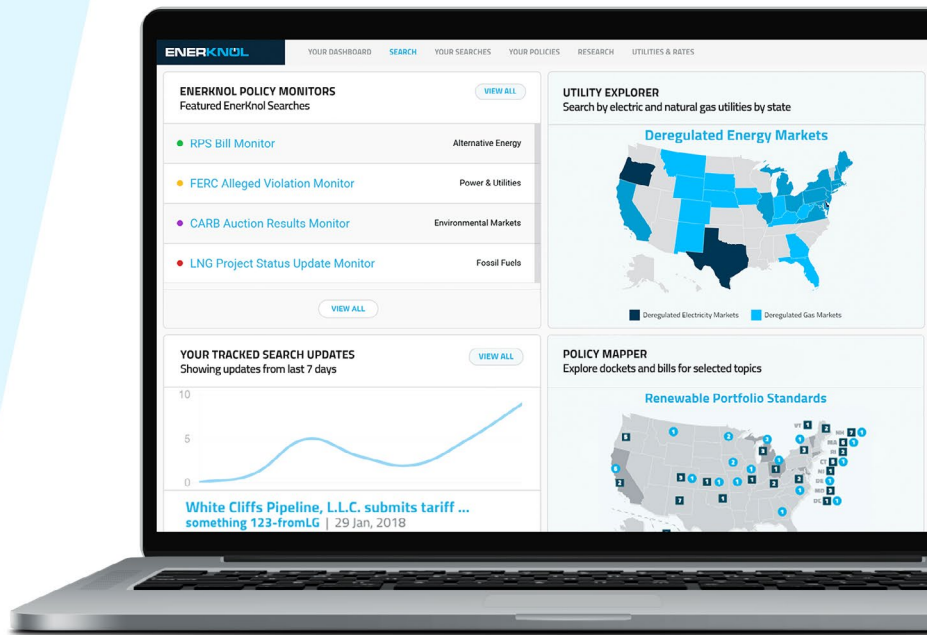
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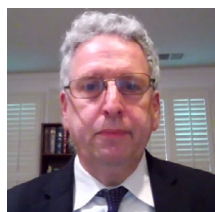


# NYISO News

## Overheard at IPPNY 2021 Spring Conference

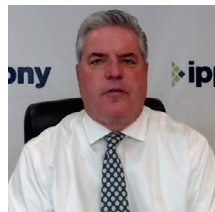
### State Officials, FERC Chairman Discuss Policy Challenges in NY

With the Biden administration pushing hard on renewable energy development and a more supportive FERC, New York now has the federal wind at the back of its ambitious clean energy goals set forth in the state's Climate Leadership and Community Protection Act (CLCPA).



FERC Chairman Richard Glick | IPPNY

A few contentious details remain to be worked out, however, such as revising NYISO's buyer-side mitigation (BSM) rules and deciding the fate of the state's hard wrought carbon pricing proposal, state officials and FERC Chair Richard Glick told about 200 participants at the Independent Power Producers of New York's (IPPNY) annual Spring Conference last week.



IPPNY CEO Gavin Donohue | IPPNY

"2020 has ushered in a sea of change in the energy and environmental policy arena due to the coronavirus pandemic and the election, coupled with efforts to comply with the CLCPA," IPPNY CEO Gavin Donohue said. "In New York there is

an emphasis on how to build back better as we make our way out of the coronavirus pandemic."

Donohue is a member of the state's Climate Action Council (CAC), which charged with developing the plan for implementing the CLCPA and preparing a scoping plan by Jan. 1, 2022, for economywide greenhouse gas emission reductions. The CLCPA requires that 70% of the state's electric load be served by renewable resources by 2030, and the procurement of 6 GW of solar by 2025, 3 GW of storage by 2030 and 9 GW of offshore wind by 2035.

### State Regulator's View

"We have now entered the era of decarbonization," said John Howard, interim chair of the Public Service



NYPSC Chairman John Howard | IPPNY



Clockwise from top left: Jared Anderson, S&P Global Platts; Adam Kamins, Moody's Analytics; and John Williams, NYSEDA | IPPNY

Commission. Carbon pricing "needs to be universal, meaning all the carbon inputs, and it needs to be at least nationally based."

A national carbon tax "certainly will provide some of the market signals that the New York ISO and other ISOs have suggested, but I think [it] would also give us a more fair distribution of those new costs on customers and businesses through all sectors, from liquid fuels, natural gas and other carbon sources," Howard said. "And I would hope that the Congress would listen to us."

Regarding capacity markets, the most important thing is to deal with BSM, Howard said.

"I do not believe it is appropriate that [BSM] be charged for state-mandated initiatives, whether they be renewables, storage or other of the like," Howard said. "It certainly will put us in New York at a disadvantage and already gives me concerns on how much the entire program will cost and add, I believe, unnecessary costs."

NYISO in April put forward a plan to revise its capacity market rules, especially those on BSM, by this fall to address regulators' views that they hinder the cost-effective deployment of state-subsidized resources like solar and wind. (See *NYISO Outlines Goals for Capacity Market*.)

"I do believe that FERC Chairman Glick and our NYISO will work together constructively to get over this hurdle, which I believe is our first near-term hurdle," Howard said. "Fail-

ure to get over the hurdle will make us have to revisit ... initiatives for varying resource adequacy. I'm hopeful that we can have a more amicable outcome, because by and large up until the mandated large renewable projects and storage, things have been going pretty well."

### Legislators' Perspective



New York Sen. Kevin Parker | IPPNY

State Sen. Kevin Parker, chair of the Energy and Telecommunications Committee, said his top priority is fostering economic recovery coming out of the COVID-19 pandemic.

As for the energy sector, he listed his top three priorities as transitioning the 2.5 million vehicles in the state to other forms of energy, mainly electric; retrofitting tens of thousands of old buildings for energy efficiency; and supporting jobs and social justice in clean energy development.

"It's not so much what goes into the pipe, but what comes out of the stack that is the ultimate factor we need to pay attention to," Parker said. "I believe in natural gas as a bridge fuel ... but a natural gas moratorium doesn't take reality into account. ... A gas moratorium is unnecessary."

The CAC's Power Generation Advisory Panel on May 10 recommended that the full council

# NYISO News



adopt a moratorium on building new gas-fired power plants and related infrastructure — with the caveat that it did not achieve consensus on the idea. (See [NY Power Panel to Recommend Gas Infrastructure Moratorium](#).)

“You have a PSC chairman who says he doesn’t want carbon pricing until it’s a national policy, but that is not even on the horizon, and how are we going to pay for all this clean energy infrastructure we need?” Parker said.



Michael Cusick, NY State Assembly | IPPNY

State Assembly member Michael Cusick, chair of the Energy Committee, said that with about two weeks left before the summer adjournment, the pace of legislation passage would pick up.

The Assembly on May

10 passed [A3768](#), “which will provide parity in net energy metering for fuel-flexible linear generators,” Cusick said. “It will be helpful moving forward in the state of New York. ... Fuel-flexible generating equipment can be powered by a variety of clean fuel sources and can seamlessly transition between energy sources when necessary to maintain system reliability.”

Cusick said the Assembly “also recently passed [A7136](#), which establishes a sales tax exemption for residential and commercial energy storage equipment, and storage is one of the priorities of our committee in the Assembly.”

## View from FERC

Capacity market issues bumping up against state preferences for generating resources, particularly in ISO-NE, NYISO and PJM, have been at the forefront of regulatory debates, Glick said Wednesday.

“We may not necessarily see eye-to-eye at all times in terms of the proper role that the capacity markets should play and how they should interact with state-preferred electric generation resources,” Glick said. “There are certainly strong arguments about the impact state subsidies have

on capacity prices and what that means for resource adequacy, but my guess is we could find some common ground.”

A series of commission orders in recent years has engendered very strong reactions from stakeholders, and a FERC technical conference on PJM’s market in March showed there is a general consensus that the current system is not sustainable, Glick said.

“RTOs may need changes to their energy and ancillary services markets to address greater levels of intermittency,” Glick said. “If we don’t act soon, the states are going to do it by themselves. ... That’s part of why I think time is of the essence.”

The commission also is looking at transmission development to promote better regional and interregional transmission planning, as well as better cost allocation and interconnection processes, he said.

Regarding a moratorium on natural gas infrastructure in New York, Glick said his dissatisfaction with the commission’s approach to siting natural gas pipelines doesn’t mean he’s against pipelines.

“Sometimes they’re needed, sometimes not, and it’s best to consider them on a case-by-case basis,” Glick said.

## COVID-19 Hit NYC Hard

Power demand in the continental U.S. trended up over the last couple of weeks, and demand is also tracking higher year over year, said S&P Global Platts’ Jared Anderson, who moder-

ated a panel on the economic impacts of the COVID-19 pandemic on the power sector.

Overall, month-to-date demand as of May 8 was only 0.7% below non-COVID models, pointing to significant recovery from May 2020 on a weather adjusted basis, according to S&P data, with NYISO peak load averaging 16.4 GW in April, up 3% year over year.

“The picture has brightened considerably, both nationally and for New York,” said Adam Kamins, director at Moody’s Analytics. “New York is still operating more than 20% below what we would consider normal capacity. ... That is significantly lower than the U.S., which is closer to about 10% below normal.”

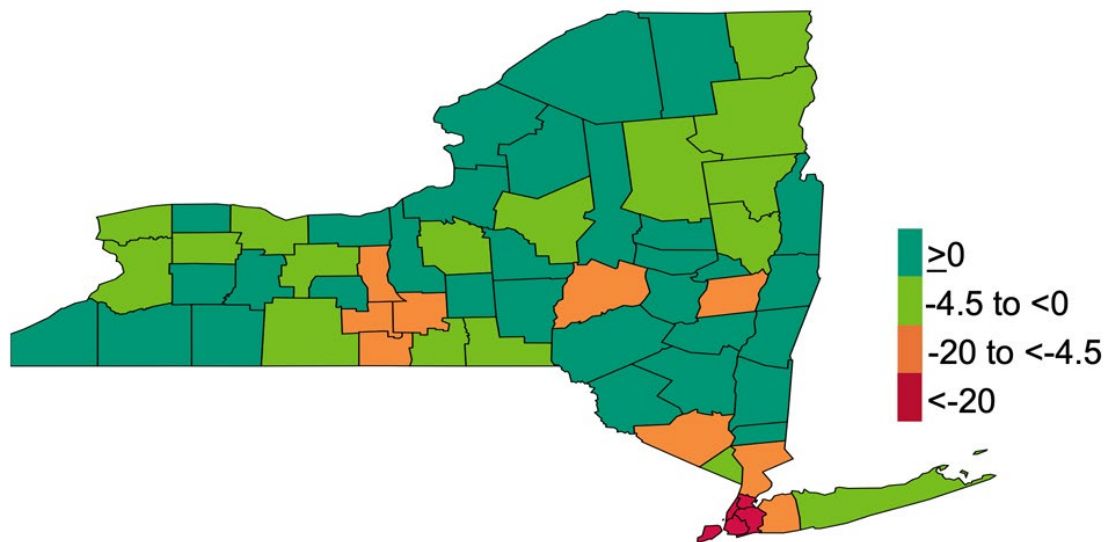
New York and Massachusetts are by far the two states that are furthest from normal, which “is troubling, and the gap isn’t narrowing yet, but I would expect the gap will narrow in the month ahead,” Kamins said.

Retail sales increased in about half of all New York counties over the past year, but New York City posted an average decline of 24%, with Manhattan hit worse than the other four boroughs, Kamins said.

Chris Namovicz, head of the electricity, renewables and coal modeling team at the U.S. Energy Information Association, said the agency projects that economic conditions will continue to improve nationally as the pandemic lessens, and that total 2021 electricity demand is up 2.1% compared to a 3.9% decline last year. ■

— Michael Kuser

## Taxable sales, Mar-Feb 2021, % chg yr ago



New York City and college towns backtracked most in terms of retail sales. | Moody’s



# NYISO News

## NYISO Business Issues Committee Briefs

### ICAP Manual Changes for DCR

The NYISO Business Issues Committee last week approved manual *revisions* to accommodate a slight change to the maximum clearing price calculation for the installed capacity demand curves as part of the 2021-2025 ICAP demand curve reset.

The changes to Section 5.5 of the ICAP Manual clarify the adjusted methodology for translating annual gross cost of new entry (CONE) values to monthly values in the calculation of the maximum clearing price values for the ICAP demand curves, said Ryan Patterson, capacity market design specialist.

“In translating each estimated localized, levelized cost value from an annual value to a monthly value, the ISO’s proposed adjustment accounts for the applicable winter/summer ratio [WSR] and percentage of capacity at level of excess [LOE] used in establishing each ICAP demand curve,” Patterson said.

Applying the WSR and percentage of capacity at LOE provides for improved consistency

with the methodology used to translate the annual net CONE values to monthly reference point price values. The resulting monthly gross CONE value is then multiplied by 1.5 to establish the maximum clearing price value for each ICAP demand curve.

### Regulation Movement Multiplier Update

The BIC also approved *updating* the regulation movement multiplier (RMM) for the first time since April 2015 after the ISO observed a recent decrease in the ratio of regulation movement to regulation capacity since Oct 2020.

The change in ratio coincided with automatic generation control software tuning that increases the efficiency with which NYISO procured regulation movement, ISO Operations Analysis and Services Supervisor Tolu Dina said.

The BIC approved changing the RMM from 13 to 8, a change that must be approved by the ISO’s Management Committee and Board of Directors before being filed with FERC.

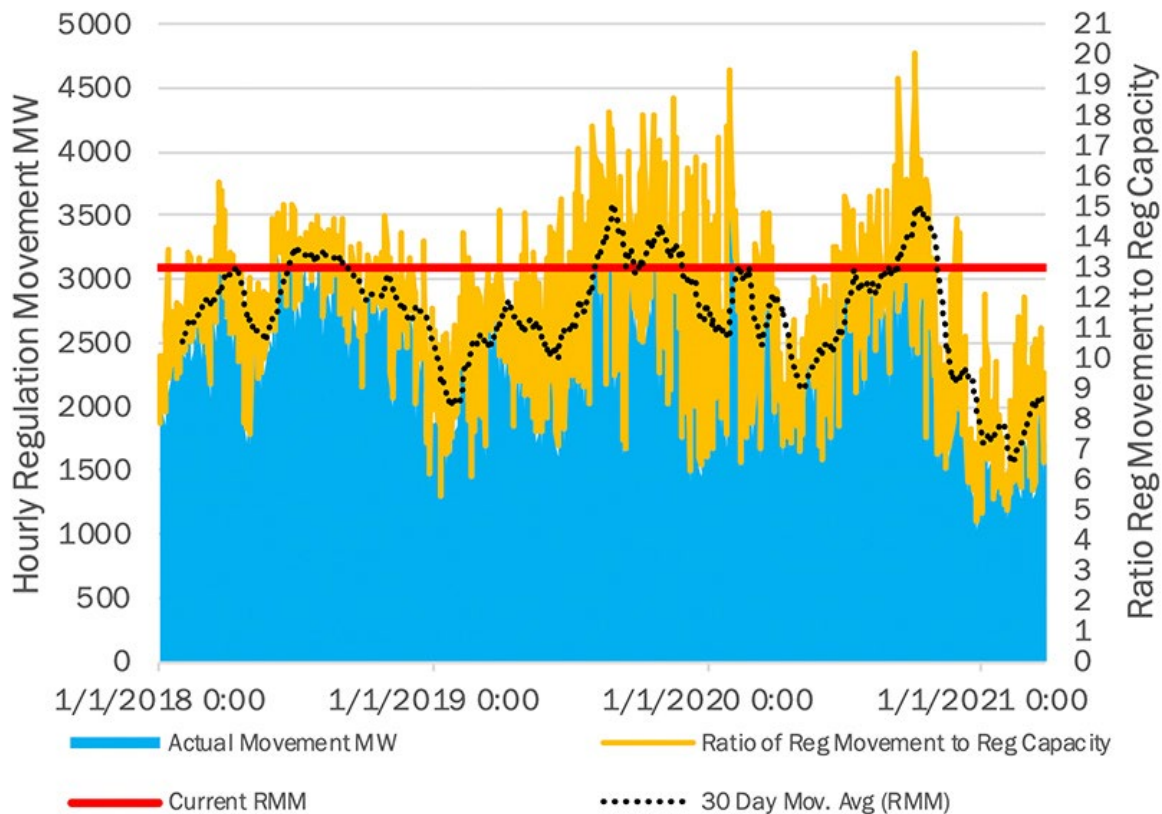
“There will be little material impacts from this change, but it does help us properly align software to use the correct ratio when evaluating regulation providers’ movement bids when that’s added to capacity offers as well,” Dina said.

Regulation movement is the absolute value of the change in energy or demand reduction over a six-second interval, measured in megawatts, that a regulation service provider is instructed to deliver for the purpose of providing regulation service.

### Leadership Change

BIC Chair Matt Schwall left the Independent Power Producers of New York to join Eastern Generation, a move that makes him ineligible to continue serving as chair, according to BIC *bylaws*. Vice Chair John Marczewski of East Coast Power will assume the chair position for the remainder of the year, and the BIC will conduct an election for a new vice chair. ■

– Michael Kuser



New York Control Area average regulation movement and RMM from 2018 through March 2021. | NYISO

# NYISO News

## NY Looks to Improve Tx Headroom Assessments

By Michael Kuser

Investor-owned utility representatives told New York state officials Thursday that they largely agree with state suggestions on ways to improve their companies' methodologies for calculating transmission headroom in the state's effort to accommodate the coming surge in renewable generation (Case No. 20-E-0197).

The utilities outlined their methodology in a November 2020 report, which the state considered in a study released by the New York State Energy Research and Development Authority (NYSERDA) and the state's Department of Public Service in January.

DPS staff responded in March with a straw proposal for improvements to the headroom calculations, including: employing unified planning data and models; assessing local transmission capacity headroom for onramp needs; and assessing the local amount of additional renewable generation that can be supported without curtailment by the existing grid and incrementally after an upgrade project is placed into service.

"We support the straw proposal because it calls for consistency between the utilities while it recognizes regional differences. It provides the flexibility to adjust the different topologies and design standards of each system," Martin Paszek, section manager responsible for the design of Consolidated Edison's transmission system, said at a technical conference held by the New York Public Service Commission.

"The state transmission system, mostly an overhead one, is much, much different from that of the mostly underground, very congested downstate New York City system," Paszek said. "The consistency will start from the use of the powerful models that the utilities develop on an annual basis with the NYISO. Utilities can then work with DPS and NYSERDA on adjustments of these models to account for the Climate Leadership and Community Protection Act goals."

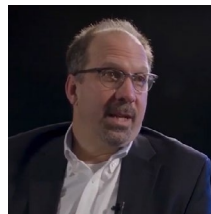
"Flexibility will come from the proposed calculation for onramps, where we can get renewable energy onto that 345-kV system — the highway — and offramps downstate, where that renewable energy will be transferred from the bulk 345-kV down to the 138-kV and below," Paszek said. "We see this straw proposal as a standard for headroom calculations helping guide developers to unconstrained areas of



The map shows the service territories of NYSEG and RGE utilities and the sub-areas referenced in The Brattle Group/Pterra Consulting study. | Avangrid

the system."

### All Together Now



John Borchert, Central Hudson | CHGE

Borchert, senior director of energy policy and transmission development for Central Hudson Gas and Electric.

"The more that we can make sure the approaches are consistent, and the assumptions are done well — how the resources are sited, how they're moved down from high-level loads down into the system — all of these benefit coming up with a statewide approach," Borchert said.

Johannes Pfeifenberger, a partner at The Brattle Group, which helped conduct the study, said that one benefit of the state's proposal is

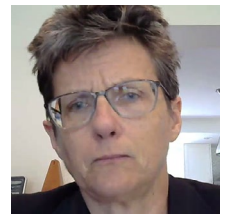
that there are several areas where one utility's load pocket is dependent on a neighboring utility's generation facilities, so by having a consistent power flow, planners would also capture the interactions where one facility might limit loads from two different utilities' generation pockets.

"Capturing those interdependencies is very important because headroom may not be there if it has to be shared," Pfeifenberger said.

Avangrid also supports the proposed methodologies and the associated benefits, said Paul Didsayabutra, the company's senior director of networks transmission planning.

How can the process ensure that the utilities all start from the same database or set of databases? asked panel moderator Elizabeth Grisaru of DPS.

"It is critical for this type of calculation, in terms of implementation, that we need to be based on the same starting point, so that seems to be the key part



Elizabeth Grisaru, New York DPS | DPS



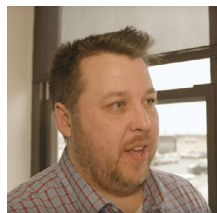
# NYISO News

for us,” Didsayabutra said. “There should be some coordination from a working group being formed to work together.”

Borchert said he believes “the base data is consistent, and what becomes more important is how that base case data on a high level is then brought down into the other systems, local transmission and/or distribution, that you’re trying to study. More important than making sure that we’re all starting with the same data and database is how you treat that data as you continue through the study.”

## Useful, with Cautions

Pfeifenberger said that while NYISERDA relied on data in the interconnection queue, a lot of those projects never get built, and that the agency’s renewables procurements data could be used to locate the places where transmission will be more needed.



Nicholas Culpepper, PSEG Long Island | PSEGLI

“This assessment should provide a good theoretical feel of locations that have the capability to accommodate renewable energy, so of course developers are going to appreciate that and find it useful,”

said Nicholas Culpepper, PSEG Long Island manager of transmission planning. “I think it’s extremely prudent to caveat and be clear with what the results represent, though. ... There’s a misconception that these kinds of analyses can be the end-all, be-all.”

The results are based on assumptions that aren’t necessarily going to align with what comes to fruition, and will therefore be subject to change, he said.

“The results should be referenced in concert with other considerations,” Culpepper said. “To list a couple of those: the NYISO interconnection queue; fiscal feasibility; constraints which vary across the different utilities; real estate limitations; and even ease of permitting.”

Paszek agreed and emphasized that downstate real estate is “where you have physical limitations on the feasibility of connecting resources on the system. This analysis provides electrical headroom, but the developers must understand that it’s an ever changing system, and one has to deal with the physical feasibility of connecting.”

What can be most useful is identifying potential substation projects so that areas more likely to develop renewables can have the facilities to do so, Borchert said.

“We all recognize that it’s the question of

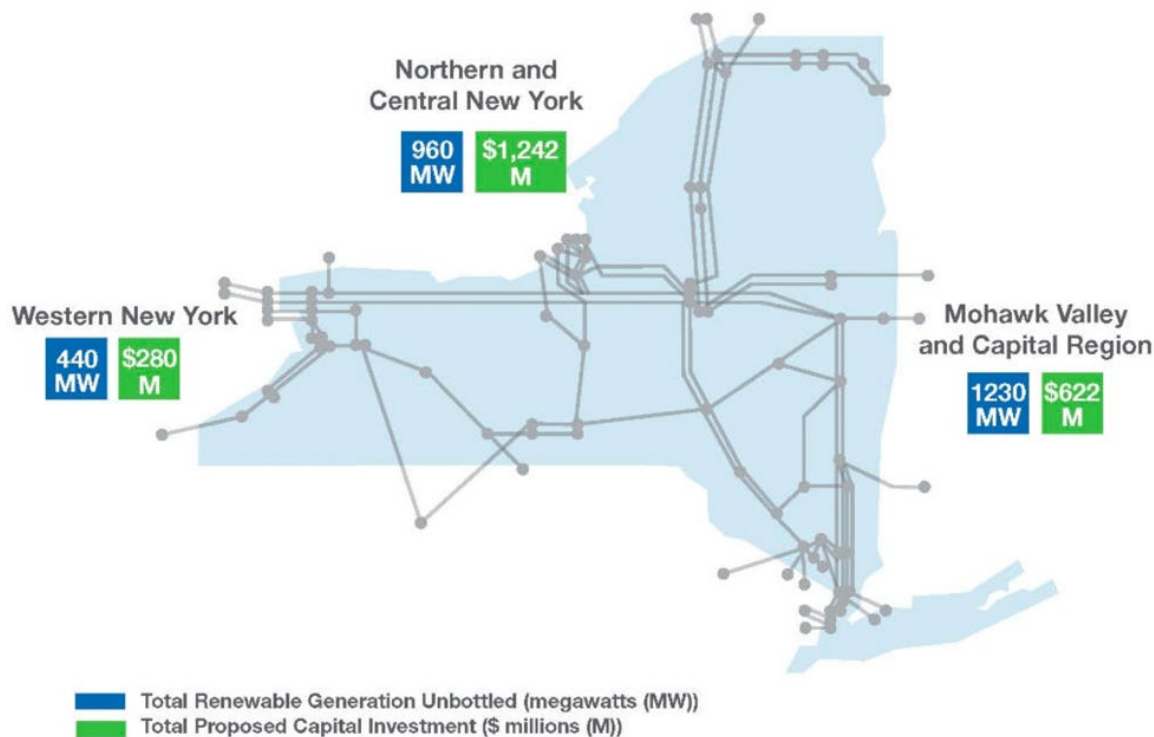
where are the areas for potential cost-effective renewables development because of the time it takes to develop projects,” Grisaru said. “In addition to asking NYISERDA’s help, what can developers do to help the planners narrow down those areas of investment?”

As to whether there is a value to expanding existing models to include distribution, Borchert said there are models such as hosting capacity maps that do a lot with headroom calculations and portrayal of headroom.

“I think what is being proposed here may be a bridge too far,” Borchert said. “Some of the existing models, like Con Ed’s system where it goes down and feeds the area substations, it’s appropriate to have the models down to that level because there’s a need to go beyond the sub-transmission into distribution because that area is networked.”

Borchert said he did not see the value of analyzing the bulk system down to the individual customer load model in order to assess how much new transmission or upgrades would be needed to bring more renewable energy onto the grid.

Culpepper agreed and said that modeling distribution with transmission would involve heavy work with “minimal to no value” for his service territory on Long Island. ■



## PJM News



# PJM Must Consider Longer Asset Life for Generator

## FERC Rejects Inclusion of Sunk Costs in MOPR Exception

By Rich Heidom Jr.

PJM and its Independent Market Monitor must consider generator operating lives of more than 20 years under the unit-specific review process, FERC said Friday, partially granting a complaint by the developer of a combined cycle plant under construction in Illinois (EL21-62). The ruling came less than a week before PJM's long-delayed Base Residual Action, scheduled to begin tomorrow.

*Jackson Generation*, a unit of J-POWER USA, filed a complaint in March challenging PJM's and the Monitor's rejection of its request to use an asset life of more than 20 years in calculating the plant's unit-specific exception to the minimum offer price rule (MOPR).

The RTO's tariff requires generators seeking the exception to provide supporting documentation for project costs including "the bases and support for the claimed capitalization ratio, rate of return, cost-recovery period, inflation rate or other parameters used in financial modeling."

PJM and the Monitor contended that an asset life longer than 20 years is inconsistent with a "competitive offer," citing language in Manual 18.

The commission sided with J-POWER, whose 1,200-MW plant is expected to go into service in the second quarter of 2022.

"There is no tariff provision requiring the use of a 20-year asset life for the unit-specific exception process," FERC ruled. "Jackson has put forth documentation that it claims shows that its particular facts and circumstances warrant an asset life longer than 20 years. PJM and the Market Monitor do not contend that Jackson's specific circumstances do not warrant a longer asset life. Rather, they argue that they only use a 20-year asset life to ensure that all comparable resources are evaluated on a comparable basis, and to do otherwise would not be consistent with the tariff's requirement of 'competitive, cost-based' offers. The tariff, however, contemplates the possibility of a longer asset life, as Jackson points out, and PJM cannot rely on a reference to a 20-year asset life in a manual to contradict these Tariff provisions."

The commission directed PJM and the Monitor to review Jackson's information and documentation to determine if a different asset life is

warranted based on Jackson's circumstances.

PJM spokeswoman Susan Buehler said Monday that the RTO "will be able to incorporate the implications of the FERC ruling on Jackson in time for the upcoming auction."

### Affidavit from Former PJM Economist

J-POWER included an affidavit from Paul Sotkiewicz, president of E-Cubed Policy Associates and PJM's former chief economist, who said the RTO permitted an asset life longer than 20 years twice while he oversaw the MOPR unit-specific offer floor process.

"In each case, the developers of these two generation resources were able to show their business plans, communication to their investors and method of financing that showed an asset life and cost recovery period of more than 20-years was warranted," Sotkiewicz said, adding that both resources, which were not subsidized, cleared the BRA.

The PJM Monitor, Monitoring Analytics, told FERC that it was improper for Sotkiewicz to "disclose information that should be kept confidential" and said the commission should ignore his testimony.

"Witness Sotkiewicz references two out of the many cases that were reviewed by the Market Monitor for MOPR compliance, cases that occurred in 2012 or before, but fails to state whether he knows what the final offers were or what asset life they incorporated or what the distinguishing characteristics were," Monitoring Analytics said. "This vague and unsubstantiated testimony should be given zero weight."

Joe Bowring, president of Monitoring Analytics, told *RTO Insider* he doesn't recall the incidents Sotkiewicz described, and that the FERC ruling would not change the Monitor's view of Jackson's offer.

J-POWER has "not demonstrated that they have a competitive advantage [because of Jackson's] asset life. Their combined cycle plant isn't going to last any longer than anybody else's combined cycle," he said Monday. "If we're going to allow [Jackson] to use 35 years, then we should allow everybody to use it and not just them. And that should be publicly announced and made clear as a matter of policy."

J-POWER did not respond to a request for comment.

### Sunk Cost Argument Rejected

While FERC supported J-POWER's ability to make its case for a longer lifespan, the commission rejected the company's contention that it should be able to exclude from consideration construction costs it spent over the past 18 months.

J-POWER had offered its Jackson unit in 2019 for the 2022/23 BRA scheduled for May 2020. Although the auction was delayed because of uncertainty following FERC's December 2019 order requiring PJM to expand the MOPR to state-subsidized resources, the company decided to proceed with construction.

"Jackson's decision to construct its resource prior to clearing the auction is not a competitive advantage 'resulting from the capacity market seller's business model, financial condition, tax status, access to capital or other similar conditions affecting the applicant's costs,' as required by the tariff," FERC said. "Therefore, it was reasonable for PJM to consider those costs as part of the sell offer."

The commission acknowledged that it has previously stated that "construction costs incurred prior to subsequent BRAs are sunk costs; they are not part of its going-forward costs that will affect its future decisions because competitive offers are based on going-forward costs, not sunk costs."

But it said it did so only in explaining why it was appropriate to remove the MOPR floor after a resource had cleared its first BRA. "The same logic does not apply for new resources that have not yet cleared an auction. To the contrary, the commission has expressed concern that a resource could submit an initial offer based on its full costs, not clear the auction and then submit a lower offer in subsequent years when its going-forward costs are lower," it said. "The commission therefore required that the MOPR be applied 'until the resource demonstrates that its capacity is needed by the market at a price near its full entry cost — by clearing one of the PJM capacity auctions.' Since Jackson had not yet cleared a BRA, its offer price must reflect its full entry costs, which include the construction costs incurred during the hiatus in conducting the auction." ■



## PJM News



# PJM Defends Dominion FRR Filing

## FERC Unlikely to Rule Before Auction

*Continued from page 1*

Dominion on May 6 confirmed it would not participate in PJM's upcoming Base Residual Auction for 2022/23 over concerns the minimum offer price rule (MOPR) will undermine its ability to meet Virginia's renewable energy targets. More than 60 Dominion generating units totaling more than 18.1 GW were included on PJM's posting of FRR units on April 23.

PJM's Reliability Assurance Agreement (RAA) requires load-serving entities choosing the FRR to exit the capacity auction for at least five years and demonstrate the "commitment of capacity resources for the term of such election sufficient to meet such party's daily unforced capacity obligation."

LS Power filed a complaint May 7 alleging that PJM violated the RAA by approving Dominion's FRR election based on a capacity plan covering just the first delivery year of the five-year minimum. It asked FERC to rule by Monday and invalidate Dominion's withdrawal from the BRA, which it said will suppress prices. (See [LS Power Challenges Dominion FRR Plan](#).)

Because FERC did not post notice of the complaint until Friday and said it would accept comments through May 27, it appears the commission will not grant LS Power's request for relief before the auction. ClearView Energy Partners said in a note to clients. "Since LS Power's complaint predates the auction, refund obligations would appear to attach to the auction results pursuant to Section 206 of the Federal Power Act if FERC grants the complaint after the auction," ClearView said. "However, the commission has not, to date, ordered an auction to be rerun."

In its [response](#) Wednesday, PJM called on FERC to reject the complaint, saying the RTO's "approval of one-year FRR capacity plans is consistent with both the language and intent of PJM's RAA and manual, and it would not be practical or reasonable to require a five-year FRR capacity plan given the timing with which certain parameters are determined that define a FRR entity's obligations."

"The sole disagreement in the underlying complaint is whether PJM's governing documents allow FRR entities to submit one-year FRR capacity plans for a minimum of five consecutive years or whether the rules require an initial submission of a five-year FRR plan," the RTO continued. "PJM submits that the express

and implied language in both the RAA and PJM manuals permits FRR entities to submit one-year FRR capacity plans and such FRR entity is required to submit an updated FRR capacity plan each subsequent delivery year."

PJM said if the RAA language is ambiguous, the language in [Manual 18: PJM Capacity Market](#) is clear, saying an LSE "must submit an initial FRR capacity plan at least one month prior to the conduct of the Base Residual Auction for the first delivery year by demonstrating that it has sufficient capacity resources in its FRR resource portfolio."

The RTO also noted that the RAA requires an FRR entity to identify enough capacity resources to meet "the forecast pool requirement for each applicable delivery year times the FRR entity's allocated share of the preliminary zonal peak load forecast for such delivery year."

PJM sets the forecast pool requirement and the installed reserve margin annually at least three months before each BRA. "As a result, there would be no forecast pool requirement for subsequent delivery years beyond the one that is established prior to the most recent BRA," it said.

The RTO also calculates capacity emergency transfer objectives and capacity emergency transfer limits annually, "which may impact an FRR entity's minimum internal resource requirement for future delivery years," PJM added.

### 'Not Consistent'

The Monitor, however, joined LS Power in challenging PJM's interpretation of the rules.

It cited the RAA's requirement that "each FRR entity shall submit its initial FRR capacity plan ... and shall annually extend and update such plan by no later than one month prior to the Base Residual Auction for each succeeding delivery year in such plan."

"The tariff's use of the phrase 'extend and update' is not consistent with PJM's interpretation," the Monitor [said](#). "'Extend' means to extend the plan for an additional year. 'Update' means to revise the existing plan to reflect more current information. PJM's past practice and interpretation of the manuals cannot supplant the required application of the filed rate, which provides for extending and updating an initial FRR capacity plan that covers the five-



The Bath County Pumped Storage Station in Virginia's Allegheny Mountains is one of the generating plants Dominion Energy seeks to withdraw from the May 19 PJM capacity auction. | [Dominion Energy](#)

year term of the election."

The PJM Power Providers (P3) Group and the Electric Power Supply Association (EPSA) also backed the complaint.

"Unless PJM can show that an FRR plan for Dominion from the 2022/23 delivery year through the 2026/2027 delivery year was timely submitted, a violation of the RAA has occurred that the commission must remedy," [said](#) P3, which represents at least a dozen independent power producers, including LS Power, Calpine, NRG Energy and Vistra.

"If the FRR option is to stay viable, it must remain a mechanism that offers capacity market exit without impacting that market for all other market participants, states and consumers," EPSA [said](#).

### Transparency

The Monitor also took issue with PJM not more quickly disclosing Dominion's plans to other capacity market participants. Although PJM said Dominion informed of its intent to pursue the FRR alternative on Jan. 11, the RTO did not provide notice of the election until its April 23 posting of the FRR units for the upcoming BRA.

The IMM said that although market rules require notice of an FRR election four months in advance, they do not say whether the notice is confidential to PJM or is intended to notify the markets. It asked FERC to clarify that PJM should publicly post notice of FRR elections.

"An important purpose of the tariff requirement for four months' notice is to allow market participants to adapt their plans based on potentially significant market information," the Monitor said. "Participants cannot prepare if the notice is not posted. Four months' notice would also permit participants to raise issues with the commission without the need for emergency action." ■

## PJM News

# NJ Rate Advocate Challenges 2nd Round of Nuclear Subsidies

## Suit Seeks to Overturn BPU Award to PSEG Nuclear Plants

By Hugh R. Morley

The New Jersey Division of Rate Counsel on May 11 appealed the state Board of Public Utilities' recent award of \$300 million in subsidies to three nuclear plants, echoing a lawsuit that unsuccessfully sought to overturn a similar award made in 2019.

The appeal to the Superior Court's Appellate Division seeks to stop the three-year subsidy agreement, running from June 2022 to May 2025, awarded on April 27 under the state's Zero-Emission Certificate program. The continued operation of the plants, which say they need the subsidies to remain open, is a key part of Gov. Phil Murphy's effort to move the state toward 100% clean energy by 2050. (See [NJ Nukes Awarded \\$300 Million in ZECs.](#))

The subsidies of \$10/MWh will go to the Hope Creek nuclear power plant, which is owned and operated by Public Service Enterprise Group, and the Salem 1 and 2 units, which PSEG operates and co-owns with Exelon.

The ZEC program, created by the state legislature in 2018, provides subsidies to nuclear power plants at risk of closure so they can remain open to generate carbon-free power. The BPU, in the first use of the law, awarded \$300 million to the plants in 2019, which the Division of Rate Counsel appealed. A state appellate court rejected that appeal on March 19.

Rate Counsel Director Stefanie Brand said Wednesday that while her arguments are broadly similar to the earlier suit, she will ar-

gue this time that state law gave the BPU more flexibility to award smaller subsidies than the maximum of \$10/MWh. (See [Appeals Court Backs NJ Nuclear Subsidies.](#))

Brand said that for the initial award, it was unclear whether the law the BPU to make an award other than the full amount. But, she argues, it clearly gave the BPU the ability to decide the size of the latest award. She said she will argue that the BPU did not follow the criteria laid out in the law to analyze how much the plants should get.

"They're not looking at the financial criteria. They're only looking at the companies' threat to shut down," Brand said of the BPU's evaluation of what size subsidy to award. "They don't even do the analysis to look at whether they should lower the rate, even though there's no question that on the second round, they were allowed to lower the rate.

"They just said, 'The company tells us they want the full amount; we're giving them the full amount, because they say they're going to shut down if they don't get the full amount,'" she said.

In the first suit, Brand argued that the award of ZECs to the three plants was arbitrary and capricious and that none of the three plants need the subsidies to remain financially viable. Dismissing the case, the court agreed with the BPU that it had correctly included the "costs and risks" of running the plants when it concluded that they would not operate profitably without the subsidy.

The Rate Counsel on April 14 appealed the



Hope Creek Nuclear Generating Station in New Jersey | Peretzp, CC-BY-SA 3.0, via Wikimedia


case to the state Supreme Court, where it is still pending. (See [NJ Rate Counsel Turns to State Supreme Court over Nuke Subsidies.](#))

Nuclear power accounts for 90% of the state's carbon-free power, according to the BPU. Murphy has said he wants to boost the share of energy generated by carbon-free resources to 50% by the end of the decade.

Before the April 27 vote, BPU members said they had little choice but to award the full amount because the environmental and financial cost of not awarding the ZECs would be too great. Commissioner Bob Gordon said PSEG executives told the board that unless the company received the maximum award of \$10/MWh, the company would shut the plants down.

BPU Executive Director Paul Flanagan told the board that based on his staff's evaluation of the plants' position, "there is financial risk in the continued operation of the units pursuant to the ZEC Act, and an award of less than the full authorized ZEC amount may not be sufficient to prevent the closure of the unit."

PSEG said it had no comment on the Rate Counsel's appeal. ■



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# PJM News



## PJM Panel OKs Extension of Queue Deadline

### FERC Concerned over Waiver Requests

By Rich Heidorn Jr. and Michael Yoder

The PJM Planning Committee last week endorsed the RTO's proposed "quick fix" solution to extend its deadline for responding to new transmission service requests, acting a day after FERC urged the RTO to address the rising number of requests for waivers of the RTO's queue-related deadlines.

FERC on May 10 reinstated three generation developers to PJM's interconnection queue that had been removed for failing to make deposits or return study agreements by the RTO's deadlines.

The commission reinstated:

- Novera Energy's 20-MW Mansfield-South Troy solar project, which was removed after

the company mistakenly expected PJM to apply more than \$60,000 in deposits from projects it had withdrawn. FERC also reinstated Novera's Roxbury solar project, which was removed when PJM said it hadn't received a deposit the company wired to it the day before the deadline (ER21-1624).

- Savion's 75-MW Buchanan Solar project in Buchanan County, Va., which submitted its facilities study deposit the day after the March 31 deadline (ER21-1645). The company said the coronavirus pandemic had prevented its employees from working in their offices, "limiting and interfering with proper coordination and oversight." It also said the deadline was the same day as the closing of PJM's AG2 interconnection queue, in which Savion submitted 10 new requests, and the

last day of the company's fiscal year.

- Eastern Generation's 90-MW uprate to its 850-MW Rolling Hills natural gas generator in Vinton County, Ohio (ER21-1644). The company said that although it wired its deposit on its deadline of March 29, it failed to return the executed facilities study agreement until the next day because of an oversight.

"We are concerned by the large, and seemingly increasing, number of requests for waivers of PJM interconnection queue-related deadlines," the commission said in each of the three orders. "The frequency with which we are receiving these waiver requests indicates that something may be amiss with the tariff, its administration by PJM or with interconnection customers' approach to complying with these deadlines. We encourage PJM to expeditiously work with stakeholders to evaluate the problem and propose solutions that will decrease the need for such waivers going forward."

Commissioner James Danly dissented in all the dockets, writing that "the commission has no legal authority to retroactively waive tariff provisions that are part of a public utility's filed rate."

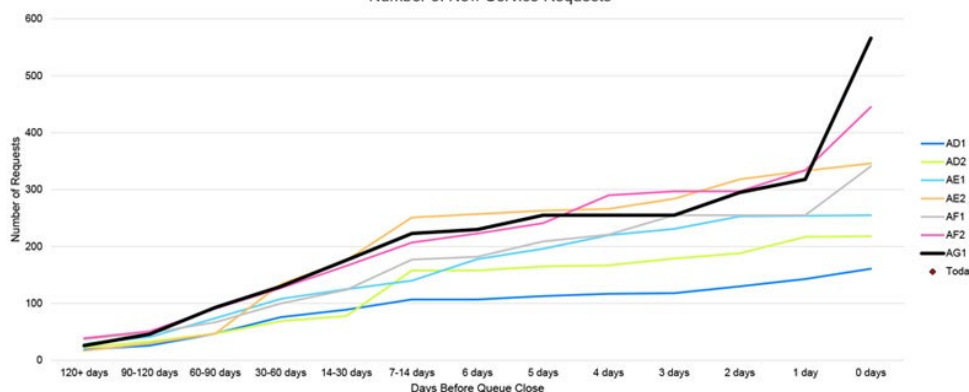
The commission's comments appeared to be referring not only to the developers' requests but also to PJM's repeated requests for waivers of the requirement that it acknowledge receipt of new service requests, and issue a notice of any deficiencies, within five business days.

The RTO received its first waiver in March 2020, citing the coronavirus pandemic (ER20-1392) and a second in September 2020, citing a high volume of new service requests (ER20-2914).

In January, it sought a third waiver, which FERC granted on March 31 while ordering PJM to submit an informational filing within 45 days updating the commission on the stakeholder review of its interconnection procedures (ER21-1016).

FERC said it agreed that it was "appropriate to explore solutions through PJM's stakeholder process, but [it] expect[s] PJM to timely follow through on its commitment to revise its deficiency review tariff provisions through its stakeholder process to eliminate the need for similar waiver requests of its deficiency review deadlines in the future."

Table 1  
Number of New Service Requests



Days Before Close	AD1	AD2	AE1	AE2	AF1	AF2	AG1
120+ days	19	23	29	17	37	39	26
90-120 days	7	10	12	13	11	12	20
60-90 days	21	14	33	17	19	40	47
30-60 days	29	22	34	87	33	36	37
14-30 days	13	9	17	42	24	39	46
7-14 days	18	80	15	75	53	41	47
6 days	0	0	38	6	5	16	7
5 days	6	7	18	6	27	18	25
4 days	4	2	24	3	12	49	0
3 days	1	12	11	18	34	7	0
2 days	12	9	22	34	0	0	38
1 day	13	29	1	15	0	37	23
0 days	18	1	1	13	86	111	247
<b>Total</b>	<b>161</b>	<b>218</b>	<b>255</b>	<b>346</b>	<b>341</b>	<b>445</b>	<b>563</b>

Graph and table of new service requests in the interconnection queue | PJM

# PJM News



## Planning Committee Vote

On May 11, the Planning Committee endorsed the RTO's proposal to extend its deadline for responding to new service requests, a proposal that had been under discussion by members for several months. (See "New Service Reviewed Again," *PJM PC/TEAC Briefs: April 6, 2021*.)

Jason Connell, director of infrastructure planning for PJM, *reviewed* the *problem statement* and *issue charge* and reviewed draft tariff *language* outlining the RTO's proposal giving more time for reviews of new service requests.

The issue charge passed with 99% support.

PJM's proposed solution includes extending to 15 business days the deadline for reviewing new service requests and issuing notice of any deficiencies with a caveat that it use "reasonable efforts to do so as soon thereafter as practicable."

The solution also includes moving up the closing of the new services queue by about three weeks: Sept. 10, instead of Sept. 30, and March 10, instead of March 31, for the two queue windows. Connell said the additional three weeks would allow more time to review

applications and not affect the model build and analysis process.

Connell said the proposal would not impact the deficiency response period currently given to new service customers.

PJM currently receives 50% or more of its new service requests during the last month of a queue window, Connell said, overloading staff. The new service queue that ended Sept. 30 represented an approximately 27% increase in total number of requests over the previous queue. Of the September queue, Connell said, 340 of the 563 requests were filed in the last week, including 247 on the last day. The latest queue window that ended March 31 had a new record number of requests for PJM, he said, with 691 new requests.

Connell said that when PJM gets hundreds of requests in the final week of the queue, it is "impossible" for staff to review all the applications, leading to waiver filings with FERC. He said the new deadlines will "give us some breathing room to review all of those applications that come in at the end."

"We're asking for an endorsement of a solution that will relieve us of having to file these waiv-

ers with the commission," Connell said.

Several stakeholders asked Connell if the issue charge needed to be voted on that day or if it could be held for more discussion.

Connell said FERC was clear in its rulings the previous day that it doesn't want to see more waiver requests. He said PJM wanted to have the changes in place for the next queue ending in September to limit the "crush of applications" at the end of the process.

"The commission in the [March] waiver was very clear that this needed to be fixed, and we have a filing due to them next week to update them on the progress of the fix," Connell said.

He said there are "better ways" to structure a long-term fix to the deadline issue, and stakeholders in the Interconnection Process Reform Task Force are examining changes to incentivize new service request filers to file earlier in the process.

The task force was endorsed at the April PC meeting, and key work activities are being targeted to be finished by the end of the year. (See "Interconnection Process Reform Endorsed," *PJM PC/TEAC Briefs: April 6, 2021*.) ■



Eastern Generation is upgrading its 850-MW Rolling Hills natural gas generator in Vinton County, Ohio, by 90 MW. | Google



# PJM News



## PJM PC/TEAC Briefs

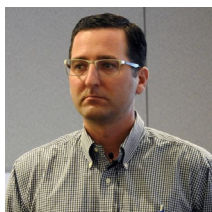
### Planning Committee

#### ICSA Endorsed

Stakeholders last week endorsed PJM's proposal for changes to the pro forma interconnection construction service agreement (ICSA).

The nearly unanimous endorsement at the May 11 Planning Committee meeting followed several months of delays as members requested that PJM clarify language in the "quick fix" proposal. (See "ICSA Vote Delayed," *PJM PC/TEAC Briefs: April 6, 2021*.)

Mark Sims, PJM manager of infrastructure coordination, reviewed the proposed *problem statement, issue charge and tariff* revisions addressing the RTO's concerns associated with the ICSA's lack of language on supersedure and its current automatic termination provision.



Mark Sims, PJM |  
© RTO Insider LLC

Sims said PJM and stakeholders changed the proposal to address the growing interconnection queue volume, identifying improvements in two areas of tariff Attachment P that deal with ICSAs.

"We've had some good discussions and answered some questions as far as implementation, and I think we're in a good place," Sims said.

No changes were made to the ICSA superseded language from previous meetings, Sims said, but PJM did restructure the automatic termination provision into two separate sections covering conforming and non-conforming agreements. Sims said the resulting language in the sections is an "easier read" and "much clearer" as far as what PJM expects from transmission owners and what the RTO will do in return for cancellation of certain agreements with TOs.

Sims said stakeholder discussions and feedback also led to clearer ideas for the notification process for TOs. He said PJM is still determining the future format of the notification document and method of communication, but for now the RTO has developed a "straightforward" PDF form with all the tariff requirements.

PJM plans to bring the issue charge and tariff

language for a first read at the May 26 Markets and Reliability Committee meeting and an endorsement in June.

"We're going to continue to work on all the parallel implementation issues," Sims said.



Alex Stern, PSEG |  
© RTO Insider LLC

Alex Stern, director of RTO strategy for PSEG Services, thanked PJM for its work on the issue and for not rushing through the stakeholder process.

"I know the quick fix took a few months longer than PJM wanted, but I do think the extra time helped us get clearer and better language," Stern said.

#### Manual 14F and 14B Updates

Members unanimously endorsed changes to Manual 14B and 14F resulting from work completed by the Market Efficiency Process Enhancement Task Force (MEPETF) last year. (See *PJM Stakeholders Debate Market Efficiency Proposals*.)

Nick Dumitriu of PJM provided a review of *Manual 14B and Manual 14F* conforming language for the MEPETF capacity driver docket filed with FERC in October (*ER21-162*). The commission accepted revisions to the tariff and Operating Agreement in December after stakeholders approved changes regarding PJM's existing market efficiency projects. (See "Market Efficiency Proposals," *PJM MRC Briefs: Aug. 20, 2020*.)

In the October MRC vote on capacity drivers benefits, stakeholders approved the PJM proposal that uses a single-draw Monte Carlo simulation, with simulations for both Reliability Pricing Model (RPM) and Regional Transmission Expansion Plan (RTEP) years. Members also approved a PJM proposal on the window for capacity drivers and to clarify when capacity benefits of market efficiency projects are calculated.

Dumitriu said the Manual 14B conforming language included adding RPM constraints to the list of constraints that also have an economic impact and to clarify the definition for the total

annual enhancement benefit. Manual 14F changes included adding information regarding the window type and duration for RPM economic constraints in the proposal window overview and adding language regarding the expected in-service date for projects that address RPM constraints in the reliability criteria project evaluation section.

The manual changes will go to the May MRC meeting for a first read and a final endorsement at the June meeting.

#### Manual 21 Updates Endorsed

Stakeholders unanimously endorsed minor changes to Manual 21 as part of the biennial review.

Jerry Bell of PJM's resource adequacy planning department provided a review of the updates to Manual 21: Rules and Procedures for Determining Generating Capability.



Jerry Bell, PJM | © RTO Insider LLC

Bell said the manual changes included a minor restructuring, moving provisions for testing units that were mothballed or existing units that want to enter the markets from the capability verification testing section (1.3.3) to the capacity modification (CAPMOD) testing section (1.3.2).

A new section on generator site conditions and weather data was also added to the manual (2.1.1). Some of the points include mandating that all generators at the same plant are to use the same weather data source and that both observed and rated generator site conditions are to be based on plant weather station records or local weather bureau records.

Bell said stakeholder feedback expanded a bullet point that local weather bureau records can be attained from organizations such as NOAA, universities, colleges and commercial weather services. The added language said that "the weather station selected should be a good surrogate for the conditions at the plant; it does not necessarily need to be the weather station that is closest in proximity to the plant."

PJM will seek endorsement of the manual updates at the May MRC meeting.

#### 2021 RRS Assumptions

Jason Quevada of PJM's resource adequacy

# PJM News



planning department *presented* a first read of the 2021 reserve requirement study (RRS) *assumptions* developed in the Resource Adequacy Analysis Subcommittee.

Quevada said the study results will reset the installed reserve margin (IRM) and the forecast pool requirement (FPR) for the 2022/23, 2023/24, 2024/25 delivery years and establish the initial IRM and FPR for the 2025/26 delivery year.

The 2021 RRS assumptions are similar to those in the 2020 RRS except for the modeling of effective load-carrying capability (ELCC) resources. Quevada said all variable resources, including wind, solar, hydro, landfill gas, and storage-type resources such as pumped hydro, batteries, hybrids and generic limited-duration resources, will be excluded from the RRS.

Quevada said the capacity value of ELCC resources will be calculated with the ELCC model, which is largely consistent with the RRS.

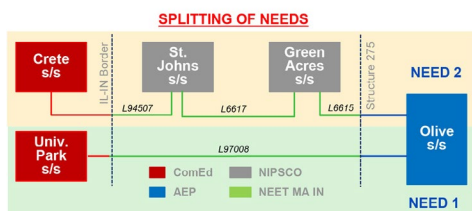
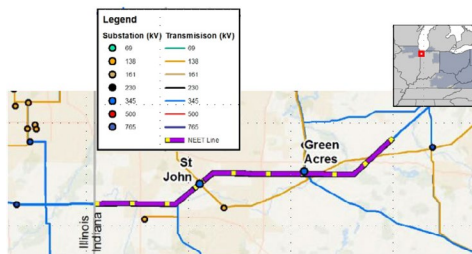
"This change will cause a negligible impact on both the IRM and FPR," Quevada said.

Stakeholders will vote on an endorsement of the study assumptions at the June PC meeting. The final RRS report will be presented to the RAAS and PC in September, Quevada said, and PJM will seek approval in October.

## Transmission Expansion Advisory Committee

### NEET Project Update

Kshitij Shah, director of development for NextEra Energy Transmission (NEET), *presented* the updated needs for a proposed supplemental project in Indiana. Shah first presented the



NEET MA IN transmission zone M-3 Process Indiana | PJM

proposed solution at the March TEAC meeting. (See "NEET Supplemental Project," *PJM PC/TEAC Briefs: March 9, 2021*.)

The supplemental project is NEET MidAtlantic IN, a 20-mile, 345-kV double-circuit transmission line in northwest Indiana consisting of 115 galvanized steel lattice structures. NEET purchased the transmission line from Commonwealth Edison in October, becoming a transmission owner in PJM.

Shah said the transmission lines were built in 1958 and that increased failures are expected because of the age of the components. The potential solution calls for rebuilding the line with monopoles and new conductor on the existing right-of-way. Shah said the projected in-service date is proposed for January 2023.

Shah said NEET is presenting a "slightly different approach" from the March project update to achieve the exact same proposed solution through splitting the needs of the project.

NEET engineers found that the northern circuit on the line is a "little complicated" and requires some issues that need to be addressed, Shah said, including conductor selection based on the existing grid characteristics and coordination with neighboring TOs ComEd, American Electric Power and Northern Indiana Public Service Co.

The updated project includes rebuilding the 20-mile-long southern double-circuit line with monopoles and new conductor using existing rights-of-way. Shah said NEET is looking to address the needs of both the northern and southern lines "simultaneously for efficient cost management" and because of a "time crunch to schedule some of the long-lead items."

Shah said by splitting up the needs of the project, NEET can continue to progress through the M-3 process and procure some of the needed structures and other needed materials.

"This is the most comprehensive solution, which ensures adherence to our operational strategy and posted end-of-life assumptions," he said.

NEET plans to bring a solution for the northern circuit to an upcoming TEAC meeting after discussing coordination issues with the neighboring TOs.

The estimated project cost is \$51.9 million, down from the initial \$63.4 million cost proposed at the March TEAC meeting.

"Addressing these separately is not good engineering, nor is it economic," Shah said. "Doing



Phil Yum, PJM | © RTO Insider LLC

nothing is not an option, not feasible and it does not fit our risk parameters."

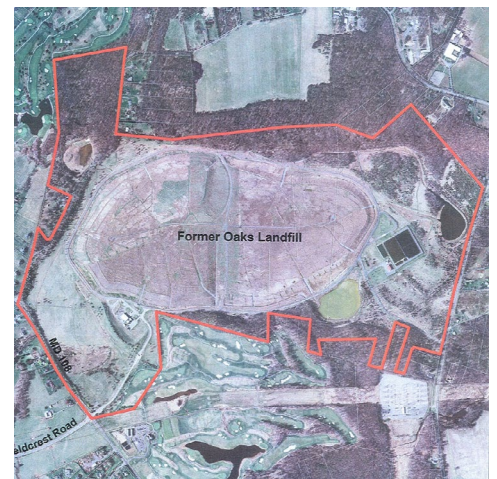
### Generation Deactivation Notification

Phil Yum of PJM *provided* an update on recent generation deactivation notifications, including the Oaks Landfill in the Pepco transmission zone in Montgomery County, Maryland.

According to Montgomery County records, the Oaks Landfill is approximately 545 acres with a waste disposal footprint of 170 acres. The county-owned site received mixed municipal solid waste beginning in June 1982 and closed in 1997, containing more than 7 million tons of waste.

A 2.2-MW landfill gas-to-energy facility started operation at the property in mid-2009. The requested deactivation date is July 16, Yum said, and Pepco is currently conducting a reliability analysis. ■

— Michael Yoder



Former Oaks Landfill in Maryland | Montgomery County Planning Department



# PJM News



## PJM MIC Briefs

### Virtual Combined Cycle Regulation Issue Charge Endorsed

PJM stakeholders endorsed an issue charge aimed at addressing regulation for virtual combined cycle units as some questioned whether the work will ultimately prove too complex.

The issue charge, brought forward by Vistra, won 91% support, with 203 members voting in favor and 20 voting against at last week’s Market Implementation Committee meeting. The issue was first brought to the committee at last month’s MIC meeting. (See “Virtual Combined Cycles,” *PJM MIC Briefs: April 7, 2021.*)

Becky Robinson of Vistra reviewed the *problem statement* and *issue charge*, saying units that are modeled virtually by PJM can sometimes receive regulation awards from the market clearing engine that vary, which Vistra has been experiencing with some of its units.

The issue charge proposed education on the operational and technical difficulties of operating virtually modeled combined cycle units with different regulation assignments and brainstorming possible solutions to ensure that regulation awards are consistent.

Robinson said a few edits resulting from stakeholder feedback were made to the issue charge after it was first introduced at the MIC. In the key work activities, Robinson said, some

members wanted to highlight how regulation awards for virtual combined cycles are different than regulation awards for combined cycles that are modeled.

The start date of work on the issue was also pushed from June until the middle of July. Work is expected to take between three and six months.

Independent Market Monitor Joe Bowring asked Robinson whether the work would be better conducted by the Modeling Generation Senior Task Force instead of the full MIC because of the technical nature of the issue.

Robinson said she didn’t have “strong feelings” about moving it to the task force, but she said the committee doesn’t currently have regular monthly meetings on the PJM schedule. With an already full work calendar schedule for PJM stakeholders, Robinson said, Vistra didn’t want to have to schedule another meeting and thought a more efficient way to address the issue was to keep it in the MIC.

“We think of this as a pretty targeted issue, although a technical one,” Robinson said.

Bowring said he agrees that the problem needs to be addressed, but he sees the potential for the discussion to be weighed down with its complexity.

“As much as I wish this really was a narrow, tar-

geted issue, I think we’re going to find out that it’s a lot more complicated to solve,” Bowring said.

Paul Sotkiewicz of E-Cubed Policy Associates said he asked PJM at the previous MIC meeting for any documentation on virtual unit modeling, including how dispatch and settlements are done with the units but was told that no such documentation exists.

He called pseudo-unit modeling an “extremely complex” issue to solve and said the scope of the work should be expanded to get to the core of the problem. He said he foresees a “much bigger problem” in a discussion about an issue for which there is no documentation and no rules for settlement. He asked how there will be education on virtual combined cycles when documentation doesn’t exist.

“I agree this is something that needs to be addressed, but I think the even bigger problem is we have absolutely zero information, visibility or documentation into pseudo-unit modeling of combined cycles,” Sotkiewicz said.

Bowring said he agreed with Sotkiewicz’s charge and that there’s “definitely a risk in doing things that aren’t documented.”

Lisa Morelli of PJM said she understood stakeholder concerns and desires to “dig further into the modeling” and to look at the existing

Scenarios & Descriptions		Market Suspension Scenarios					
		1	2	3	4		5
		No Day-ahead*	No Real-time <= 6 Hours	No Real-time > 6 Hours	No Day-ahead & No Real-time (hours may span multiple market days)		
				<= 6 Consecutive Hours	> 6 Consecutive Hours		
LMP Prices	Day-Ahead	Use DA	Use DA	Avg. of RT preceding and subsequent hour	\$0/MWh LMPs		
	Real-Time	Avg. of RT preceding and subsequent hour	Use DA	Avg. of RT preceding and subsequent hour	\$0/MWh MCPs		
Regulation and Reserve Clearing Prices		◆ Use RT	Avg. of RT preceding and subsequent hour	Make resources whole to their actual MW, determine LOC	Avg. of RT preceding and subsequent hour	\$0/MWh MCPs	
Relevant Offers if not available		◆ RT offers only	Last Available Offers	Use DA	Last Available Offers	Cost Based Offers	
Dispatch MW		◆ RT only	Existing Ops procedures (EMS, VBUCC, Incremental)	Existing Ops procedures (EMS, VBUCC, Incremental)	Existing Ops procedures (EMS, VBUCC, Incremental)	Existing Ops procedures (EMS, VBUCC, Incremental)	
Make-Whole		◆ Use RT	◆ Non-ramp-limited value based on LMP for Dispatch MW; make whole to lesser of dispatch or actual MW	◆	◆	Per current rules, but use cost-based offers (\$0/MWh LMPs)	
FTR Settlements			◆	◆ Use DA	Avg. of RT preceding and subsequent hour	Zero value (no congestion LMPs)	
Virtuals		◆ None	Settle against calculated RT LMP	Use DA (results in no settlement value)	None	None	
Notifications						Email, Pardot, and All-Call	

# PJM News



rules related to the issue. She suggested adding an education item in the key work activities on virtual combined cycle modeling and how it is handled in energy and ancillary service dispatch and settlements.

Robinson said she thought the additional education piece would be valuable, and the issue charge was ultimately amended to include Morelli's suggestion.

## Reactive Supply Proposal Vote Delayed Again

A vote on a proposal addressing compensation for reactive supply and voltage control service was put on hold for another month as Dominion Energy and the Monitor agreed to combine two separate issue charges. The delay means the issue will be brought to the MIC for a fourth time. (See "Reactive Power Discussed," *PJM MIC Briefs: April 7, 2021*.)

Jim Davis, regulatory and market policy strategic adviser for Dominion, *reviewed* the *problem statement* and *issue charge*, saying PJM transmission customers pay for reactive power as an ancillary service under Schedule 2 of the tariff, and generation owners must submit a filing to FERC under Federal Power Act Section 205 to seek compensation.

Davis said the existing rate mechanism is time-consuming for generation owners, developers and transmission customers, and it exposes them to litigation costs in the defense or challenge of the requested rates.

"We thought the existing processes are somewhat costly for all market participants," Davis said. "And we thought this issue was ripe for discussion."

Davis said an addition to his issue charge presented at the April MIC meeting included examining PJM's market mechanisms that would recover reactive rates as part of the key work activities. He also said the timing of the educational activities to be completed by August was amended as a "flexible" date and could last longer.

Bowring *reviewed* the Monitor's own *problem statement* and *issue charge* addressing the matter. Bowring said the key work activities between the two issue charges are "entirely consistent."

The Monitor's issue charge raised some additional level of detail in the key work activities, Bowring said, but there's nothing precluded from what's contained in Dominion's. He asked if Davis would object to incorporating the two issue charges into one document.

"I don't think there's any fundamental conflict between the two issue charges," Bowring said.

Davis asked about one of the key work activities in the Monitor's issue charge seeking to identify and clarify how to treat reactive capital costs and revenues in the capacity market. Davis said Dominion wouldn't want to open up discussion on any existing FERC-approved reactive schedule rates.

Bowring said he didn't see a reason to do so, so he was fine with that exclusion.

Davis said he would work with Bowring before the next meeting to merge the issue charges and bring it back for a vote at the June MIC meeting.

"I think we can merge the two so we have some greater detail that Joe's provides, as well as the higher-level, broad description in our issue charge," Davis said.

## Regulation Mileage Ratio

Michael Olaley, senior engineer with PJM's real-time market operations, *provided* a first read of a *problem statement* and *issue charge* addressing the regulation mileage ratio in a "quick fix" solution.

Regulation mileage is the measurement of the amount of movement requested by the regulation control signal that a resource is following. It's calculated for the duration of the operating hour for each regulation control signal.

PJM's performance-based regulation market splits the dispatch signal in two: RegA for slower-moving, longer-running units; and RegD for faster-responding units like batteries that operate for shorter periods. If a signal is "pegged" high or low for an entire operating hour, Olaley said, the corresponding mileage would be zero for that hour.

PJM has seen increased frequency of RegA signal pegging, Olaley said, and has noticed that there are times the RegA signal is pegged for extended periods. He said while it is not causing any reliability concerns, the pegging highlights a potential problem in the regulation mileage ratio calculation.

There's a potential for the RegA mileage to be zero for a given hour, Olaley said, indicating the signal has not moved for the entire hour and setting up a divide-by-zero error in the calculation of the mileage ratio.

PJM is proposing to set the floor RegA mileage at 0.1 instead of zero, Olaley said, which would allow for a "valid solution" for mileage ratio and still maintain market design objectives. He said there would be no impact to the regulation signal design, operations or regulation market clearing.

Bowring said PJM should consider setting a different rate for the RegA mileage, saying 0.1 makes the mileage ratio artificially high and "doesn't reflect reality." Bowring said the change could cause overpayments to RegD and that it would make more sense to floor the ratio rather than capping the RegA mileage because of the way regulation markets work.

He said he would provide the Monitor's perspective in a presentation at the next MIC meeting.

"We don't want to slow this down, but we don't think that PJM's solution is the best solution for a quick fix," Bowring said.

## Market Suspension Proposal

Stefan Starkov, senior engineer with PJM's day-ahead market operations, *provided* a first read of a proposal addressing market suspensions. The issue charge was originally endorsed at the September MIC meeting. (See "Market Suspension Guidance Endorsed," *PJM MIC Briefs: Sept. 2, 2020*.)

Starkov said that in the event of a market suspension for which market results and clearing prices cannot be determined, there are currently limited business rules regarding how to handle settlements and other PJM processes. Starkov said the limited existing business rules can create an increased risk to PJM and stakeholders.

Work to address market suspension rules was done by stakeholders over a six-month period. Starkov said the proposal represents a compromise that provides a clear definition for a market suspension along with the settlement impacts.

To define market suspension, the proposal calls for using the status quo for real-time markets, from Section 1.10.8(d) of the tariff: an "inability by dispatch to provide markets with economic (zonal) dispatch results where at least a total of seven five-minute intervals are missing within a market hour."

If less than seven intervals have no dispatch rates, Starkov said, then the hourly integrated value would be determined by the average of the remaining intervals for which there is data. That scenario would not be considered a market suspension hour.

Stakeholders will vote on the proposal at the June MIC meeting, and PJM will seek final endorsements at the July 28 Markets and Reliability Committee meeting and the Sep. 29 Members Committee meeting. ■

— Michael Yoder



# PJM News



## PJM Operating Committee Briefs

### Pipeline Impacts

PJM closely monitored the situation surrounding the cyberattack that shut down Colonial Pipeline last week, as stakeholders encouraged the RTO to spearhead discussions on improving cybersecurity among utilities, RTO officials said.

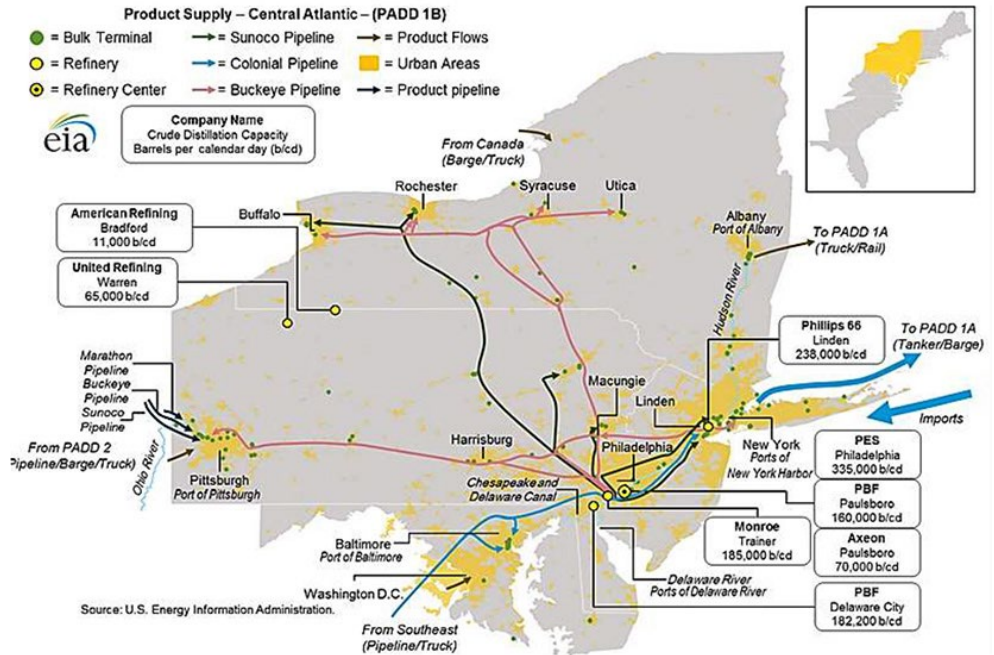
Paul McGlynn, PJM executive director of system operations, updated members on the pipeline closure impacts on the RTO during last week's Operating Committee meeting. McGlynn said PJM began an immediate assessment of potential impacts to fuel supplies to the generation fleet in the region upon hearing the news of the cyberattack on May 7.



Paul McGlynn, PJM | © RTO Insider LLC

PJM reached out to the interstate natural gas pipelines serving the RTO, and there were no impacts to their utilities from the shutdown of Colonial, McGlynn said. He said many natural gas pipeline operators moved to a heightened security posture in response to the cyberattack that took down the largest pipeline for refined oil products in the U.S.

McGlynn said PJM was fortunate that during this time of year it doesn't use many generating



Refining capacity and oil pipeline network in PJM | PJM

units that rely on the types of fuel carried by Colonial, including diesel and gasoline. PJM

learned of no issues after informally polling generation owners about actual or expected impacts from the outage, McGlynn said.

"The bottom line is there was really no impact on our operations due to the pipeline," McGlynn said.



Gary Greiner, PSEG | © RTO Insider LLC

Gary Greiner, director of market policy for Public Service Enterprise Group, said the pipeline issue "rekindled" his concern about examining the coordination between gas and electric utility operations. Greiner

wondered if the cyberattack would prompt PJM and FERC to prioritize better coordination among utilities and whether the incident "shines the light" on significant vulnerabilities that can lead to disruptions. (See *Experts Call for Cyber Shift in Response to Colonial Hack.*)

Greiner said conflicts between management styles and rules pertaining to electricity and gas have made it difficult to find common

UFLS Entity	PJM Under Frequency Load Shedding (Hz)																	
	59.5 Hz	59.3 Hz	59.1 Hz	59.0 Hz	58.9 Hz	58.7 Hz	58.5 Hz	Total	2020 Peak Forecast			59.5 Hz	59.1 Hz	59.0 Hz	58.9 Hz	58.7 Hz	58.5 Hz	Total
AE **	255	259					253	767	2,406				10.59%					10.76%
Vireland **	19	23					21	60	136				11.77%					16.52%
BGE *	681	684					653	1968	6,447				10.25%					10.14%
DPL *	305	305					352	937	2,797				10.90%					10.13%
ODEC -DPL *	89	81					86	255	730				12.22%					11.03%
DEMERC *	26	27					27	83	249				10.52%					11.03%
Easton **	7	7					9	29	53				13.19%					13.18%
Dover **	19	19					24	62	150				12.36%					12.63%
FE East -JC *	687	690					665	2042	5,842				11.75%					11.82%
FE East -ME *	318	341					342	1001	3,003				10.68%					11.36%
FE East -PH **	341	357					335	1033	2,849				11.97%					12.53%
PECO *	604	604					925	2742	8,415				10.80%					10.61%
PEPCO *	629	629					662	1840	5,376				11.69%					11.33%
SMCO **	73	76					77	226	733				10.00%					10.36%
PPL *	804	808					836	2448	7,069				11.37%					11.43%
UGI **	21	21					21	63	191				11.15%					10.68%
Public Service *	958	1021					984	3003	9,732				10.19%					10.43%
RECO *	47	46					49	145	395				11.81%					12.38%
Neptune*	66	66					66	198	660				10.00%					10.00%
HTP*	66	66					66	198	660				10.00%					10.00%
Com Ed *	2158			2110		2170	6438	20,603	62,478				10.47%	10.24%	10.53%			11.82%
Dominion **	1889						1875	5590	17,352				10.40%	10.43%				11.38%
NCEM **	132						129	393	1,158				11.35%					11.08%
ODEC -DVP *	139	120					130	388	1,026				13.46%					12.69%
NCEM -DVP *	30	31					27	88	276				10.96%					9.66%
FE South **	447	431	438			447	449		2212	8,077			5.53%	5.34%	5.42%			5.53%
ODEC -AP **	47	52	42			42	48		226	668			7.09%	8.47%	6.82%			6.95%
AEP **	1558	1559	1706			1812	1874		8459	21,345			7.10%	6.88%	7.71%			8.25%
Dayton **	174	174	174			174	167		863	3,236			5.39%	5.37%	5.38%			5.38%
Duquesne **	141	152	173			150	157		772	2,759			5.11%	5.49%	6.27%			5.44%
FE West **	637	634	629			646	658		3204	11,402			5.59%	5.56%	5.52%			5.66%
DEOK **	486	434	478			392	502	454	2746	5,280			9.20%	8.22%	9.05%			7.42%
CPH **	14	14				16	16		73	269			5.24%	5.26%	5.22%			5.55%
EKPC	97	101	92			82	135	90	596	2,004			4.82%	5.02%	4.57%			4.11%

Please include MW based on the 2020 Summer Peak Load Normal Forecast shown to the right. Items in grey do not apply to transmission zone.

\* Must have at least 10% per UFLS setting  
\*\* Must have at least 5% per UFLS setting

Legend
Calculation
User enterable field
Non enterable field
Header
Capacity less than required

Note:  
Control Zone Under Frequency Load Shed (UFLS) Settings as follow:  
Mid-Atlantic: 59.3, 58.9 and 58.5 Hz @ 10% increments  
Western Control Zone: 59.5, 59.3, 59.1, 58.9 and 58.7 Hz @ 5% increments  
ComEd: 59.3, 59.0 and 58.7 Hz @ 10% increments  
Dominion Zone: 59.3, 59.0 and 58.5 Hz @ 10% increments  
EKPC: 59.5, 59.3, 59.1, 58.9, 58.7 and 58.5 Hz @ 5% increments

As per PRC-006-SERC, PJM expects Transmission Owners and Distribution Providers within the SERC region that are identified in Manual 36 Attachment H to maintain a time delay (from frequency reaching the set point to the trip signal) of at least 6 cycles.

Updated under frequency load shed (UFLS) tables in Attachment H of PJM Manual 36. | PJM

# PJM News



ground and solve vulnerability issues.

“I think it’s time to overcome some of those issues and make some real progress,” Greiner said.

McGlynn said PJM shares Greiner’s concerns and that the incident should be a “wake-up call” for all stakeholders to make sure it doesn’t happen again. He said PJM has done a great deal of work to protect its systems from cyber-attacks.

“I suspect this has opened up the eyes of some people,” McGlynn said.

Carl Johnson of the PJM Public Power Coalition said stakeholders seemed to have been more focused on security issues before the onset of the COVID-19 pandemic. He said now is the time to restart discussions and provide updates on PJM’s cybersecurity efforts and start conversations among RTOs, ISOs, FERC and the gas industry to improve coordination.



Carl Johnson, PJM Public Power Coalition | © RTO Insider LLC

Johnson said the outcome could have been much worse for PJM if the cyberattack had been on a different pipeline and that some of the resources the RTO relies on are increasingly vulnerable to cyberattacks.

“If they hit some other pipeline, we would be having a way different set of conversations, or we wouldn’t be having conversations because we wouldn’t have electricity,” Johnson said. “These cyberattacks are becoming more and more real and are no longer theoretical.”



Paul Sotkiewicz, E-Cubed Policy Associates | © RTO Insider LLC

Paul Sotkiewicz of E-Cubed Policy Associates said while electrical utilities have “fairly strict” cybersecurity rules through FERC and NERC, pipeline operators have relatively lax cybersecurity rules. Sotkiewicz said the entire energy system, including power,

gas, oil and refined fuels, is “only as strong as its weakest link,” which was demonstrated by the Colonial Pipeline cyberattack and the extreme cold weather conditions experienced in ERCOT, MISO and SPP in February that led to system failures. (See *ERCOT was ‘Seconds and Minutes’ from Total Collapse.*)

New transmission ticket example in PJM eDART system. | PJM

“I think this is an initiative that PJM and the industry really need to push hard on in Washington to develop standards for the pipelines to bring them up to speed with where we’re at,” Sotkiewicz said.

## Manual 03 Changes Endorsed

Stakeholders endorsed changes to Manual 03: Transmission Operations after complaints last month that PJM didn’t have the updated language available for the first read. (See “Manual 03 First Read,” *PJM Operating Committee Briefs: April 8, 2021.*)

Lagy Mathew of PJM’s transmission operations reviewed the Manual 03 changes, which included minor additions such as updated email contact addresses and clarification language. Mathew said one of the most significant changes was the new Attachment G: Transmission Outage Ticket Best Practices, which created new guidelines for transmission owners to follow when creating and submitting transmission outage tickets.



Sharon Midgley, Exelon | © RTO Insider LLC

Sharon Midgley of Exelon thanked PJM staff for working on the updated language in Section 3.4.2 and 3.5.4 regarding the nuclear plant interface requirement (NPIR) language changes for eDART nuclear voltage limits. Midgley said she appreciated PJM’s “flexibility”

to give time for Exelon and other generation owners to establish internal processes to prepare for the changes.

The changes now go for a final vote at the May 26 Markets and Reliability Committee meeting.

## Manual 36 Changes Endorsed



Rich Brown, PJM | © RTO Insider LLC

Members unanimously endorsed changes to Manual 36: System Restoration as part of the periodic review. Rich Brown, manager of system operator training for PJM, reviewed the manual changes, which included the deletion of restoration plans

in eDART in Attachment F and an updated transmission owner list and due dates in Attachment G.

Brown said a note was also added to Attachment H, indicating that PJM’s under frequency load shed program doesn’t require “automatic switching of capacitor banks, transmission lines or reactors.” He said the note was requested by stakeholders in the Reliability Standards and Compliance Subcommittee to address NERC standard *PRC-006 R10*.

The changes will be voted on at the May 26 MRC meeting and implemented on June 15 if endorsed. ■

— Michael Yoder



## SPP News



# Colorado Springs Utilities to Join SPP's WEIS Market

By Tom Kleckner

SPP's Western real-time energy market has attracted another participant in Colorado Springs Utilities, which is also interested in full RTO membership.

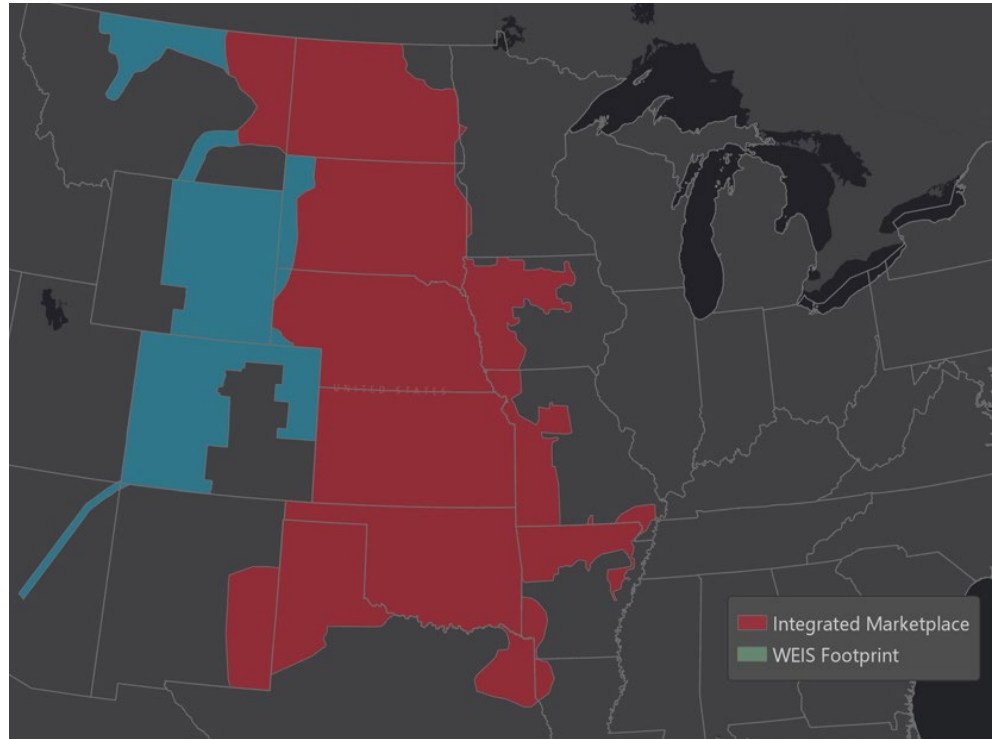
The grid operator announced Wednesday that CSU will join eight other entities already participating in the *Western Energy Imbalance Service* (WEIS) market in April 2022. The market went live in February and balances regional supply and demand in real-time. (See *WEIS Market 'First Step' to Full RTO Membership*.)

CSU *said* the market will save its customers money and help it meet its carbon reduction targets. The utility's board of directors last year approved a new sustainable energy plan to reduce carbon emissions by at least 80% by 2030 and 90% by 2050 through renewable energy additions and incorporating storage resources.

"Our current portfolio of solar complements SPP well," CSU CEO Aram Benyamin said in a *news release*, noting the WEIS market will help the utility better integrate new solar projects.

CSU will work with current WEIS market participant Western Area Power Administration as its balancing authority. SPP requires a participant to have a BA, responsible for operating a transmission control area, before it enters the market. The grid operator administers the market on a contract basis to nonmembers.

Along with all other WEIS participants, the



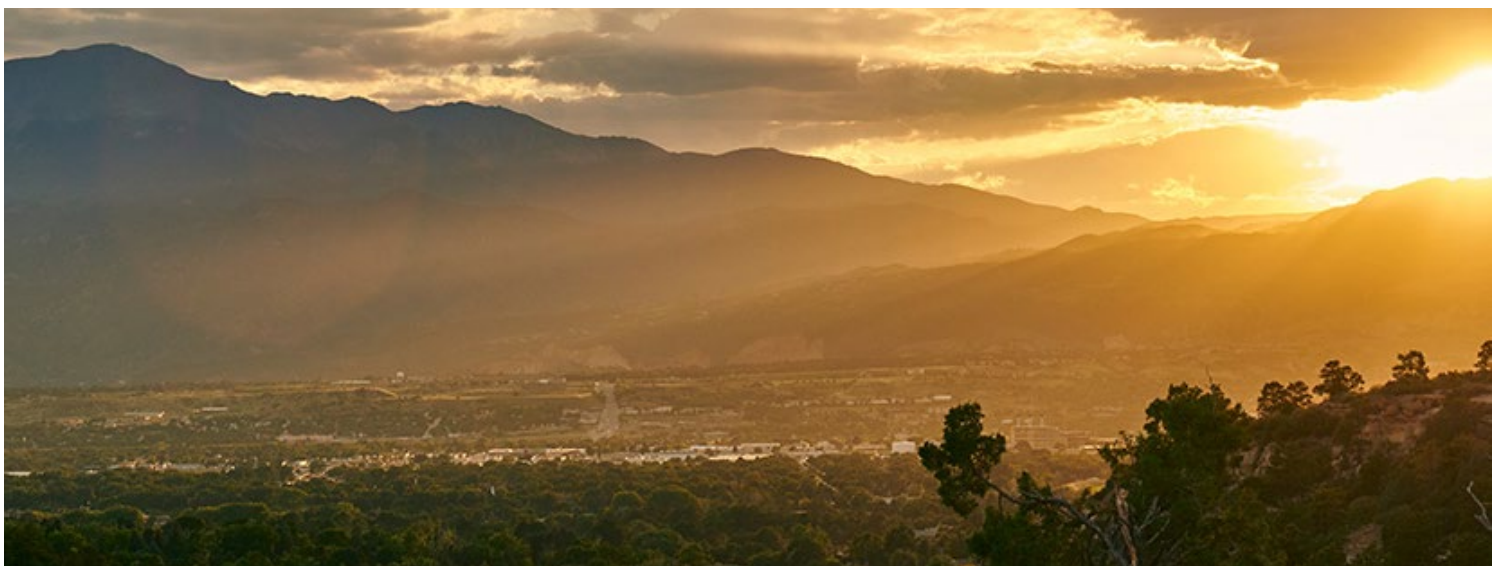
The WEIS market's current footprint (in blue) will soon expand with the addition of Colorado Springs Utilities. | SPP, Colorado Springs Utilities

Colorado utility will also evaluate RTO membership in a process expected to finish early next year. SPP said a recent Brattle Group study estimated that such a move would produce \$49 million in benefits for current and new WEIS members.

"We're confident they and their customers will

soon see the benefits of working together with SPP," SPP CEO Barbara Sugg said.

CSU serves 239,000 electricity customers and 213,000 natural gas customers in a footprint that straddles I-25 south of Denver. It also provides water and wastewater services. ■



SPP plans to add Colorado Springs Utilities, which lies south of Denver on I-25, to its WEIS market in 2022. | Colorado Springs Utilities

# SPP News

## SPP Briefs

### RTO Expects Normal Conditions, No Extreme Situations this Summer

SPP staff said last week that they expect normal conditions and no extreme operation situations within the RTO's balancing authority and reliability coordinator footprints this summer.

During a summer preparedness workshop Thursday, staff told stakeholders that their initial analysis indicates transmission constraints and mitigations will be "manageable" in maintaining reliability.

SPP has worked with MISO to ensure it has the latter's updates applied to its models. As part of their analysis, SPP staff have also taken high-wind cases into consideration. A final summer assessment will be posted later this month, they said.

The grid operator has asked market participants to refrain from taking outages during the latter half of August in what is expected to be some "pretty hot temperatures" for the region, according to a Little Rock, Ark., television meteorologist. KATV's James Bryant said while May showers will likely result in lower temperatures in June, "we probably make up that ground during July and August."

The SPP system has lost 535 MW of capacity to retirements so far this year, staff said. However, the system has added 211 MW of mostly wind energy and some dynamic demand response resources since 2021 began. More than 5 GW of resources are expected to be brought online before the year is up.

### M2M Settlements Return to 'Normal'

The market-to-market (M2M) process between SPP and MISO has returned to normal following February's winter storm, which resulted in a massive \$51.49 million settlement in MISO's favor for that month.

The neighboring RTOs began a seventh year of M2M activities in March with SPP, as it had done in four of the previous five months, exceeding \$10 million in accrued settlements from MISO. The \$17.09 million settlement total left SPP in the black at \$133.38 million, after peaking at \$168.11 million in January.

"There's nothing new here, really," SPP's Jack Williamson told the Seams Advisory Group on Thursday.

Temporary and permanent flowgates were binding for 1,581 hours during March after having bound for 1,639 hours in February.

Four flowgates piled up more than \$1 million in M2M settlements, as compared to nine during February. Congestion during the storm, when MISO and PJM exported power to SPP, resulted in increased shadow prices.

February's settlement more than doubled the previous record of \$22.87 million, set last November.

An SPP spokesperson confirmed that the winter storm created February's large volume of settlements but declined to provide further detail. SPP expects to release a final report on the event in July.

The grid operators exchange M2M settlements for redispatch based on the non-monitoring RTO's market flow in relation to firm flow entitlements. The settlements have been in SPP's favor 16 of the last 18 months and 55 times in 73 months since the process began in March 2014.

Williamson pointed out to the advisory group that it took about three years for settlements to reach the \$20 million mark.

"Now, we are seeing market-to-market settlements almost the same size every month," he said. "A lot of it was to do with just the amount of wind added to SPP [and MISO] over the years."

### MMU: WEIS Market Congestion 'Minimal'

SPP's Marketing Monitoring Unit has released its first report on the fledgling Western Energy Imbalance Service (WEIS) market, finding that congestion was minimal during its first two months of operation.

The [report](#) covers February and March 2021,

resulting in an outsized effect from the storm. Spot gas prices at some trading hubs in the WEIS market region exceeded \$275/MMBtu during the storm, leading to average prices of \$18.21/MMBtu at the Cheyenne hub during February. Although gas-fired resources only provide about 6% of the market's generation, real-time prices averaged \$92.87/MWh for February, the Monitor said.

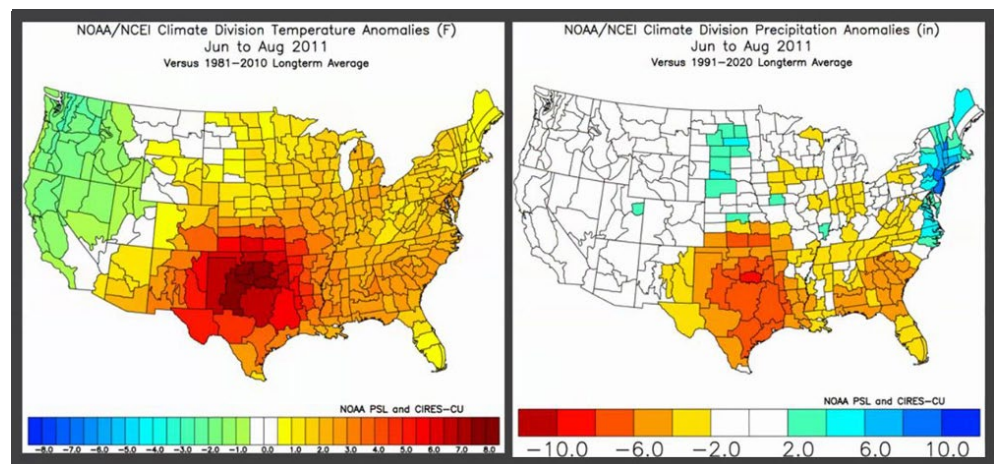
The WEIS market went live Feb. 1. Its price-based, centralized real-time market allows market participants to submit offers to sell and buy imbalance energy, settling the net supply or obligation for an asset owner. SPP performs supply adequacy analyses to assess each participant's scheduled operating capacity. (See [SPP Successfully Launches Western Market.](#))

The number of intervals in both balancing authorities that failed their analyses dropped significantly from February to March. Most of the failed intervals occurred during the late morning or evening when the obligation range was above available capacity range for brief periods, the MMU said, yielding a minimal overall financial impact.

The market's average load during its first two months was 2.5 GWh. Coal resources provided 65% of generation, hydro accounted for 21%, and wind followed at 7%.

The MMU said excessive penalties were allocated to resources carrying regulation megawatts for going outside their operating tolerance band without an exception, resulting in uninstructed resource deviations (URDs). It recommended the WEIS market design team review changes to exclude regulation megawatts when assessing URD charges. ■

— Tom Kleckner



The SPP footprint will see above-normal temperatures and some light drought conditions. | NOAA



## SPP News

# FERC Rejects Tri-State Exit Fee Proposal

FERC last week rejected Tri-State Generation and Transmission Association's proposed procedural requirements for members seeking to withdraw from the cooperative and cancel their wholesale electric service contracts (ER21-1449).

The commission found that Tri-State's proposal imposes "excessive and unjustified barriers" to members seeking information on whether to terminate their wholesale contracts with Tri-State. It said the cooperative did not justify a requirement allowing it to unilaterally prevent a membership termination after the member committed to make a contract termination payment (CTP), which Tri-State said would leave the remaining members "financially unaffected."

The May 14 order was issued without prejudice, giving the cooperative an opportunity to refile.

Tri-State filed its proposal in March, laying out requirements for the CTP's calculation fee,

the withdrawal notice period and the Board of Directors' approval criteria for a member's withdrawal request. Members seeking a CTP calculation would have to make an initial \$75,000 deposit, with any refunds of that balance and subsequent deposits made following deductions for costs and labor. Tri-State estimated that fee could yield a minimum cost of \$79,000, depending on the calculation's complexity, and would be capped at \$200,000.

FERC said Tri-State's proposed limit of three CTP calculations per year effectively prevents its members from obtaining the necessary information to assess their potential membership departure, saying the CTP requests represent "an unjustified limitation."

While four Tri-State members supported the filing, eight others filed protests. The commission said it shared protestors' concerns that the proposed CTP procedures "provide Tri-State with unfettered discretion on how long it will take to calculate the CTP."



FERC has rejected Tri-State's attempt to set requirements for a membership exit fee's calculation. | *Tri-State G&T*

FERC last year accepted Tri-State's CTP methodology for filing, but established hearing and settlement judge procedures that are still ongoing (ER20-1559). (See [FERC Sets Tri-State's Exit-fee Rules for Hearing.](#)) ■

— Tom Kleckner

## NetZero Insider

Your Eyes and Ears on Climate Policy and Adaptation  
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#### MIDWEST

*Minn. Halfway Through 20-year Quest for Net-Zero Buildings*

*Minnesota Budget Bill Held up over Emissions Ruling  
Enbridge Defies Order to Close Mich. Pipeline*

#### NORTHEAST

*Mass. Infrastructure Disputes Need Fast Track, Researcher*

#### SAYS

*New York Should Join TCI-P, Transportation Panel Says*

*How NY Brewers Can Build Upstream Sustainability*

*NY Climate Council Members Say Panel Recommendations Fall Short*

#### WEST

*Hawaii Sustainable Planning Reorg Bills Await Ige's Signature*

*Climate Impact on Renewables Could Mean Costlier Buildout*

*Inslee Vetoes Part of Wash. EV Mapping Bill*

*Vancouver Plant Will Convert Sewage to Biofuel*

*Oregon Study Charts Explosive Growth of EV Chargers*

## Company Briefs

### BP, Cemex to Partner on Decarbonizing Cement Industry



BP last week announced it is partnering with Cemex to reduce carbon emissions from the cement industry.

The companies signed a memorandum of understanding to develop solutions to decarbonize cement production and transportation. Potential solutions include using low-carbon power and transport, improving cement production's energy efficiency, and using carbon offsets and carbon capture to reduce greenhouse emissions.

More: [Houston Chronicle](#)

### Colonial Pipeline Paid Roughly \$5M in Ransom to Hackers

Colonial Pipeline paid extortionists roughly 75 Bitcoin (nearly \$5 million) to recover its stolen data, according to people briefed on the transaction.

Colonial Pipeline made the ransom payment to the hacking group DarkSide after it held up the company's business networks with ransomware last week. DarkSide is believed to operate from Eastern Europe, possibly Russia.

President Biden did not rule out the possibility of targeting the criminals with a retaliatory strike, saying that the United

States would pursue "a measure to disrupt their ability to operate."

More: [The New York Times](#)

### Hyundai to Invest in US to Build EVs

South Korea's Hyundai Motor Group last week said it plans to invest \$7.4 billion in the U.S. by 2025 to produce electric vehicles, upgrade production facilities and further its investment in smart mobility solutions.

The group did not provide an investment breakdown but said the spending would be primarily for Hyundai and Kia. Hyundai Motor will begin EV production at a U.S. facility in 2022, while affiliate Kia also plans to build EVs in the U.S. Hyundai has a factory in Alabama; Kia produces cars in Georgia.

More: [Reuters](#)

### Sempra Shareholders Vote Down Paris Climate Proposal



A proposal by a group of Sempra Energy stockholders calling for

the company to issue a report detailing how its assets and lobbying activities align with the Paris climate agreement was turned down at the company's annual shareholders meeting last week.

Sempra's board of directors recommended that shareholders vote against the proposal,

saying the company already provides sufficient information about sustainability, making the item "duplicative and unnecessary." The board pointed to its 95.7 score on the CPA-Zicklin Index that measures political disclosures and accountability.

Still, backers were encouraged by the 37% support the proposal received.

More: [The San Diego Union-Tribune](#)

### Tesla Stops Accepting Bitcoin as Car Payment



TESLA

Tesla CEO Elon Musk last week said the electric vehicle company has suspended accepting Bitcoin as payment for its cars due to concerns about the energy consumed by computers

crunching the calculations that underpin the currency.

Three months ago, Musk said the company would accept the cryptocurrency as payment for its cars, but now says he is "concerned about (the) rapidly increasing use of fossil fuels for Bitcoin mining and transactions, especially coal, which has the worst emissions of any fuel."

Musk also said Tesla will look at other cryptocurrencies that use a fraction of the energy consumed by Bitcoin.

More: [The New York Times](#)

## Federal Briefs

### 2020 Electric Coal Shipments the Lowest in 15 Years



Coal shipments to the U.S. electric sector dropped 22% from 2019 to 2020 to 428 million short tons, the lowest yearly total since the EIA began publishing the data in 2007.

Last year also marked the first time coal didn't rank among the top two resource types providing U.S. electricity.

However, the EIA expects coal consumption to increase in 2021, while production jumps 8% due to increasing natural gas prices.

More: [Canary Media](#)

### EPA Says US Has Entered Unprecedented Climate Territory



The EPA last week released a detailed report of the impact the Earth's warming had on parts of the United States during Trump's presidency.

The report noted the destruction of year-round permafrost in Alaska, the loss of winter ice on the Great Lakes, and a spike in summer heat waves in U.S. cities that signal climate change is intensifying. The assessment, which languished under the Trump administration for three years, marks the first time the agency has said such changes are being driven, at least in part, by human-

caused global warming.

In 2020, ocean heat reached its highest level in recorded history. The extent of Arctic sea ice was the second smallest on record dating to 1979. Wildfire and pollen seasons are starting earlier and lasting longer, while heat waves are occurring about three times more often than they did in the 1960s.

More: [The Washington Post](#)

### Glick Fills 2 Positions

FERC Chairman Richard Glick last week appointed Joel deJesus as an administrative law judge and Benjamin Williams as deputy director of the Office of External Affairs.

Joining FERC in 2017, DeJesus has a nearly 30-year career practicing energy law and



has served as a trial attorney within FERC's Office of Administrative Litigation.

Williams, who joined FERC in 2013, has served as senior director of operations and communications since November 2017.

More: [FERC](#), [FERC](#)

## Jordan Cove Pipeline Project on Pause

The development of the Jordan Cove LNG Energy Project was put on pause last week following the reversal of two of its dredging permits.

Donald Sullivan, the project's manager and associate general counsel, filed a letter with FERC citing a list of state permit denials that prevent the project from moving forward despite the commission's approval. The

letter also requested FERC withdraw its consultation requests with the U.S. Fish and Wildlife Service and National Marine Fisheries Service "to conserve the resources of the Commission and other operating agencies." The process will have to be restarted if the company decides to resume the project.

Earlier this month, the Land Use Board of Appeals reversed the project's permits to dredge in Coos Bay on the grounds that the company had not adequately justified why the coastal areas in question needed to be converted to vessel navigation zones.

More: [Herald and News](#)

## IEA: Renewable Power Growth to Plateau After Record Gains in 2020

Global renewable power capacity growth

is expected to slow this year after a record surge in 2020 as government support programs expire, according to analysis from the International Energy Association.

The IEA said developers will build nearly 270 GW of new green power capacity this year, down about 3% from 2020. Renewable generation capacity expanded by a record 45% last year.

One of the biggest changes will occur in China, as the country made up nearly half of the world's renewable power growth last year (137 GW). That will fall more than 20% this year after a government subsidy program expired at the end of last year.

More: [Bloomberg Green](#)

# State Briefs

## CALIFORNIA

### PG&E Fights Criminal Charges Over Kincade Fire



PG&E last week rejected criminal liability for its role in a 2019 Kincadee wildfire that burned 78,000 acres, arguing that a local prosecutor is twisting state law

to find the company culpable.

Sonoma County District Attorney Jill Ravitch last month charged the utility with 33 counts stemming from the fire. In a state court filing last week, PG&E said it has accepted regulators' conclusions that the fire was caused by its equipment but will contest the 25 counts that have never been applied to a wildfire. While state health and safety codes make it a crime to emit air contaminants, those laws govern pollution-generating industries, PG&E said in the filing. They don't apply to companies that may cause a wildfire and, as a byproduct, "cause contaminants to be emitted into the air from the property of third parties."

More: [Bloomberg](#)

## LOUISIANA

### Gov. Edwards Wants State to be Carbon Neutral

Gov. John Bel Edwards last week announced his plan to join the U.S. Climate Alliance. The decision follows last year's executive order

that set a goal for the state to be carbon neutral by 2050.

Edwards made the announcement at the inaugural meeting of his Climate Initiatives Task Force, which will explore the potential for electric cars, mass transit, solar power and offshore wind turbines in the Gulf of Mexico.

Louisiana's economy has long relied on the production of oil, gas and petrochemicals and is the fifth-largest carbon-producing state.

More: [NPR](#)

## MICHIGAN

### Gov. Whitmer Announces Grants for 88 EV Charging Sites



Gov. Gretchen Whitmer last week announced a \$1.8 million project that will add 88 fast charging outlets at 32 locations across the state. The project was approved as part of the Department of Environment, Great Lakes and Energy's "Charge Up" grants.

The grants are funded through the state's allocation from the Volkswagen diesel settlement.

Many of the charging stations are expected to be operational by the end of the year, while the goal is to complete the statewide

charging network by 2030.

More: [WILX](#)

### Macon Township Grants Permit for Solar Facility

The Macon Township Board last week voted 3-2 in favor of granting a special land-use permit to Invenergy for the construction of the 150-MW Mustang Mile Solar Energy facility.

The area of land that would be occupied by the solar panels would be 350 acres.

The installed capital cost of the project is approximately \$261.4 million, while the total lifetime cost is \$516 million with an expected lifespan of 25 years.

More: [The Daily Telegraph](#)

## MONTANA

### Gov. Gianforte Signs Bill Ending Public Vote on Nuclear Power



Gov. Greg Gianforte has signed House Bill 273, which pulls the plug on a 43-year-old referendum that left decisions on the construction of new nuclear power plants to a public vote. The bill transfers those decisions

to the legislature.

Rep. Derek Skees (R), the bill's sponsor, said the legislation still leaves the decision in the

hands of the Montana citizenry, but through elected officials. He said lawmakers could have more deliberative discussions. Opponents said it was overreaching and went against the will of the people. However, it passed the House (68-32) and the Senate (30-20).

More: *Independent Record*

## NORTH CAROLINA

### UC Approves Duke Energy Solar Project



The Utilities Commission last week approved Duke Energy's plan to build a 5-MW solar project on a closed landfill in Buncombe County.

Duke will own and operate the solar power plant, which is scheduled to go live by the end of the year.

More: *Renewables Now*

## NORTH DAKOTA

### Gov. Burgum Calls for State to be Carbon Neutral by 2030



Gov. Doug Burgum last week said he would like the state to be carbon neutral by 2030 while retaining the core position of its fossil fuel industries.

Burgum, who was speaking at the Williston Basin

Petroleum Conference, said the state can meet its goals by capitalizing on emerging carbon storage technology to reduce or offset its climate footprint.

North Dakota produces 56 million metric tons of carbon annually (1% of the national share), according to a 2019 estimate by the EIA. Burgum said the state has the capacity

to store up to 250 billion tons in the ground, a calculation provided by the University of North Dakota's Energy and Environmental Research Center.

More: *Grand Forks Herald*

## TEXAS

### Legislature Approves Bill Banning Residential Wholesale Electricity Plans

House and Senate lawmakers last week approved a bill that will not allow residential or small-business customers to sign up for electricity plans in which wholesale prices for power are passed to customers. The bill is in response to February's widespread power outages that caused power bills to skyrocket.

Of the roughly 10 million state residential electricity customers, around 30,000 are on wholesale energy plans, experts estimate.

The Public Utility Commission raised the wholesale market price of electricity to \$9,000 per MWh for days during the height of the winter storm to entice power generators to produce more electricity. The price hike is a feature of the Texas electricity market's emergency protocol, carried out by ERCOT. The average price for power in 2020 was \$22 per MWh.

More: *Texas Tribune*

## VIRGINIA

### Natural Gas Plant in Doubt with Expiration of Certificate

The future of the proposed C4GT natural gas plant in Charles City County looks uncertain as the expiration date for the certificate of public necessity and convenience passed on May 3 without significant construction.

Under the terms of the certificate granted by the State Corporation Commission in

2019, state approval for the project was set to expire in early May "if C4GT has not commenced construction of the facility by such date." Activity at the site has been limited to the building of a short gravel road, the installation of silt fences and the pouring of concrete for a pump house on Dec. 3, which was the date the project's air permit from the Department of Environmental Quality was set to expire. The DEQ determined that work met the criteria for the beginning of construction, and the air permit remained in place.

Commission Spokesperson Ken Schrad said the commission had not received any correspondence from C4GT about the project's certificate. Local government officials have taken steps to retake control of the land.

More: *Virginia Mercury*

## WISCONSIN

### PSC Approves Xcel Microgrid Pilot

The Public Service Commission last week voted unanimously to authorize Xcel Energy's "resiliency as service" pilot program, allowing the utility to install microgrids on the customer side of the meter.

Under the pilot, Xcel can install microgrids for large industrial customers that need added reliability, and customers would pay off the projects over 10 years. There would be no cost to non-participating customers. The cities of La Crosse and Eau Claire have signaled support for the program and say they hope to use microgrids at their wastewater treatment plants and other public facilities.

Microgrids were one of the technologies identified in a report last year detailing ways the state could spur economic growth while modernizing the grid. They were also included in recommendations from Gov. Tony Evers' Task Force on Climate Change.

More: *Wisconsin State Journal*

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