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NARUC Summer Policy Summit

Westerners Get Tips on Being ‘Little Bitty Cog’ in an RTO World

By Robert Mullin

SAN DIEGO — Officials in Western states looking to join an RTO should know a key thing about organized markets, according to those familiar with them: They will require a lot of time and resources from your regulators and consumer advocates.

“There are times when I think I’m a little bitty cog in a big RTO world, and that the RTO is my full-time job and the other state regulatory stuff is what I end up with when I’m not busy with RTO stuff,” Arkansas Public Service Commission Chair Ted Thomas said July 19 at the National Association of Regulatory Utility Commissioners (NARUC) Summer Policy Summit.

Thomas was speaking on a panel to provide Western regulators and advocates with insights on how to position themselves to participate in any organized electricity markets that take root in the region.

As a regulator experienced with both SPP and MISO, Thomas said he’s confident in his agency’s ability to help shape market policy.

“What I worry about is someone who’s newer, that doesn’t have the background, and then they show up and they can get [run] over by a big snowball — not even realizing what hit them, and there’s nobody there to help them help themselves,” he said.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, advised Westerners of the benefits of state consumer advocates and utility commissions being aligned on their positions on RTO affairs.



Greg Poulos, CAPS | © RTO Insider LLC

“For me that’s very helpful because I do talk to state commissions, their advisers or staff a lot, and it’s a great working relationship. I’m able to provide some of their opinions in the stakeholder process along with ours, and they have a lot more influence than we do,” Poulos said.

Poulos said RTO/ISO market monitors can be a valuable source of information because electricity customers and their advocates usually have less information than other stakeholders because they don’t directly participate in or regulate the markets.



From left: Kentucky PSC Chair Kent Chandler; Arkansas PSC Chair Ted Thomas; CAPS Executive Director Greg Poulos; Amanda Bradshaw, FERC; and John Moore, NRDC | © RTO Insider LLC

Although PJM’s territory includes 65 million residential customers, those ratepayers represent just 1.4% of the votes “at the lower levels” of the RTO’s consensus-based stakeholder process, and have little visibility into the transmission planning process, Poulos said.

“There’s public power, there’s industrial customers, but for us as customers — those who pay the bills — we have very little influence,” he said.

Amanda Bradshaw, energy markets adviser with FERC’s Office of Public Participation (OPP), said there are many groups “that are recognizing that RTOs have an increasing impact on everyday people [and] on broader energy policy questions that people care about.

“But they might not necessarily understand or have full information about FERC processes, or about the market underpinnings of those policy goals that they care about,” she said.

Established in 2021, the OPP “is trying to understand how we can reach out to the public and bridge a lot of information gaps,” Bradshaw said. The office also seeks to increase understanding of RTO processes and help public interest groups figure out how get involved in those processes from the beginning.

“How do you actually participate in those processes if you don’t understand how those things work? How do you allocate staff resources to attend those meetings, especially when it’s necessary sometimes to attend in

person?” she asked.

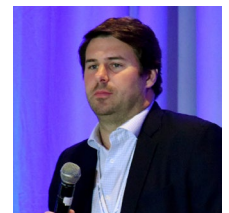
“Typical citizens don’t have expertise; they have passion,” Thomas said. “They might have environmental passion. ... They might just want the lights to come on [and say], ‘Leave me alone.’ But for that person to have input ... you need expertise. But having expertise doesn’t do any good if you don’t have access to the information, and to me, that’s a big part of that problem.”

‘Complex Subject Matter’

Panel moderator Kent Chandler, chair of the Kentucky Public Service Commission, asked panelists whether they have enough resources to have a “meaningful impact” on RTO processes. Each answered with a resounding “no.” He followed up with a question about what barriers must be removed to encourage participation by those outside the industry.

“I think you start with inclusiveness: barriers to entry around cost, membership fees, differing eligibility requirements for membership in the RTOs,” said John Moore, director of the Natural Resources Defense Council’s Sustainable FERC Project.

Moore said his organization recently joined



Kentucky PSC Chair Kent Chandler | © RTO Insider LLC

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SPP for the \$6,000 membership fee after FERC eliminated the RTO's \$50,000 deposit fee and \$100,000 exit fee for all members. In PJM, he noted, the Sustainable FERC Project cannot become a full member and — along with the states — is barred from attending Liaison Committee meetings with the Board of Managers. Moore also pointed to the restrictions the press faces in covering NEPOOL, something that “FERC said is okay, more or less.” NEPOOL meetings are closed to the public; although *RTO Insider's* ISO-NE correspondent attends meetings as an end-use customer, NEPOOL rules bar quoting from members' discussions. (See [FERC Rejects RTO Insider Bid to Open NEPOOL](#).)

“Another set of huge issues is around data access and overall understandability of the issues,” he said. “There's a lot of chicken-and-egg issues going on here. The reason a lot of non-traditional groups and entities don't show up at the RTOs is that it's just very complex subject matter.”

Moore said working groups at WECC and other organizations in the West make the region's electricity data more accessible. “My experience has been lots of times — and somebody in the West can correct me — it's actually easier to get a lot of the data we need to input in our models than it's been in the East; and a lot of different standards are applied in different RTOs.”

FERC's Bradshaw said groups lacking expertise in energy regulation tell the OPP, “We're just having a really difficult time crafting these proceedings that we need to be involved in, and that would be relevant to us,” Bradshaw said. “I think it's even difficult when you do have those resources, when you're able to hire an attorney or contract a law firm to track

those things for you.”

“The real resource issue for the states is state staff and state time.” Thomas said.

Balancing Act

Thomas believes the U.S. grid has become more robust since the catastrophic blackout that brought down the Northeast grid in 2003, in part because of new investments and the “balance” that comes with having states certify utility transmission plans after being included in the negotiation process.

“I think one of the most important things that comes out of this is that balance — the balance of states and your roles as commissioners and your ability to maintain that balance,” Poulos said.

But Poulos sees a lack of balance in PJM's current transmission process. While he lauded the RTO for fostering wholesale competition in power generation, he criticized it for a corresponding lack of competition and transparency in transmission planning.

“We don't really know what PJM's role as a planner is in a lot of cases because since 2012, or [FERC] Order 1000, there's been a lot of push towards competition, but what happened is a transmission owners said we're gonna push everything away from those types of projects,” he said.

As a result, Poulos said, the majority of the RTO's transmission projects are “supplemental” ones that waive competition.

Poulos thinks there's an open question about the roles of PJM, the transmission owners and the states in the “vast majority” of the RTO's transmission planning.

“One of the deepest frustrations we have is that lack of ability to be involved in that process,” he said.

Moore said there's now an “implicit connection” between transmission planning and resource adequacy.

“And I think this is something that states and FERC are grappling with, obviously through the [transmission Notice of Proposed Rulemaking] and through the dialogue that has happened with FERC and the state commissions, and the increasing realization with our transforming grid mix that there are going to be more out-of-state resources that have to be relied on to help meet reliability and state resource adequacy needs,” Moore said. (See [States Back Interregional Transfer Requirement](#).)

Poulos wrapped up his comments by advising Western state officials on what they should consider as they contemplate joining an RTO.

“I would say the one thing is, if anything goes wrong in the system in your state, as a commissioner you are the ones who are going to be accountable, so you need to have that ability to have a say in what goes on,” he said.

State officials also need to immediately establish transparency in the RTO and guarantee their representation, preferably with a reserved seat on the board of directors, he said.

Moore said states need to ensure that RTOs make efforts to include different groups in their processes.

“And even if they're not full-time stakeholders, these groups and communities need to understand what the RTO is doing is actually affecting them, so they can in some way start to influence that process. So don't forget about equity in this process,” he said. ■



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'Clean Molecules' Critical to Decarbonization, NARUC Panelists Say

By Robert Mullin

SAN DIEGO — The effort to limit global warming to 1.5 degrees Celsius will require a nearly half-and-half energy mix of renewable electricity and “clean molecules” such as hydrogen, according to Yuri Freedman, senior director of business development at Southern California Gas.

Drawing on research by BloombergNEF, Freedman spoke last week on a “Transforming the Gas System with Hydrogen” panel at the National Association of Regulatory Utility Commissioners’ Summer Policy Summit. Notably, the panel lacked any skeptics about a big role for natural gas companies — or hydrogen — in the decarbonization of the U.S. energy system.

“Molecules are as critical” as electrons in getting to a zero-emissions world, Freedman said.

“Today, we consume 80% of our energy as molecules, so 80/20 is the makeup today,” he said. “One implication of that: Think about what needs to happen if the share of electricity is going to go from 20% to 50%” — an increase of 250%.

“But the molecules we’ll need tomorrow are different [from those used today], so you actually need to find a way to phase out the molecules that produce carbon emissions and introduce at scale those molecules by 2050 that are going to have no emissions,” Freedman said.

Compared with other potential substitutes for natural gas (such as biomethane), hydrogen has the greatest potential to be adopted at scale in the next few years and can do most of what natural gas does today, Freedman said, including being used to power fuel cell electric vehicles.

“When I hear the debate, ‘Should it be battery or fuel cell’ ... well fuel cell [vehicles] are electric vehicles. In fact, they often can be assembled at the same factory as the battery electric vehicles,” Freedman said.

SoCalGas foresees hydrogen being used in three different sectors in Southern California.

The first is power generation, based on plans by the Los Angeles Department of Water and Power to convert a number of its generation stations to a blend of natural gas and green hydrogen, followed by a full conversion to hydrogen to meet California’s emissions targets.



From left: Robert Hayden, Massachusetts Department of Public Utilities; Yuri Freedman, Southern California Gas; Jeff Reed, University of California, Irvine; and Upendra Chivukula, New Jersey BPU | © RTO Insider LLC

The second is transportation, with Freedman noting that about 20,000 trucks haul goods between the ports of Long Beach and Los Angeles.

“These trucks go through neighborhoods which are often low-income neighborhoods, so [it’s] not just the greenhouse gas emissions, but the air quality impact is very heavy. And we can be a significant director of environmental and social justice with the replacement of these diesel trucks with fuel cells,” Freedman said.

The third sector is manufacturing. “Los Angeles happens to be the largest manufacturing area in the country. That’s not typically what L.A. is associated with, but that’s the reality,” he said.

'Not an Aspiration'

Panelist Jeff Reed is chief scientist for renewable fuels and energy storage at the Advanced Power and Energy Program at University of California, Irvine. He also previously worked at SoCalGas parent company Sempra Energy.

“From 2010 until I left Sempra in 2018, I was focusing on the leading edge of what Yuri is talking about: How do you decarbonize a gas utility? And in the state of California, that’s

not an aspiration; that’s statute; that’s law; we must do that. So it’s really increased our efforts in this area,” Reed said.

Reed’s work initially focused on replacing natural gas with biomethane, which he called a “very important resource for the leading edge of the decarbonization process.”

But the evolving science around producing hydrogen means that fuel can potentially be produced at the price and quantities needed to replace fossil fuels, he said.

Around \$6/kg — or \$40/MMBtu — electrolytic hydrogen produced from renewables (green) is still expensive compared with hydrogen produced by the steam methane reformation (blue), which requires the resulting carbon emissions to be captured in order to be considered emissions-free.

But technological advancements also mean that green hydrogen “really does have the potential to have a rather steep cost-reduction curve, similar to what we’ve seen with wind and solar energy.”

Reed thinks the U.S. Department of Energy’s “Earthshot” goal of achieving \$1/kg green hydrogen is a “stretch, but not impossible.”

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“Once you get to a certain cost point, you can envision using hydrogen or renewable methane, for everything we currently use natural gas for. If we’re using hydrogen, we can also add a substantial additional demand for mobility and transport, which isn’t currently served by the natural gas system,” Reed said.

He noted that California policy currently assumes electric air-source heat pumps are the most efficient way to heat buildings.

“If we get near these Earthshot goals, that’s actually not the case. You can provide heating in the same way we do with natural gas, and be very cost-competitive,” he said.

Question of Cost

New Jersey Board of Public Utilities Commissioner Upendra Chivukula said his state is excited to be part of an effort to win part of \$8 billion in DOE funding to become a national hydrogen hub, in partnership with New York, Connecticut and Massachusetts. (See [DOE Hydrogen HUB Funding Program Announced](#).)

“The [New Jersey] legislature and governor are excited about hydrogen, and, of course, utilities have reached out to the commission, and they already started blending hydrogen into natural gas,” Chivukula said. “But the question is the cost, I think. Who’s going to pay for the cost?”

“We look at hydrogen as promising, but it is going to take some time. The costs have to come down, and some of the technological advancements have to take place,” he said. “So we are looking forward to more on hydrogen, because



Tricia Pridemore, Georgia Public Service Commission
| © RTO Insider LLC

I don’t know whether we’ll be able to get 100% clean energy with electrification alone.”

“What would allow those costs to come down,” Massachusetts Department of Public Utilities Commissioner Robert Hayden, co-moderator of the discussion, asked panelists.

Reed responded that natural gas-derived hydrogen can already be produced fairly cheaply at less than \$2/kg, but it requires pipelines for the transportation and sequestration of carbon emissions. Regarding green hydrogen, he reiterated his comparison to solar development, where a high “demonstrated learning rate” has significantly reduced costs in the past decade. “So what we need is production volumes and global expansion in the market,” he said.

For Freedman, cost reductions will come down to building pipelines dedicated to transporting hydrogen.

“The majority of that cost is not production; the vast majority comes from the fact that they have to put it in a truck and haul it in cylinders, and that’s not cheap. So a pipeline is an absolute must to that low cost of hydrogen,” Freedman said.

Speaking from the audience, North Carolina Utilities Commissioner Floyd McKissick Jr. asked about the impact of DOE’s hydrogen hubs once they become operational.

“You can view these as a very exciting opportunity for us to catch up and maybe surpass where we think Europe is,” Freedman said.

Freedman envisions hub developments playing out “region by region,” given that some will be producing hydrogen from natural gas, while others will rely on renewables or nuclear power to generate hydrogen from water. But he does foresee the hubs becoming clusters of decarbonized industrial activity to overcome the issue of supplying hydrogen to multiple sectors.

The panel’s other moderator, Georgia Public Service Commissioner Tricia Pridemore, asked whether the “hydrogen rainbow” — using colors to refer to how the gas is produced — is still relevant.

“Within the trade groups that I work with, we really think we should be talking about carbon intensity, as our objective to a large extent is just to reduce carbon content in the gas system,” Reed said. ■

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NARUC Panel Explores 'Future Proofing' EV Infrastructure

By Robert Mullin

SAN DIEGO — Utility regulators are confronting myriad challenges in dealing with the growing need for electric vehicle chargers, including a quickening pace of obsolescence, a lack of uniform standards among charging stations, and lingering questions about who should deploy and pay for equipment.

And any meaningful response to those challenges will likely fall to the states, according to Phil Jones, executive director of the Alliance for Transportation Electrification (ATE) and a former member of the Washington Utilities and Transportation Commission.

"It appears to be a decision of the federal government not to do anything on climate and perhaps not even renew the EV tax credits," Jones said during a July 18 panel on "future proofing" EV charging technology at the National Association of Regulatory Utility Commissioners' Summer Policy Summit. "The issues are going to be squarely in your laps in the states. That's my prediction over the next three to four years, at least."

Following is some of what we heard during the panel.

Future Proofing Explained

Panel moderator Jamie Barber, director of the energy efficiency and renewable energy unit at the Georgia Public Service Commission, opened the discussion by pointing to a key problem utility commissions face in future proofing utility EV infrastructure investments.

"The regulatory process is often so long that by the time the commission approves a program or plan, the technology may already be out-of-date. So the question is, how should the commission plan for these short-lived assets?" Barber said.

"What does future proofing actually really mean?" said Marie Steele, vice president of electrification and energy services at NV Energy. "When I think about it from a utility perspective, it's very easy for us when we think about how to operate the greatest critical infrastructure that has reliability metrics around it. We focus on standardization; we focus on interoperability; we focus on reliability — also with that center of the customer experience. And grid integration is layered on top of it."

NV Energy is allowed to own EV charging stations in Nevada, Steele noted, giving custom-



Marie Steele, NV Energy (left); and Jamie Barber, Georgia PSC | © RTO Insider LLC

ers a choice of who can operate their sites: the utility, third-party providers or the customers themselves.

The utility previously took a "top-down" approach to encouraging development of charging sites by providing incentives. "Just do the best you can with moving the market" was really how we designed our programs," Steele said.

But with the approval last year of its \$100 million Economic Recovery Transportation Electrification Plan, NV Energy is now taking a more "bottom-up" approach to developing charging sites, according to Steele. The plan is expected to produce 1,882 chargers at 120 sites across the state. (See [NV Energy Gets Green Light for \\$100 MW EV Charger Plan.](#))

Under the new approach, NV Energy starts by developing site profiles with an eye to standardizing the charging network within utility's entire service territory while determining cost estimates for each site "irrespective of ownership model."

"So we want to have the standardization there and know what the project is going to cost," Steele said. "And then when we get to interoperability, which is also still reliability and standardization, we have another long list

of requirements for infrastructure that will be incentivized or owned by NV Energy."

Those include minimum power levels, secure communications protocols and customer payment requirements.

"All of this so as to make sure that we can connect it into the grid, right? So that it benefits not just that individual EV driver or businesses that host EV charging stations. We can also optimize grid integration. That's to the benefit of everybody," she said.

'Anchoring' with Fleets

"We have a lot of clean energy assets, and one of the core principles we are trying to bring to this industry is the lessons learned from the solar and wind industry and apply those lessons to the scalability of [EV] infrastructure," said Suresh Jayanthi, a senior director of sales and business development in the mobility solutions division at NextEra Energy Resources.

For NextEra, that includes a technology-agnostic approach to the design and construction of EV charging sites and bringing finance and operations groups together to provide charging energy as a service to customers.

"This similar perspective for infrastructure will be critical as we look at all the variables

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that we just heard, figuring out the design [and] permit considerations, [and] bringing those into a platform that gives us predictable deliverables in terms of the time it takes to get through the interconnection and all the issues associated with that,” Jayanthi said.

Jayanthi, who currently focuses on developing charging solutions for medium- and heavy-duty vehicle fleets, said it’s important for the power industry to remember that fleet operators want to focus on what they do best, such as delivering packages on time.

“They’re not out to become infrastructure experts. They’re not trying to figure out how to build charging stations and figure out how to manage energy cases. We are trying to remove some of those bottlenecks, so as they look at electrification, their focus is on using the infrastructure as an enabler rather than a bottleneck. And that’s been our focus,” he said.

NextEra believes that its experience in developing fleet charging can provide lessons for a broader charging strategy.

“While consumer vehicle infrastructure is a critical enabler for the broad-based adoption of electric vehicles, fleets can provide a unique anchoring point around which we can look

at infrastructure scaling, and it could have a multiplier effect,” Jayanthi said.

‘Right-sizing’ vs. Future Proofing

ATE’s Jones recounted a recent conversation with his daughter, who works as a legislative analyst in Washington’s capital, specializing in broadband policy.

“When I told my daughter I was going to be speaking about future proofing in San Diego ... she says, ‘Dad, there’s no such thing as future proofing. How can you proof the future? There’s always going to be uncertainty,’” Jones said.

“I prefer the term ‘right-sizing for the future,’ or something like that. So what you’re trying to do is right-size the conduit, the pipes, the asphalt, concrete, transformers [and] switchgear,” he said. “You’re trying to get the right set of equipment in that first phase that can scale without the risk of stranded assets.”

Jones offered a list of recommendations for state regulators, including:

- creating a transportation electrification (TE) plan;
- finding a way to bring stakeholders (such

as truckers) into the process so they can describe where their industries are going;

- encouraging utilities to have a single point of contact on TE issues;
- developing an interconnection review process for TE projects;
- offering incentives and rebates, which should be revisited often;
- encouraging utilities to frequently change their approved product lists to accommodate new companies coming into the EV space; and
- looking around for best practices from across the country.

And with the longer curve of adoption for EVs, Jones also encouraged commissioners to consider allowing utilities to employ multiyear rate plans to recover costs from EV equipment.

“I know that consumer advocates and [the National Association of State Utility Consumer Advocates] and others may not be fans of this, but in order to bring the right-sizing of this technology and do least-cost planning for the long term, you may need to do that,” Jones said. ■

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Could the US See a ‘Nuclear Renaissance’?

By Hudson Sangree

SAN DIEGO — Nuclear proponents pitched their plans for smaller and more innovative reactors at the National Association of Regulatory Utility Commissioners’ (NARUC) Summer Policy Summit on Wednesday, saying nuclear power is needed to provide a dependable source of carbon-free energy as coal plants retire, and wind and solar resources proliferate.

Chris Levesque, CEO of TerraPower — a company founded by Bill Gates — described the firm’s plans to develop a sodium-cooled reactor, paired with molten salt energy storage, near a PacifiCorp coal plant in southwest Wyoming slated to close in 2025. (See [Wyoming Welcomes DOE-funded Advanced Nuclear Plant.](#))

In coming decades, “we’re going to retire all

that 24/7 coal, and we’re going to add all this low-cost wind and solar, which is great, but it is intermittent” based on weather, Levesque said. “So, it’s really calling for nuclear, which we all believe ... should be 20 to 30% of the carbon-free grid.”

In addition to the reactor’s baseload power, molten salt storage can ramp up quickly to meet peak demand, he said.

Levesque was one of four panelists in a session titled “Are We Ready for a Nuclear Reactor Renaissance?” and moderated by NARUC President Judith Jagdmann, a member of Virginia’s State Corporation Commission.

Jacob DeWitte — CEO and co-founder of Oklo Inc., a Silicon Valley startup aiming to build liquid-metal microreactors — said the company

had secured a site license and fuel allocation from the Department of Energy to build its first compact fast reactor at the Idaho National Laboratory near Idaho Falls.

However, the Nuclear Regulatory Commission *denied* Oklo’s application in January, citing insufficient information. DeWitte said the company is continuing to press its case with the commission.

The compact modular units Oklo envisions could run for 20 years without refueling, DeWitte said, and would be housed inside buildings that look like futuristic ski chalets. Industry and rural communities could one day be Oklo’s customers, he said.

“You have this kind of decentralized, dispatchable clean asset that all of a sudden,



From left: attorney Jeffrey Merrifield; NEI CEO Maria Korsnick; Oklo CEO Jacob DeWitte; and TerraPower CEO Chris Levesque | © RTO Insider LLC

NARUC Summer Policy Summit

a lot of people in the industrial [and] commercial markets are pretty interested in for behind-the-meter generation,” he said. “You see a lot of appetite in different electric utility markets, ranging from the rural and the off-grid kind of co-ops and municipal utilities, to the larger-scale utilities, especially when you think about a system like this and what it can do for alleviating transmission stresses across a large grid like you have in the Western United States.”

Nuclear Energy Institute CEO Maria Korsnick called nuclear, currently the largest source of carbon-free energy in the U.S., critical to decarbonizing the grid.

“Our current reactors provide unmatched resiliency, which is the necessary foundation for a stable and affordable electric grid,” Korsnick said. “But that alone won’t be enough. In order for our communities and our economy to rise to these growing challenges, we must prepare our supply chain to build new, advanced reactor designs in the coming years.”

Reactors under development are “simpler and more adaptable to a variety of energy needs,” she said. “They will open new possibilities

for carbon-free energy service at any scale, from the world’s largest cities to remote rural communities. And they can free communities from diesel and fossil fuels and require far less investment in transmission and distribution than other carbon-free resources.”

Pennsylvania Public Utility Commission Chair Gladys Brown Dutrieuille said that may be true, but she asked how nuclear advocates planned to convince a wary public to accept more nuclear plants and the risk of catastrophic accidents. She grew up in Middletown, Pa., the closest community to the Three Mile Island nuclear generating station, which partially melted down in March 1979.

“In the course of the conversation and talking about this advanced technology, how do you sell it to the consumer who may be concerned about building more nuclear even though they also see the value of nuclear?” she said.

Korsnick said “nuclear favorability” in the U.S. is about 60%, and a recent survey among those who live near nuclear plants showed nearly 80% favorability, she said. The assumption that nuclear is widely despised is a result of decades of successful campaigns by anti-

nuclear groups, she said.

Earlier in the session, Jeffrey Merrifield — a former member of the NRC and partner at law firm Pillsbury Winthrop Shaw Pittman in D.C. — asked for a show of hands from attendees who had slept a mile from a nuclear reactor. A spattering of audience members raised their hands.

Merrifield said everyone should have raised their hands because a nuclear aircraft carrier was docked in San Diego Bay, just across a narrow stretch of water from the hotel where the conference was being held. The supercarrier USS *Carl Vinson*’s twin “200-MW nuclear reactors ... are 40 years old and speed millions of miles around the earth,” he said.

Assembled in factories, the compact units are among “100 reactors owned and operated by the U.S. Navy, modular reactors that power our nation’s 10 nuclear aircraft carriers and a multiplicity of subs,” Merrifield said. The units have “an incredible track record, and what we’re trying to talk about today with these developers is using that same methodology to bring these technologies to the American people.” ■



A rendering shows the exterior of Oklo's proposed microreactor at the Idaho National Laboratory. | Oklo

NARUC Summer Policy Summit

NARUC Weighs SCOTUS Decision's Impact on Coal

By Hudson Sangree

SAN DIEGO — The Supreme Court's recent decision in *West Virginia v. EPA* and its potential effects on the nation's coal-burning power plants occupied a session on EPA's authority over CO₂ emissions at the National Association of Regulatory Utility Commissioners Summer Policy Summit.

NARUC's Subcommittee on Clean Coal heard from attorney Matthew Leopold, who helped lay the legal groundwork against the EPA in the *West Virginia* case during a discussion moderated by West Virginia Public Service Commission Chair Charlotte Lane.

The high court's 6-3 decision on June 30 ruled that EPA lacks authority to compel generation shifting to reduce carbon emissions, saying the

agency failed to provide "clear congressional authorization" for the rulemaking. (See *Supreme Court Rejects EPA Generation Shifting*.)

While environmentalists decried the decision, Lane called it "exciting" given the push to retire coal plants.

"We all need to work together to make sure [EPA] regulations do not cause grid reliability problems, or make electricity less affordable for ratepayers," she said.

Leopold, a former EPA general counsel during the Trump administration and now a partner at law firm Hunton Andrews Kurth, said the decision checked but did not fundamentally alter EPA's ability to regulate greenhouse gases from power plants under the Clean Air Act.

Yet the decision could have far-reaching

effects on federal agencies' rulemaking, he said. It invoked the major questions doctrine, a rarely cited legal principle affecting Congress' delegation of authority to executive agencies, to say the EPA had overstepped its bounds.

Going forward, courts will scrutinize EPA and other agencies' actions to ensure they have a clear basis in statute and historical precedent, Leopold said.

"If an agency's getting out of its lane, and it's trying to do something that hasn't historically done, it may be under threat," he said. "And so, the example right now on the Biden administration's list of big rules ... is its [approach] to climate change that a lot of lawyers, including myself, are saying might be vulnerable."

He cited a proposed rule requiring that public companies disclose business risks related to the climate and greenhouse gas emissions to the Securities and Exchange Commission.

"There, you have similar facts [to *West Virginia v. EPA* because] ... the SEC has not regulated climate change since [the agency began in] the 1930s," he said. The rule would be a "new transformative approach that [the SEC has] never done before. There's no express discussion of environmental regulation in their statutory authority. And so, I think, you know, the administration is going to have to look long and hard about how they go about finalizing that rule."

"More to the point and more practical, is how this decision is going to affect fossil-fired and coal generation," Leopold said.

The case calls into question whether the EPA can require emissions controls only at the source power plant or whether it can go "outside the fence" to regulate emissions.

Requiring a power plant to switch fuels might be permissible but not "forcing a coal plant to become a gas plant," Leopold said. The decision raised questions about possible carbon capture rules and whether emissions reductions that are not cost-effective would be permitted, "for instance if a plant is scheduled to close in 5 years," he said.

For the foreseeable future, the EPA is going to "hit singles and doubles rather than ... swinging for the fence," being careful to base its actions on statutory authority and not push its boundaries beyond what the courts deem permissible under *West Virginia v. EPA*, Leopold said. ■



Lawyer Matthew Leopold addresses NARUC's clean coal subcommittee with West Virginia PSC Chair Charlotte Lane, seated to the left. | © RTO Insider LLC

FERC/Federal News



States Back FERC Interregional Transfer Requirement

Cite PJM Exports During Uri; Role for NERC Seen

By Hudson Sangree, Rebecca Santana and Rich Heidorn Jr.

SAN DIEGO — State regulators generally expressed support for minimum requirements on interregional transfer capacity Wednesday, saying they believed it could produce cross-border transmission projects where FERC Order 1000 failed.

But defining the minimum and ensuring it doesn't result in inefficient, single-purpose transmission lines remain concerns, the regulators said during the fourth meeting of the Joint Federal-State Task Force on Electric Transmission. The session, which concluded the National Association of Regulatory Utility Commissioners (NARUC) Summer Policy Summit, focused on interregional transmission planning and project development and FERC's April Notice of Proposed Rulemaking (RM21-17), which would require planners to use longer time horizons and consider multiple scenarios. (See [Christie Talks up Flexibility of Transmission NOPR](#).)

Lessons from Uri

FERC Chairman Richard Glick said the need for more interregional capacity was demonstrated during Winter Storm Uri, when "a couple hundred people [in ERCOT] died, literally, just because they didn't have access to power." In contrast, SPP and MISO, which also lost



The Joint Federal-State Task Force on Electric Transmission holds its fourth session following the NARUC Summer Policy Summit in San Diego. | © RTO Insider LLC

many generating units, were able to minimize blackouts because they were able to import power from PJM and other regions, Glick said.

FERC Commissioner Mark Christie noted that PJM was able to export 6 GW of energy this

week despite approaching its projected summer peak of 149 GW. "Interregional transfers do have reliability benefits, no question about it," he said.

Several state members of the task force said minimum transfer requirements could simplify cost allocation, one of the most vexing barriers to new transmission.

"I don't know of any regulators in the West who aren't willing to pay for reliability and resilience," said Utah Public Service Commission Chair Thad LeVar.

"If we are in agreement that the reason for building projects is resilience and prevention of service interruptions, I see a real possibility that there could be a more across-the-board cost allocation," said Andrew French, chair of the Kansas Corporation Commission. "It gets much more difficult and much more granular if you start to justify lines based on economic benefits or public policy benefits."

"It simplifies the cost allocation to set the minimum [requirement]. It also simplifies the benefit calculation by basically assuming benefits," said Ted Thomas, chair of the Arkansas Public Service Commission. "If you can study rigorously and get the level set right, I'd rather spend that money than trying to come up with



FERC Chair Richard Glick and Maryland Public Service Commission Chair Jason Stanek | © RTO Insider LLC

FERC/Federal News



a formula that measures the impact of what might happen [in the future] and use that to come up with a cost allocation methodology. I think the minimum transfer benefit solves a lot of those other problems.”

He added: “We’re in a foot race between implementing the solution and the next time we get hit. And laying down a marker is important. If somebody gets hit and we didn’t act, it’s on us.”

Thomas said FERC should set such levels first in the organized markets. “If the non-RTOS don’t like it, you know, or want to study it or want to see what happens, that’s their choice. [I would] point out when you do that, you’re picking up a pair of dice and hoping” for the best.

Kansas regulators made a *straw proposal* to set the minimum at 10% of each region’s peak load. “That was essentially based on the experience during Winter Storm Uri — the level of demand that had to be interrupted, and the level of imports that we relied on,” French said. “I don’t know that we’re here saying that’s the right number. I’ve seen numbers as high as 40%.”

North Carolina: No Thanks

A numerical requirement would not be wel-

come in North Carolina, said North Carolina Utilities Commissioner Kimberly Duffley. Although a small part of the state is within PJM’s territory, most of it is not part of an RTO.

“Areas of the country like the Southeast — where through the IRP [integrated resource plan] process the generation is located close to load — may not need this type of interregional transmission, or they just may need less of this transfer capability,” she said.

Duffley also said the Southeastern Association of Regulatory Utility Commissioners (SEARUC) states would oppose “top-down” planning, preferring a “bottom-up” process that preserves regional flexibility.

“When I say regional differences, I mean market structures, natural resources, job development, just the geography of the different regions, to name a few,” she said, noting that Duke Energy does not measure market efficiency benefits based on LMPs, unlike PJM and other RTOs. “A one-size-fits-all approach is not an appropriate way to incent new transmission.”

She also urged caution on FERC establishing a minimum set of benefits to be considered in evaluating new transmission. “There are some states that are opposed to that, but I’m not taking any position on it here today,” she said.

Responding to Duffley, FERC Commissioner Allison Clements said that for interregional planning to be successful, two entities must come to an agreement despite having different resources, methodologies and benefit determinations. “The Order 1000 interregional coordination process kind of just assumed those differences would go away; they don’t go away,” she said.

Role for NERC

Duffley endorsed Michigan Public Service Commission Chair Dan Scripps’ proposal that any minimum transfer requirement be a “definition” rather than a number, “so that non-RTO states are not burdened with a too high of any type of minimum.” Christie, who has warned against FERC being overly prescriptive in its rulemaking, also expressed support for a definition.

Vermont Public Utility Commissioner Riley Allen said he was “intrigued” by a minimum transfer capability but feared that it could lead to “stopgap solutions that are kind of singularly focused on one category ... undercutting the benefit cost or the economic case for a larger solution.”

If the focus is on reliability and resilience, he said, perhaps NERC should “identify what that level should be and whether it should vary



From left: California PUC Commissioner Clifford Rechtschaffen; NCUC Commissioner Kimberly Duffley; Vermont PUC Commissioner Riley Allen; and FERC Commissioner Mark Christie. | © RTO Insider LLC

FERC/Federal News



between regions.”

LeVar said it was unclear how a minimum transfer capacity would affect the WestConnect and NorthernGrid planning regions, which have little or no cost allocation authority. “If that’s an issue that’s going to be pursued, the NERC reliability standards process is a great process for an issue like that,” he said. “WECC can be a valuable tool ... because they don’t have an agenda other than reliability.”

Glick also hinted at a role for NERC, saying a FERC rulemaking could be based not just on Federal Power Act sections 205 and 206 — the source of much of FERC’s authority — but also under its reliability authority under Section 215, which the commission used to delegate to NERC the power to impose mandatory reliability standards.

FERC Commissioner Willie Phillips said he hoped the national laboratories’ efforts to quantify the resilience benefits of new construction would provide a foundation for a FERC rulemaking. Under current rules, he said interregional projects have often foundered because neighboring regions could not agree on benefit calculations. When “those projects fall out ... we do wash, rinse, repeat — things don’t get built,” Phillips said.

FERC Commissioner James Danly, the lone dissent on the April NOPR, questioned whether FERC could make the “showing” necessary for the commission to issue any requirements.

“I have yet to hear anything that makes me think we’re going to be able to make that showing for us to actually impose something,” he said. “I don’t believe that every wrong can be remedied under the statutes that we administer.”

Thomas and French disagreed, citing Uri. “I frankly think we have a pretty strong evidentiary basis right now that something needs to be done,” French said.

Pushback on ROFR Reversal

Another subject of discussion was the NOPR’s proposal to reverse Order 1000 and allow incumbent transmission owners a federal right of first refusal (ROFR) if they give an unaffiliated company a “meaningful level of participation and investment” in the project. (See [Ratepayers Protest FERC Retreat on Transmission Competition](#).)

“I can’t say we have consensus in the West about this ... but I can speak for myself and the PUC,” said California Public Utilities Commissioner Clifford Rechtschaffen. “We strongly oppose the idea of a conditional ROFR. We

think it’s a step backwards.

“We’ve had experience with competitive bidding in California: It’s worked,” he said. “It’s reduced prices. It’s been successful. We have a lot of regionally cost-allocated projects. There’s no real evidence that in states with ROFRs, that they have more regional projects, or that costs are lower.”

Rechtschaffen said FERC should consider other steps to address “legitimate concerns” about unanticipated effects of Order 1000’s ROFR provision. “At a minimum, our recommendation is that FERC leave it up to each state to determine whether or not transmission should be developed competitively,” he said.

Kansas’ French said he had “very complicated” thoughts on the issue. “But we have seen tremendous cost savings in our region, as well, over the last few years on several projects. And it seems the wrong time to turn away from that,” he said.

Rechtschaffen said he welcomed the NOPR’s proposals for more transparency in local transmission planning and said they should include “repair and replacement” or supplementary projects, which receive little or no scrutiny under regional planning processes.

Rechtschaffen said these “utility self-approved” projects represent half of all investor-owned utility spending in RTOs and ISOs.

“In 2022, our largest utility, PG&E, forecast \$1.2 billion on capital spending; 88% of that will be spent on utility self-approved projects,” he said. “We heard a similar story yesterday on a panel from Greg Poulos,” executive director of the Consumer Advocates of the PJM States.

Appreciative of FERC Outreach

Several of the state commissioners praised FERC for establishing the task force and including in the NOPR a requirement that planners seek states’ agreement on cost allocation.

“We’re very pleased in terms of the direction and tone of the NOPR,” said Pennsylvania Public Utility Commission Chair Gladys Brown Dutrieuille. “We’re very appreciative because you did put a lot of effort into understanding and hearing the concerns that were expressed by not only us but other people.”

Brown Dutrieuille said she supported FERC’s proposal to consider an expanded set of benefits in transmission planning and cost allocation but said they should not be “mandatory nor exclusive.



Pennsylvania Public Utility Commission Chair Gladys Brown Dutrieuille | © RTO Insider LLC

“I do have some concern that list of potential benefit metrics includes metrics that may double count the same benefit,” she said.

“It’s really hard to be frustrated with FERC when they’re actually listening to you,” said Maryland Public Service Commission Chair Jason Stanek, a former FERC staffer. “When I first read the NOPR, I felt like the dog that caught the car. So be careful what you wish for, because FERC is saying if you want a seat at the table, pull up a chair, and you have 90 days to sort it out amongst yourselves.”

Stanek also called on East Coast states to coordinate on building transmission to serve their offshore wind projects, saying New Jersey so far is “going it alone” under PJM’s state agreement approach. (See [PJM Sees Wide Range of Costs in NJ OSW Tx Proposals](#).)

“That is not the way for us to be developing transmission along the coast,” he said. “We have to have clear open communication coordination between the RTOs.”

LeVar said “it’s obvious FERC went to great lengths to try to preserve flexibility and state input.”

“What I don’t know ... is what impact this different planning scenario would have on momentum towards RTO development in the West. ... I think it’s a real issue.”

French voiced a similar worry, saying FERC should ensure that any new requirements not interrupt ongoing intraregional work. “I have some concerns that could inadvertently press a pause button on some of the important work that’s taking place,” he said.

The task force’s next meeting is scheduled for November at the NARUC annual meeting in New Orleans. ■

FERC/Federal News



Senate Committee Holds First Hearing on Hydrogen Pipelines

New Pipeline Permits Can Take Years and Millions of Dollars

By John Funk

Fears that FERC's regulations — and those who use them to challenge gas pipelines — will stymie the development of a national hydrogen pipeline system pervaded a Senate Energy and Natural Resources Committee *hearing* July 19.

Chairman Joe Manchin, (D-W.Va.) set the tone in his opening remarks, saying the nation's energy infrastructure is facing a "crisis."

"We face huge challenges getting the energy infrastructure we absolutely need sited, permitted and built — challenges that weaken our energy security and jeopardize our ability to meet our climate goals," he *said*. "We can't be short-sighted here. We need to look to the future and play the long game. We must get the right regulatory structure in place now, at the ground floor, that will help us accelerate hydrogen to scale in this country."

Noting that the nation now has only 1,600 miles of hydrogen pipeline, Manchin predicted new pipelines would have to be built, even if

existing gas lines are used to move a blend of natural gas and hydrogen. And those pipeline expansions would likely come under the purview of FERC, he added.

"Clarity is important for hydrogen pipeline developers, producers, consumers and communities potentially affected by this development. It appears there's uncertainty today around which federal laws to apply to interstate hydrogen infrastructure, and also about which federal agencies could or should be involved in siting, permitting and setting rates for using this infrastructure. If that is the case, our committee should take steps to ensure predictable and effective regulatory framework because regulatory uncertainty benefits no one. There's a compelling argument for FERC to play a role for interstate hydrogen infrastructure similar to the responsibilities it has for natural gas and petroleum pipelines today for natural gas."

Sen. John Barrasso, (R-Wyo.), the committee's ranking Republican, said existing natural gas pipelines "are equipped to ship methane blends, which can include up to 20% hydrogen."



Sen. Joe Manchin (D-W.Va.) | *Senate ENR Committee*

He said he does not believe there is a "regulatory gap that Congress needs to fill."

He argued that environmentalists are working to make sure hydrogen pipelines are never built and that gas pipelines are not permitted to expand.

"Our country's natural gas pipelines are under unprecedented attack. Well funded environmental extremist activist groups are throwing the kitchen sink at every new project," he *said*.

"The current majority of the FERC wants to make it impossible to upgrade pipelines or build new ones. ...

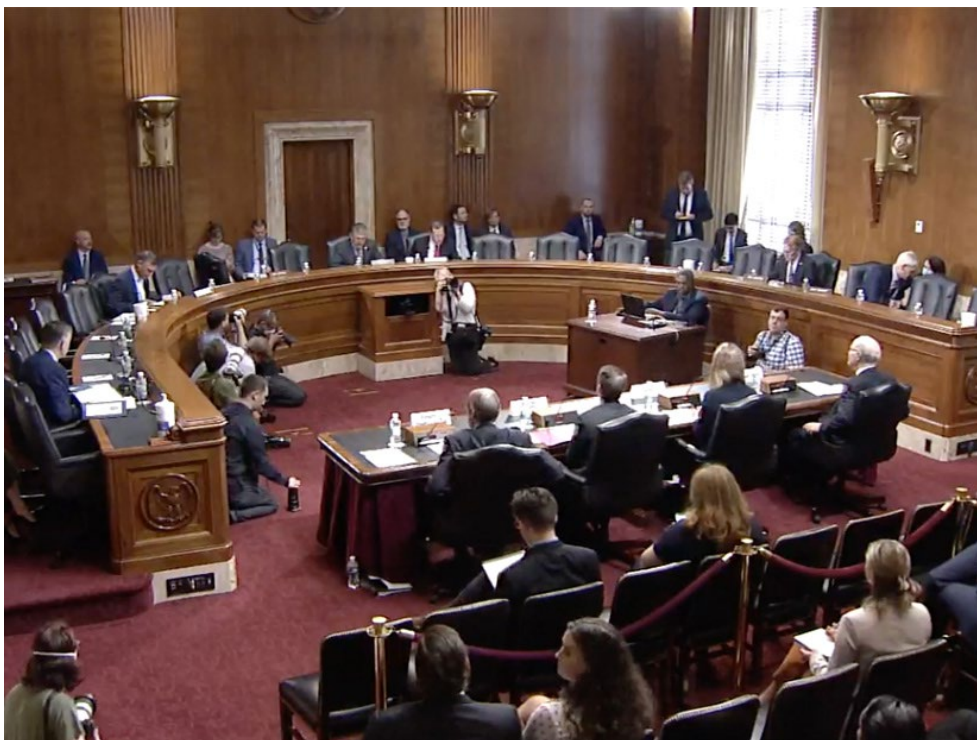
"I'm concerned that some of the commission may seek to make the ability to ship higher blends of hydrogen a reason to impose new conditions on newer upgraded natural gas pipelines," Barrasso *said*. "If that happens it'd be a disaster. Let's not give these activists or the commission another weapon to use against natural gas pipelines."

Witnesses

The committee listened to the comments of four expert witnesses who are involved in the production or distribution of natural gas or hydrogen, and knowledgeable about the current state of regulation.

Andy Marsh, president and CEO of Plug Power and a hydrogen industry expert, *said* pipelines will be crucial.

"I think probably the most important items are the rights of ways. ... To be able to use natural gas pipeline rights of way will help avoid



The Senate Energy and Natural Resources Committee held its first hearing July 19 on pipelines that will carry hydrogen. Witnesses testified that hydrogen will initially be blended with natural gas, up to 50%, but were of different opinions about the ability of existing lines to carry 100% hydrogen. Committee Chair Joe Manchin and ranking member John Barrasso were critical of FERC's handling of pipeline issues, citing an "urgent need" for regulatory certainty. | *Senate ENR Committee*

FERC/Federal News



unnecessary roadblocks,” he said. “I would suggest that the committee encourage FERC to lean on the industry experts,” he said.

Holly Krutka, executive director of the School of Energy Resources at the University of Wyoming, *said* she and others at the school see hydrogen as “an important component of the energy future.” But she warned that new regulations on hydrogen could impinge on the state and region’s robust natural gas industry.

“It’s critical that hydrogen regulations do not negatively impact natural gas production,



Sen. John Barrasso (R-Wyo.) | *Senate ENR Committee*

transportation and consumption. When it comes to standing up a hydrogen industry, Wyoming is standing on a strong foundation,” Krutka said.

“In addition to being a leading energy producer, the state hosts a robust and expansive rail system, and that rail system could be used to transport clean ammonia,” she said in a reference to converting hydrogen to ammonia, a liquid that is more easily transported.

“We also have an extensive natural gas pipeline network, and that offers the opportunity to transport clean hydrogen and blends of hydrogen and methane, which is probably the most likely opportunity in the near future,” she said.

But she added that the industry fears that federal mandates aimed at reducing methane leakage could upend hydrogen as well as natural gas development.

“If, for example, new natural gas infrastructure would also have to comply with new FERC-imposed mandates related to transporting blends of natural gas and hydrogen, I would worry that the infrastructure would never get built. Therefore, I and others in Wyoming are concerned about the imposition of new federal standards that could have unintended consequences on natural gas production and transportation.”

Chad Zamarin, senior vice president for Williams Co., said the only way to scale up hydrogen production and use is to “leverage” gas pipelines.

“FERC is, as has been mentioned, our primary regulator for interstate natural gas pipelines. And it does seem like that’s a likely venue for us to approach with respect to hydrogen. That said, we are concerned that we don’t want to create a traffic jam before the car even gets out of the garage,” he said. “The current FERC process has become an incredibly difficult process to facilitate the building of energy infrastructure. ...

“We’ve proposed in our *written testimony* some very simple changes that if the Congress were to act, we think could streamline the FERC permitting process and ensure that we can bring the infrastructure needed to not only continue delivering the critical natural gas here and around the world, but the hydrogen that we believe we can bring to market through our infrastructure. These changes are relatively simple, and Congress has the power to implement them,” Zamarin said.

Richard Powers, partner and head of the energy practice group at the law firm Venable, *said* it is clear that FERC is the agency that has the authority to regulate hydrogen pipelines. ■



From left: Plug Power CEO Andy Marsh; Holly Krutka, University of Wyoming; Chad Zamarin, Williams Co.; and Richard Powers, Venable | *Senate ENR Committee*

FERC/Federal News



Could Hydrogen Supplant Natural Gas in Power Generation?

NECA Panelist: Hydrogen 'Fits' Northeastern Needs

By John Funk

The Northeast U.S. could meet its winter peak power needs with LNG or even hydrogen-fired gas turbine generation rather than relying on oil or firing up idle coal plants, argues a Houston-based entrepreneur who views hydrogen as gradually augmenting and, in some areas, supplanting fossil natural gas.

Hydrogen “fits into New England and East Coast fundamentals,” argued Scott Shields, a founding partner of the New Energy Development and a participant last week in a webinar produced by the Northeast Energy and Commerce Association.

Shields said his company began in New England, providing LNG to “peak-shaving” turbine power plants, which typically operate only a few days a year to meet peak demand. Because the gas pipeline system in the region is inadequate, he said, such turbines are often oil-fired. But given the infrequent use, the turbines can run on LNG stored on-site, he said.

But “we found that LNG wasn’t good enough. It had to be sustainable LNG; it had to have a green focus; and hydrogen fit right into that,” he said.

The company today is expanding to partner with client companies on projects that begin with electrolysis to produce green hydrogen for liquefaction or immediate injection into pipelines for power plant consumption.

Shields argued that the future of hydrogen in the U.S. is blending with natural gas. “There’s not a [gas] turbine on the planet that can’t burn a blend of 15% hydrogen right now,” he said, adding that at that level, “we are making a huge dent in the carbon footprint of North America.”

But building gas pipeline infrastructure is difficult. Shields said the number of gas pipeline projects that have had to be scuttled because of public opposition and legal challenges has “created an opening for other fuels that otherwise wouldn’t be competitive”; in other words, green hydrogen.

“We are finding that green hydrogen is a unique substitution that goes hand in hand with LNG. Does New England need green hydrogen or LNG?” He said it does because during times of peak demand, the region must turn to oil and coal plants, totaling nearly 13 MW of capacity.

From a national perspective, he said gas-fired generation has grown, surpassing coal in 2008, but that hydrogen will gradually supplant gas, especially as green hydrogen production ramps up.

“The biggest surprise is the hydrogen use right now,” he said. “There is 13 Bcf of hydrogen produced every day. The U.S. has about 300,000 miles of natural gas pipelines — not counting the [local] distribution systems — but only 1,600 miles of dedicated hydrogen pipelines. ...

“Is there going to be a flip of a switch and hydrogen is going to supplant natural gas? Absolutely not. That’s not how anything happens,” he said.

The Biden administration’s efforts to jumpstart the development of hydrogen hubs, he added, will help the growth, but that in general, hydrogen would grow with the right tax policies; “letting capital allocate to the most realistic and most cost-efficient areas would make the most sense.”

“It makes sense for hydrogen to supplant some of the most expensive natural gas markets where you cannot build pipelines,” he said, adding that by his company’s count, there are now 520 large hydrogen projects being planned across the nation.

Brian Jones, a partner at Boston-based Environmental Resources Management, said the administration’s hydrogen hub projects, funded by \$8 billion allocated in the Infrastructure Investment and Jobs Act, is driving interest in hydrogen as the program calls for developments producing 50 to 100 metric tons of clean hydrogen per day.

He said the arguments over what constitutes “clean” hydrogen will likely come down to the carbon intensity of the method used to produce the hydrogen.

“There’s really a lot of focus from other stakeholders on what the emissions footprint looks like from that production process for hydrogen and then its uses,” he said. “Fuel cell-based technologies at the end-use can enable zero emissions in a bunch of different sectors, whether it be transportation, stationary remote power or portable power applications.”



Clockwise from top left: Mary Usovicz, Merrimac, Mass. Municipal Light Plant; Claire Thornhill, Frontier Economics; Scott Shields, New Energy Development; and Brian Jones, ERM | NECA

Jones also said blending hydrogen into natural gas will likely occur, as well as the development of 100% hydrogen-capable gas turbines, enabling power producers to integrate intermittent renewable technologies with combustion generation.

“Clearly, there needs to be linkages between the renewable energy resources so we have a responsive fleet that can balance the intermittency of renewables as we get into a higher penetration in the future.

“When that day comes, we cannot rely solely on unabated natural gas, and so companies are looking at pilots and blending processes and even working towards 100% power generation from hydrogen and ... then blending [hydrogen] into pipelines to repurpose existing assets,” he said.

At this point, however, the U.S. hydrogen strategy appears to be well behind European goals, particularly those of the U.K., the Netherlands and Germany, said Claire Thornhill, associate director at Frontier Economics, based in London.

“Europe has set really ambitious targets for the carbon hydrogen at the EU level, and the aim is to have 40 GW of renewable hydrogen in place by 2030. In the U.K., the aim is to have 10 GW of low-carbon hydrogen in place by 2030, and 5 GW of that should be electrolytic,” she said.

“At the end of 2021, there was a total of just 180 MW of installed capacity across Europe and the U.K. of green hydrogen.” ■

FERC/Federal News



TAE: Fusion Reactor Controls 135M-degree Plasma

Company Announces \$250M in New Corporate Financing, Commercialization by End of Decade

By John Funk

California-based TAE Technologies on July 19 said its research reactor had achieved and maintained control of plasma in the heart of a fusion reactor at a temperature of 75 million degrees Celsius (135 million degrees Fahrenheit) in a self-created magnetic field.

The company's target temperature is 100 million C (180 million F), which it believes it can control to initiate sustained fusion and build a commercial reactor by the end of the decade.

TAE is among a half dozen startup research companies, including one in Seattle, working to develop a working fusion reactor to create energy by fusing atoms rather than splitting them as conventional nuclear power plants do. (See [Fusion Company Gets \\$500 million.](#)) Fission creates radiation in the process and leaves behind radioactive waste, some of which will be dangerous for millions of years. Fusion reactors do not produce long-term radioactive waste.

Unlike competing fusion research companies that have been working to fuse hydrogen from heavy elements and can be slightly radioactive while operating, TAE has been working since 1998 with hydrogen and boron, a common element found in cleaning products.

TAE's reactor creates enormous amounts of heat by fusing the nuclei of hydrogen atoms with those of boron atoms in a radiation-free process that also creates helium, an inert gas. Boron is ubiquitous on Earth, and the company estimates a 100,000-year global supply.

The research reactor is a fifth-generation test machine, dubbed "Norman" in honor of TAE co-founder Norman Rostoker, a Canadian plasma physicist who died in 2014. The reactor began operating in 2017.

The company credited Norman's success to sophisticated control technologies it developed with Google since partnering with it in 2014.

"Through successful training of Norman's state-of-the-art control system, paired with proprietary power-management technology and extensive optimization of our machine-learning algorithms, we have achieved a scale of control at an unparalleled level of integrated complexity," TAE CEO Michl Binderbauer said in a statement.

The success of the Norman reactor has enabled TAE to secure \$250 million in new



TAE Technologies of Foothill Ranch, Calif., operated this fusion test reactor and achieved controllable temperatures of 135 million degrees Fahrenheit on multiple occasions since 2014. TAE is now building an upgraded reactor that will achieve 180-degree temperatures and, TAE believes, will become the prototype for commercial fusion "baseload" reactors by the end of the decade. | [TAE Technologies](#)

funding for a larger test reactor, which it has named Copernicus. Since its founding it has received \$1.2 billion in private investment and received more than 1,100 patents related to its technology.

The most recent investors include Chevron, Google, Reimagined Ventures, Sumitomo and Tiff Investment Management, as well as a large pension fund and a mutual fund manager, both unidentified.

"The caliber and interest of our investors validates our significant technical progress and supports our goal to begin commercialization of fusion by the end of this decade," Binderbauer said. "Global electricity demand is growing exponentially, and we have a moral obligation to do our utmost to develop a baseload power solution that is safe, carbon-free and economically viable."

The company characterized its hydrogen-boron technology as "the cleanest, safest, most economical terrestrial fuel cycle for fusion, with no geopolitical concerns or

proliferation risks."

The company's announcement includes little detail on the "balance of plant" technologies that it will need to harness the enormous amounts of energy created by the fusion. In a FAQ document accompanying the announcement, there is a reference to a "steam generator."

"Just as you feel warmth when sunlight hits your skin, in a power plant, the containment vessel wall will heat up from energetic light emanating from the plasma. The wall will be cooled through a network of pipes, which have working fluid streaming through them to pick up the heat and transport it to a steam generator," the FAQ explains.

"The steam spins a turbine that then drives an electric generator, similar to what happens in operating power plants today. TAE's unique fusion core supplies a superior and environmentally benign heat source for future power plants." ■

FERC/Federal News



US LNG Exports Can Help Domestic Climate Goals, Experts Say

Global Energy Crisis Might Allow Coal Investments to Rebound

By Jennifer Delony

The global energy crisis has created the potential for the U.S. to clean up its electricity supply while providing energy security to the world through LNG exports, a panel of energy experts said Wednesday.

Current global LNG market conditions place the “burden” of fulfilling new LNG demand from Europe and Asia Pacific on the U.S., Renee Pirrong, director of research and analysis at Tellurian, said during the Energy Dialogues webinar.

“The market is going to be quite tight for years to come, and the U.S. is the only place where you can get scalable, additional liquefaction supply in the context of Europe potentially needing 150 [million] to 170 million tons of LNG imports per year,” she said.

That level of demand could allow the U.S. to displace natural gas from its power market for liquefaction and exportation, according to Gabriel Collins, a fellow at Rice University’s Baker Institute for Public Policy.

There is also case for “accelerating the small modular nuclear revolution in the U.S., and that allows you to scale low-carbon power without having to think about nuclear nonproliferation,” he said. “It’s a domestic opportunity that captures the best of both worlds.”

Kevin Book, managing director of ClearView Energy Partners, agreed that providing global energy security while also greening the U.S. grid is an “incredible opportunity,” but it will require new gas transmission infrastructure.

“For us to be able to push our molecules out into the water, we need to have connection from the production site to the coasts,” Book said.

Market Status

The global LNG market has seen “huge” supply and demand shocks this year, according to Pirrong.

New demand levels for LNG in Europe that stem from Russia’s invasion of Ukraine can be seen in the region’s usage in 2022 alone. Historically, European demand was between 35 million and 65 million tons per year, but so far this year the continent has consumed 63 million tons, on track to 125 million tons by year-end, Pirrong said.

Europe has reached the top spot on the “willingness to pay scale” for the foreseeable future, she said.

On the supply side, Russia will no longer be among the top LNG exporters in the world. About 140 million tons of Russian LNG exports are either in jeopardy or “completely wiped off the table,” she said.

Those market shifts will create what Pirrong calls “demand destruction” in the long-term LNG market.

“It’s ironic and a little bit sad that Europe, which has been to some degree lecturing the rest of the world against investing in gas, is now diverting LNG away from the markets that needed it the most in the midst of this crisis to shore up its own supply,” she said.

If that trend persists, she added, many countries that were transitioning to LNG will return to coal. As a result, the International Energy Agency expects coal investments to trend up this year and reverse a decade of declining investment.

“This points to a long-lasting period of high gas and energy prices as a whole,” Pirrong said. “The only antidote to this is more investments in traditional energy projects, including LNG, but it is also important that those projects are in regions that support global energy security aims.”

Global energy decisions that are made in 2023-2024 are likely to be the most “consequential” for the climate, according to Collins.

“If there’s not an expectation of abundant, affordable and secure gas supplies at some point reasonably near in the future, we’re likely to see additional coal locked in,” he said.

The extension of coal as a resource will go beyond simply adding a few years of operation to plants that heretofore were headed for decommissioning. Instead, Collins said, coal plants in China, India or Southeast Asia that were potentially “on the fence” will come online and run for up to 50 years.

“There’s a lot at stake here, and gas is right at the center of that conversation,” he said. ■



Energy experts say that global natural gas demand could allow the U.S. to displace gas from its power market for liquefaction and exportation. | Shutterstock

FERC/Federal News



Biden Announces \$2.3B for Climate Resilience, OSW in Gulf of Mexico

By K Kaufmann

With a construction site at what was once a 1,500-MW coal plant as his backdrop, President Biden on Wednesday proclaimed climate change a “clear and present danger” to the U.S., to which he would respond “with urgency and resolve.”

In his speech at the former Brayton Point coal plant in Somerset, Mass., Biden did not declare an official national emergency, but he said, “When it comes to fighting climate change, I will not take ‘no’ for an answer.”

Congress has failed in its duty to act on climate, Biden said, “and in the coming weeks, I’m going to use the power I have as presi-

dent to turn these words into formal, official government actions through the appropriate proclamations, executive orders and regulatory power that the president possesses.”

Among that will be \$2.3 billion in federal funding “to help communities across the country build infrastructure that’s designed to withstand the full range of [climate] disasters,” the president announced.

According to a *senior administration official* earlier in the day, those funds will come from the Federal Emergency Management Agency’s Building Resilient Infrastructure and Communities Program. Another \$385 million in funding from the Low Income Home Energy Assistance Program, traditionally used for energy-efficient upgrades for homes in low-

income communities, is being made available for states to use to set up cooling centers and help low-income residents buy air-conditioning units, the official said.

But both the official and National Climate Advisor Gina McCarthy, in a morning appearance on CNN’s “New Day,” talked around questions about if and when the president might declare climate change a national emergency and what actions he might take.

Declaring climate change a national emergency is “just not the announcement today,” McCarthy said. “The announcement today is going to be about making the case that climate change is an emergency [and] outlining actions that we’re going to moving forward over the coming weeks.”



President Joe Biden speaks at Brayton Point in Massachusetts, the site of a former coal plant, where undersea cables for offshore wind projects will soon be built. | *The White House*

FERC/Federal News



"We are going to act," she said. "But the president is going to outline that at his pace."

Clearing the Way for OSW

That deliberate pacing could account for Biden burying possibly his administration's most important action halfway through his speech.

The president announced the next step in opening the Gulf of Mexico to offshore wind projects, with the Bureau of Ocean Energy Management (BOEM) *identifying* two potential wind energy areas (WEAs) in the gulf and opening a 30-day comment period on the sites.

According to a press release from the Department of the Interior, one of the proposed sites, totaling 546,645 acres, is located 24 nautical miles off Galveston, Texas, while the other, with 188,023 acres, is located approximately 56 nautical miles off the coast of Lake Charles, La.

The sites were chosen using "the most current scientific data to analyze 30 million acres in the [gulf] to find the best spaces for wind energy development," said BOEM Director Amanda Lefton. "We are invested in working in partnership with states and communities to find areas that avoid or minimize conflicts with other ocean uses and marine life in the Gulf of Mexico."

"We're going to make sure that the ocean is open for the clean energy of our future," Biden said. Projects off the Atlantic Coast and the gulf could provide "a real opportunity to power millions of additional homes from wind," he said. "Let's clear the way for clean energy and

connect these projects to the grid."

Biden also highlighted progress on Vineyard Wind 1, the 804-MW offshore project now under construction off Martha's Vineyard. Brayton Point is now being repurposed as an DC-to-AC converter station to interconnect Vineyard, and potentially other OSW projects, to the grid through underwater transmission. (See [Ex-Coal Plant Site Chosen for Mass. OSW Hub](#).)

On a Tight Rope

Since Sen. Joe Manchin (D-W.Va.) earlier this month shut down negotiations over a pared-down budget reconciliation package that included a number of clean energy tax credits and other incentives, exactly what Biden will do and when he will do it has been a topic of debate and speculation.

Biden's speech echoed his initial reaction to Manchin's decision, citing concerns about June's record 9.1% consumer price index and inflation. (See [Biden: 'I Will not Back Down' on Climate Action](#).)

Declaring a national emergency would add to a list of more than 40 executive orders in effect under the 1976 National Emergencies Act (NEA), with some issued nearly 30 years ago by President Bill Clinton. But a group of nine senators said in a letter to Biden that it would "unlock powers to rebuild a better economy with significant concrete actions."

Led by Sen. Jeff Merkley (D-Ore.), the group said, "You could redirect spending to build out renewable energy systems on military bases, implement large-scale clean transportation

systems and finance energy projects to boost climate resiliency," the group said

Joining the letter, sent Wednesday, were Sens. Ed Markey (D-Mass.), Cory Booker (D-N.J.), Bernie Sanders (I-Vt.), Elizabeth Warren (D-Mass.), Sen. Sheldon Whitehouse (D-R.I.), Brian Schatz (D-Hawaii), Martin Heinrich (D-N.M.) and Alex Padilla (D-Calif.).

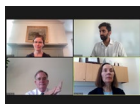
Meanwhile, Sen. John Barrasso (R-Wyo.), ranking member of the Senate Energy and Natural Resources Committee, was quick to criticize Biden's focus on climate as out of touch with American families who "need energy that is affordable and reliable. Instead of taking action to ease the pain at the pump, the president doubled down today on his extreme climate agenda. This will only push energy prices higher."

But Sheila Hollis, acting executive director of the U.S. Energy Association, saw Biden's speech as an exercise in balance and pragmatism.

"He's trying to make a statement [that] is in the realm of reality, as opposed to super long-term visions of how things should be," Hollis said in a phone interview. "He did about the best he could under circumstances because there's so many competing interests, competing concerns, international concerns and just the complexities of our system of regulating and distributing and making energy available.

"Anybody that is not simply didactic has to walk a tightrope," Hollis said. "He's on a tight rope." ■

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CAISO/West News



DC Circuit Backs FERC Rebuff of PSCo Quick Interconnect Rule

Impact is Moot, as FERC Later OK'd Modified Fast-track Plan

By Rich Heidorn Jr.

What took them so long?

The D.C. Circuit Court of Appeals on July 19 upheld FERC's May 2020 rejection of Public Service Company of Colorado's proposal to change its large generator interconnection procedures, agreeing that the changes could have given the utility an unfair advantage over competing generators (20-1295).

PSCo, an Xcel Energy company, had proposed a fast-track process for generators looking to replace an existing power plant with a new one on the same site, saying it would avoid wasteful grid-impact studies and would allow new generators to interconnect more quickly.

But while FERC had previously granted a virtually identical request by MISO, it said such procedures had different implications for vertically integrated monopolies such as PSCo. Because 60% of PSCo's existing designated network resources are generators owned by itself or an affiliate, "we find that the proposed generator replacement process could give PSCo an undue preference," FERC said (ER20-1153). (See [FERC Rejects PSCo's Interconnection Process](#).)

The D.C. Circuit's ruling upholding the commission last week came more than a year after FERC approved PSCo's modified fast-track plan.

Order 2003

Under FERC Order 2003, grid operators generally consider interconnection requests on a first-come, first-served basis. The commission said vertically integrated operators cannot deviate from the standard interconnection process unless they show that their proposed changes are "consistent with or superior to" the commission's standard large generator interconnection procedures (LGIP).



Denver, Colo. | Larry Johnson, CC BY-SA 2.0, via Wikimedia Commons

Because they do not own generation, independent grid operators such as MISO can win FERC approval for more flexible rules under the "independent entity variation" standard.

In March 2019, FERC accepted MISO's proposed generator replacement procedure, saying it "will avoid duplicative study costs and operational costs that otherwise would occur when the request to replace an existing generating facility must proceed through the interconnection study queue process" (ER19-1065).

In rejecting PSCo's proposal, FERC noted that when an existing generator retires, its transmission capacity can be made available for a new generator. But under PSCo's plan, the retiree's transmission capacity would instead likely be locked up by incumbent generators, such as the company itself.

Unlike PSCo, MISO does not "have an incentive to obstruct independent generation from accessing the grid," the commission said.

The D.C. Circuit said FERC had provided an adequate explanation of its rejection.

"There was nothing arbitrary or capricious about its decision to bar a vertically integrated grid operator from adopting a rule that could favor its own generators and so cement its dominant market position," it said. "The commission's holding is consonant with decades of agency policy reflected in orders upheld by the Supreme Court and our court."

Decision Moot

The court noted that the impact of its ruling was moot, however.

Shortly after rejecting PSCo's proposal, FERC in November 2020 accepted Dominion Energy's plan for a streamlined replacement generator program administered by a neutral third party, which the commission said would protect "against discriminatory implementation" of the new process (ER20-1668-003).

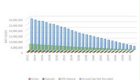
"In 2021, while this case was pending here, [PSCo] filed a request with the commission to adopt a streamlined replacement generator program administered by an independent entity," the court noted. "The agency approved that proposal for the same reasons it gave in *Dominion Energy*" (ER21-1287). ■

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CAISO/West News

WAPA Approves Interconnection of Rail Tie Wind Farm in Wyo.

By Elaine Goodman

The Western Area Power Administration has approved interconnection of the proposed 504-MW Rail Tie Wind Project in southern Wyoming, completing the last step necessary for the developer to go forward with construction.

Developer ConnectGEN had requested to hook the project up to WAPA's 345-kV Ault-Craig transmission line. WAPA Administrator Tracey LeBeau signed the record of decision on July 11.

"Connecting more renewable energy projects to the grid is a critical step in modernizing America's energy infrastructure and meeting our nation's growing energy needs," LeBeau said in a statement.

Rail Tie will consist of 84 to 149 wind turbine generators, according to WAPA's decision. The project site is about 26,000 acres of private and state land in Albany County, Wyo.

The project will have two stages, each approx-

imately 252 MW and divided by U.S. Highway 287. The company received approval from the Albany County Board of County Commissioners in July 2021, the Wyoming State Board of Land Commissioners in January 2021 and the Wyoming Industrial Siting Council in November 2021.

With the main permits needed for the project now in place, the company is focusing on final engineering and pre-construction planning, Mark Lawlor, ConnectGEN's vice president of development, said through a publicist last week. The company expects construction to begin in spring 2023, with operations starting by the end of 2024.

Lawlor said the company is in conversations with several potential customers but has not yet finalized a power purchase agreement for the project.

ConnectGEN is a renewable energy company that private equity firm Quantum Energy Partners launched in 2018. According to its website, the company has 139 MW in operation and more than 20,000 MW of wind, solar

and energy storage projects in development across the U.S.

According to WAPA's decision, technical analyses found the project would not reduce the transmission system's reliability and that system upgrades wouldn't be needed to support the interconnection.

An environmental impact statement, finalized in November, identified significant impacts from turbine operations on visual resources, certain historic properties and eagles. But there are still opportunities for those impacts to be mitigated, WAPA noted.

For example, ConnectGEN is seeking Federal Aviation Administration approval to install an aircraft detection lighting system, in which flashing red lights on the turbines would only turn on when an aircraft is in the area.

ConnectGEN is also preparing an eagle conservation plan. In addition, the company is applying for an eagle incidental take permit from the U.S. Fish and Wildlife Service, a process that could lead to other mitigation measures, WAPA said. ■



| ConnectGen

ERCOT News



Triple-digit Temps Continue to Roast Texas

ERCOT, SPP Manage Record Demand

By Tom Kleckner

Persistent triple-digit temperatures and extreme heat warnings across much of Texas forced ERCOT on Sunday to issue yet another operating condition notice (OCN) as it continues to flirt with the 80-GW threshold.

The Texas grid operator said the OCN, its lowest-level market communication, was necessary because of forecasted temperatures above 103 degrees Fahrenheit in its North Central and South Central weather zones. The seventh OCN issued this summer, the notice was effective Monday until Wednesday.

Average demand Monday peaked at 78.8 GW during the hour ending at 5 p.m. CT. Staff expect demand Tuesday to just exceed 79 GW.

ERCOT has already set 11 new highs for peak demand this summer, the latest coming Wednesday when load came within 12 MW of breaking the 80-GW barrier. Demand averaged 79.8 GW during the hour ending at 5 p.m. CT.

Demand's average peak has been above 70



| Shutterstock

GW every day since June 30. Before this year, ERCOT's record peak was 74.8 GW, set in

August 2019.

The National Weather Service said "sizzling" temperatures will stick around in the South Central U.S. before cooling off into the high 90s. Austin is expecting highs above 100 F into next week.

SPP Cancels Resource Advisory

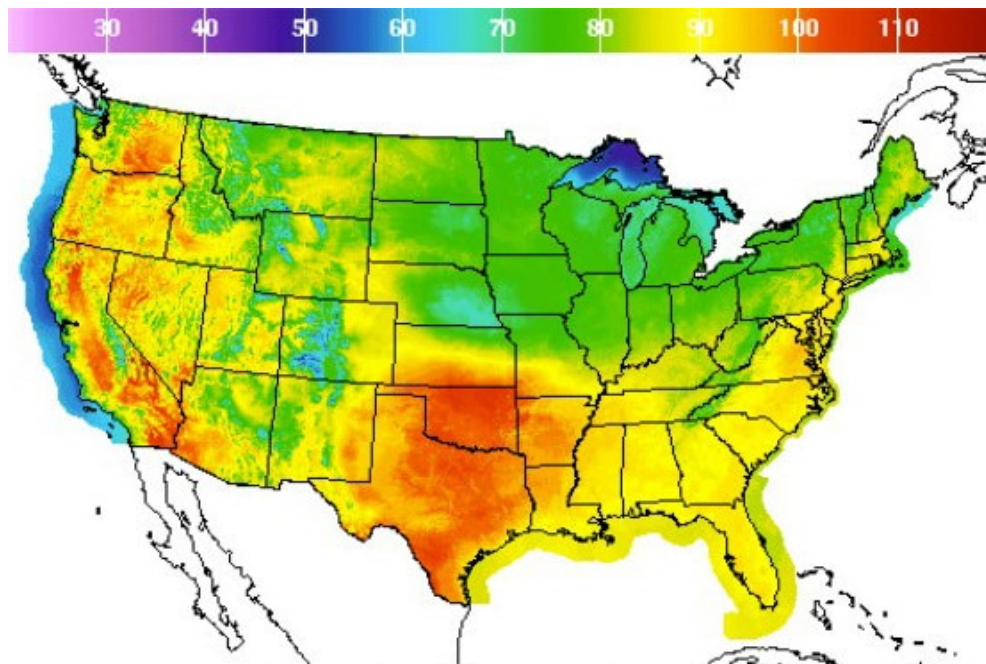
SPP canceled a resource advisory for Monday, saying its forecast indicated more favorable conditions than originally anticipated. The RTO said it expected lower regionwide power usage and improved system capacity conditions.

The advisory, issued Friday, does not include customer conservation. It was effective noon to 10 p.m. CT. (See [SPP Issues Resource Advisory for Monday](#).)

"This summer has really put us the to the test," CEO Barbara Sugg told SPP's Regional State Committee on Monday.

The RTO's most recent conservative operations and resource advisories expired as scheduled Thursday night.

SPP set a new mark for peak demand last week at 53.2 GW on July 19. It was the sixth time since July 5 the RTO has recorded a new high. The record before this year was 51.04 GW, set last July. ■



National Digital Forecast Database
17z issuance Graphic created-Jul 25 1:22PM EDT



Extreme heat will still be an issue in Texas and Oklahoma this week. | National Weather Service

ISO-NE News

Maine Environmental Board Denies Appeals of NECEC Tx Line Permit *Line's Completion Dependent on CMP Challenge of November Referendum*

By Jennifer Delony

The Maine Board of Environmental Protection last week removed one potential obstacle to the 145-mile New England Clean Energy Connect (NECEC) transmission line, upholding Central Maine Power's construction permit.

After two days of oral arguments, the board [voted](#) Thursday to deny appeals by the Natural Resources Council of Maine (NRCM), NextEra Energy and a group of local entities and individuals to vacate a 2020 Department of Environmental Protection (DEP) order approving CMP's project application.

The board confirmed DEP's order approving a permit to construct the project and modified parts of the order related to decommissioning and habitat impact compensation. In addition, the board denied appellants' request for a new public hearing on CMP's application.

CMP cannot resume construction, however, unless it prevails in its court challenge of a November 2021 referendum blocking the project.

Compensation, Decommissioning

Prior to hearing oral arguments on the appeals, the board issued a proposed order finding that the department's order for CMP to conserve 40,000 acres to compensate for the effects of the project on wildlife habitat was sufficient. After hearing petitioners' arguments, however, the board increased the total compensation to 50,000 acres.

NRCM claimed that the standard compensation ratio used by DEP to calculate the total acreage to be conserved does not reflect the importance of the affected lands. Maine law relies on an 8:1 ratio to replace any lost function from activities that alter wetlands, and DEP applied that standard in the order using an estimated 5,000 acres of baseline affected lands.

"The 8:1 ratio is a typical ratio, but the problem is this is not a typical area — it is a very special part of the state," said attorney James Kilbreth, representative for NRCM, in testimony Wednesday. "The impacts here are more consequential than in other parts of the state, and the compensation should reflect that higher degree of value."

In its 2020 appeal of the department's order approving the project permit, NRCM said that the project is sited in a part of Maine that "supports exception biodiversity," making the area a "unique and important wildlife habitat."

The board agreed that the compensation ratio should be higher, and increased it to 10:1, resulting in the new 50,000-acre conservation area.

To address concerns about decommissioning guidelines for the project, the board's proposed order upheld parts of DEP's original decommissioning plan, while also addressing what might happen if project construction is completed and not energized or not completed.

Permit Suspended

CMP began construction on the project in January 2021 and halted construction in November when DEP Commissioner Melanie Loyzim issued a suspension order for CMP's permit to construct. (See [NECEC Halts Tx Line Construction, Regulators Suspend Env. Permit.](#)) At that time, CMP had already completed clearing activities on four of the five line segments and begun other infrastructure work.

The board's proposed order called for CMP to submit a decommissioning plan to DEP for review prior to resuming construction and to begin decommissioning within 18 months of nonrenewal or termination of current power contracts. After hearing oral arguments, the board added a condition to its final order for decommissioning to begin in August 2024 if construction has not resumed by that time.



A group of individuals and entities lost their appeals of Central Maine Power's permit for the NECEC transmission line, seen under construction here. | Roger Merchant

That 24-month period will allow for an appeal of the board's decision to play out, if one is filed, board staff said Thursday.

Suspension of CMP's permit to construct will remain in place unless the Maine Supreme Court decides in favor of CMP in *NECEC Transmission LLC, et al. v. Bureau of Parks and Lands*, which challenges the legal authority of a referendum on transmission development passed by Maine voters in November. The court heard oral arguments in that *case* in May.

The referendum authorizes a statutory change requiring legislators to approve high-voltage transmission lines greater than 50 miles that are not necessary for reliability purposes. CMP is asking the court to block retroactive application of that law. ■

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ISO-NE News

ISO-NE Shares Lessons Learned from GridEx

By Sam Mintz

It's all about communication.

That was one of the big takeaways for ISO-NE after last year's GridEx VI, the biennial grid security exercise put on by NERC.

In a presentation to the NEPOOL Reliability Committee on July 19, ISO-NE's manager of control room operations, Jonathan Gravelin, laid out some of the grid operator's lessons learned from the November 2021 exercise.

The two-day exercise, a smaller affair than in past years because of the COVID-19 pandemic, incorporated elements of some of the major cyberattacks from around the world in the past year. (See *GridEx VI Incorporates Recent Cyber Lessons.*)

It also threw a Nor'easter into the mix of hypotheticals, adding extra strain to the simulated grid in New England, as well as some additional offshore wind to get an accurate picture of the future energy mix.

In New England, the scenario resulted in 12,000 MW of lost generation from cyber and physical attacks on transmission and natural gas infrastructure, according to *Gravelin's presentation*. The events and manual load shedding led to, at its peak, 3.5 million customer outages in the region.

Among the strengths of ISO-NE's simulated response, Gravelin said, was that the region maintained communication effectively, in part because of technology that's been introduced since the pandemic.



MISO employees take part in GridEx VI. | MISO

The system also effectively started shedding load, he said, using process improvements from previous exercises. And emergency reporting from ISO-NE provided "valuable data and information in a consolidated format for timely decision-making."

The response wasn't all rosy though.

ISO-NE will be looking to find ways to improve its 21-day forecast of expected energy deficiencies, which could be more flexible.

There were also some aspects of communication that should be improved, Gravelin said,

like presenting a "unified message" for coordinating requests for government help.

And finally, ISO-NE needs to go deeper in exploring how the modeling and operation of renewable resources would play into major events like those simulated.

"The recommendations suggest a task-force type approach to collaborate and gather information and knowledge across impacted parties," he said. ■

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MISO News

MISO Board Approves \$10B in Long-range Tx Projects

Critics Seek Competition, More 'Urgency' in Connecting Renewables

By Amanda Durish Cook

MISO's Board of Directors voted unanimously Monday to approve the 18-project, \$10.3 billion first phase of its long-range transmission plan (LRTP).

MISO Director Todd Raba called the July 25 open session of the board "one of the most important meetings" of his tenure.

MISO Vice President of System Planning Aubrey Johnson called it a "distinct honor" to summarize the plan a final time before the board greenlit it.

He said the portfolio will help MISO members ensure they can achieve their clean energy goals, "accommodate the rapid portfolio shift that's well underway" and shore up the system as more extreme weather lashes the footprint.

Most of the projects' routes use existing rights of way from other lines. The grid operator estimates the lines will be in service between 2028 and 2030 and deliver at least \$37 billion in benefits to ratepayers from 2030 to 2050. The first LRTP portfolio is considered a late insert to MISO's 2021 Transmission Expansion Plan. (See [MISO Puts Finishing Touches on \\$10B Tx Plan, Hunts New Projects.](#))

To shape the transmission plan, MISO held more than 200 public stakeholder meetings over two years, some of them standing room only, Johnson said.

The portfolio is premised on MISO's estimate that 58 GW of primarily coal resources will retire in the footprint within two decades, while the RTO adds 90 GW in solar, wind and natural gas generation, bringing its total installed capacity to about 160 GW.

MISO said the lines will result in a minimum 2.2-to-1 benefit-to-cost ratio across all its Midwestern transmission planning zones. MISO didn't analyze its South region's transmission needs for the portfolio and won't for at least a year.

More 'Urgency' Needed

Several stakeholders took advantage of an open comment period at the end of the meeting to urge MISO to get a jump on more future-looking system planning.

Clean Grid Alliance's Natalie McIntire said the need for the lines has never been more evident than during this heatwave-laced summer,



MISO's Board of Directors meeting earlier this year in Memphis, Tenn. | © RTO Insider LLC

when MISO strained to manage increased demand.

"This is not the time to stop planning. ... It is just the first step in much-needed investment in transmission capacity nationwide," she said. "We have more work to do to fully achieve carbon reduction goals and build a more resilient grid to withstand increased weather-related challenges."

"Not only does MISO need this, but our nation needs this as a model," Sustainable FERC Project Attorney Lauren Azar told MISO directors.

Azar urged MISO not to waste any time in planning the second, third and fourth iterations of the portfolio.

Invenergy's Arash Ghodsian asked that MISO consider high-voltage merchant transmission planning, including the Grain Belt Express, in future long-range modeling and analysis. (See [Invenergy Announces Grain Belt Express Expansion.](#)) He called for a "more comprehensive and realistic view of the future system."

MISO's Environmental Sector said the portfolio is "critical, but there is far more leadership and urgency needed from MISO.

"Much more remains to be done to shift away from fossil fuels and quickly meet clean energy

goals. Note that none of the benefits [in the portfolio] is being provided to residents and businesses in MISO South, which includes Louisiana, Arkansas, Mississippi, and a portion of Texas. The South is left out in this set of projects, despite the region's dire need for greater resilience, clean energy deployment, and access to low-cost power," the group said in a statement released ahead of the vote.

Environmental Sector members said MISO has been "subject to pressure from utilities like Entergy in the South — and others in the North — that have succeeded in delaying progress on long-range transmission lines."

They said the "status quo, fossil-fuel-heavy" MISO grid is costing consumers, noting that about 500 solar, wind and hybrid project proposals have withdrawn from the MISO queue in the last five years.

The Union of Concerned Scientists (UCS) said the portfolio is a "significant first step toward building the modern, resilient, and reliable electric transmission system necessary to decarbonize the energy sector." The group estimated that the lines will enable enough renewable energy to power more than 12 million homes.

James Gignac, senior Midwest energy analyst

MISO News

at UCS, called the vote “exciting progress, and only the first of several portfolios of investment that we’ll need to keep up with the drive to decarbonize and meet the challenges of climate change.”

MISO estimates the portfolio will keep 400 million metric tons of carbon emissions out of the atmosphere between 2030 and 2050.

“We appreciate the spirit of collaboration and the hard work that MISO members and stakeholders have invested in these projects and look forward to continued discussion around future tranches,” MISO CEO John Bear said in a statement following the vote. “We also recognize the effort and strong support for LRTP from various regulators and policy-makers in the states — including state utility commissions and governors.”

The new portfolio is already at the heart of one FERC complaint. Last week, an alliance of consumer groups jointly filed to challenge MISO’s practice of respecting state rights of first refusal (ROFR) laws in its regional transmission planning. The consumer alliance *asked* FERC to block MISO and other RTOs from applying “anticompetitive” state ROFR laws to their regional transmission planning, including

the long-range portfolio. (See related story, *Consumer Groups File FERC Complaint Against MISO.*)

MISO estimates just \$1 billion of its \$10.3 billion LRTP portfolio will ultimately be open to competition. The grid operator said nearly \$4 billion worth of the projects are considered upgrades to existing facilities, while another \$5.5 billion worth of projects will be sited in states that have enacted ROFR legislation.

Tx to Bring Capacity Online, but Will it Solve Crisis?

The transmission approval also comes as MISO is facing heightened scrutiny from its Midwestern states over a capacity shortage in the entire MISO Midwest region, which some say is partly due to insufficient transmission to connect the 806 mostly renewable projects to taking 126.3 GW in its interconnection queue.

The Organization of MISO States is considering the Independent Market Monitor’s recommendation that MISO replace its vertical capacity demand curve with a sloped curve to incent new resources. (See *MISO Warming to Patton’s Sloped Demand Curve.*) In a July 18 OMS board meeting, Executive Director Marcus Hawkins said OMS members heard a “menu of

options” on auction and energy market changes during closed-door meetings during MISO’s June Board Week in Indianapolis.

Illinois lawmakers last week blasted MISO over failing to bring renewable generation online faster through its interconnection queue. (See related story, *Illinois Leaders Blast MISO Inaction on Capacity Crisis.*)

And the Illinois Commerce Commission (ICC) last week directed Ameren Illinois to perform a cost-benefit analysis of remaining in MISO versus departing for PJM or another grid operator (22-0485). Chair Carrie Zalewski said the ICC feels it “appropriate to explore whether membership in MISO continues to provide net benefits to Ameren Illinois’ electricity customers.”

Citizens Utility Board of Michigan Executive Director Amy Bandyk called it “good news that MISO is overcoming barriers that have blocked new transmission lines for years. A more connected grid benefits ratepayers by enabling lower-cost renewable energy to flow to where it is needed, improving the reliability of electric service.” ■

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MISO News

Illinois Leaders Blast MISO Inaction on Capacity Crisis

By Amanda Durish Cook

Sponsors of Illinois' Climate and Equitable Jobs Act (CEJA) condemned "foot dragging" by MISO in getting new renewable energy online to fix its capacity crisis during a press teleconference Thursday.

State lawmakers and a representative for consumer advocate Citizens Utility Board (CUB) said with a climate crisis escalating quicker than scientists predicted and energy prices climbing sharply, MISO should re-evaluate and revamp its interconnection rules to accelerate new renewable capacity interconnections.

They said the grid operator is sitting on 34 renewable projects for the state that are capable of powering 4.5 million homes "while the grid operator blames others, spreads fear."

The news conference comes as some critics are calling to reopen CEJA's provisions given the capacity shortages. The legislation requires Illinois to be reliant on 100% renewable energy by 2050.

Illinois Rep. Ann Williams (D) opened the press conference by referencing Vistra CEO Curtis Morgan's 2019's pronouncement that coal was on its way out.

"It was an admission to us and to the state of Illinois that coal could not compete with clean solar and wind energy. Now, gas is following coal into the land of polluting, expensive fuels of the past," she said.

Williams said Illinois "saw the future" and enacted CEJA.

"But we write the laws. We don't operate the grid. That's MISO's job," she said.

Williams said rather than bringing clean energy on the grid as quickly as possible, "MISO is



Illinois Rep. Ann Williams (D) | *Illinois Clean Jobs*

addressing concerns about capacity by trying to shift blame."

"Fossil fuel interests and entrenched energy lobbies are jumping on the blame game and calling for a return to the days when coal and gas generated Illinois' electricity, even as fossil fuel prices skyrocket, emissions continue to pollute our communities and our planet is burning," she said. "Going back to coal and gas is like pouring gas on a fire, in terms of hiking energy prices up and polluting our communities."

Fossil fuel prices are only becoming more expensive, made worse by Russia's war in Ukraine, Williams said. She challenged MISO's "lackluster approach" to bringing new renewable energy online.

"You can't do what you've always done and expect it to solve a problem you've never encountered before, but that's what's happening. ... MISO needs to operate with a sense of real urgency here [and] think outside the box to meet the moment that we are in," Williams said of the RTO's system of processing and studying interconnection requests.

MISO's 2022-23 Planning Resource Auction (PRA) failed to secure enough capacity in its Midwestern zones, which cleared at a \$236.66/MW-day cost of entry for new generation. MISO Midwest now faces the possibility of rolling outages in the 2022-23 planning year, which began June 1. (See [MISO's 2022/23 Capacity Auction Lays Bare Shortfalls in Midwest](#).)

Though the grid operator's membership approached the auction with more capacity year-over-year, MISO said the resource additions were mostly intermittent and generally less available than retiring thermal generators. It said it will require dispatchable, natural gas generation well into the future.

MISO's current generator interconnection queue contains 806 projects totaling 126.3 GW of capacity. The queue overwhelmingly is comprised of solar, wind and storage projects or a combination of renewable energy and storage. The RTO historically only interconnects about 20% of projects that enter the queue.

MISO executives have been making the rounds in front of state regulators and lawmakers to drive home the urgency to fix future capacity shortfalls. (See [MISO Promises Stakeholder Discussions on Capacity Auction Reform](#).)

"Rather than do its job, which is to operate the



Illinois CUB's Jim Chilsen | *Illinois Clean Jobs*

grid and transition our energy needs, MISO is pointing fingers. ... MISO, with more than 1,000 employees, can and should move faster to transition Illinois to renewable energy," Illinois Sen. Cristina Castro (D) said.

Castro said while PJM has made the energy transition a priority, MISO "still stubbornly holds on to a backwards-looking fossil fuel system that is dirty and expensive." She questioned the grid operator's delay in reviewing and approving generation projects, saying it led to expensive and "phony" shortage pricing.

"If Ameren customers ever find themselves in the dark, MISO's inaction is to blame. They are asleep at the wheel, asleep at the switch and dragging their feet," Castro said.

"It's time for MISO to let CEJA do its job," said Jim Chilsen, director of communications for CUB.

Chilsen said he was "challenging MISO to show leadership" and speed up the approval process for capacity additions.

"MISO needs to make the transition away from expensive fossil fuels a bigger priority. This is largely a problem of planning. For years, MISO has known that the transition from dirty energy was coming," Chilsen said. "MISO has been slow to respond to these developments over the years."

Chilsen said CUB has seen a 20% increase in ratepayers contacting them over energy affordability concerns.

MISO spokesperson Brandon Morris said the RTO was aware of the virtual press conference and that it planned to review the event in its entirety.

"We look forward to thoughtfully responding to any concerns or questions raised," Morris said in an emailed statement to *RTO Insider*. ■

MISO News

MISO on Verge of Canceling Hartburg-Sabine Tx Project

By Amanda Durish Cook

MISO's second competitively bid transmission project appears dead in the water because new generation in the region has evaporated the line's benefits, according to the grid operator's assessment.

During a special South Technical Studies Task Force meeting Wednesday, MISO planners said about 2.7 GW of planned capacity in southeast Texas negates the Hartburg-Sabine Junction project's economic benefits. The transmission line was approved in 2017 as a market efficiency project.

"There's more capacity planned in Entergy Texas that is going to contribute," said Clayton Mayfield, senior engineer of economic studies.

MISO has not yet officially canceled the \$130 million, 500-kV project in East Texas. Brian Pedersen, senior manager of competitive transmission administration, said planners will share the study results with a MISO staff committee that focuses on competitive transmission. That committee will decide whether to cancel the project or reassign it to a new developer.

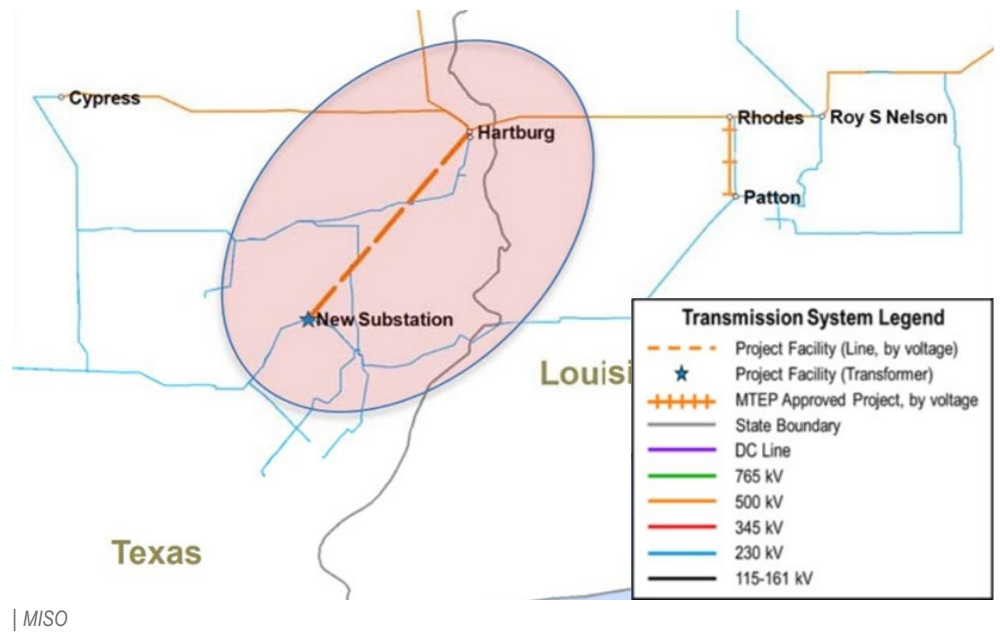
Pedersen said MISO will make a formal recommendation in August.

Tea leaves don't need to be read to deduce which direction the RTO is leaning. The RTO said Hartburg-Sabine "no longer provides any meaningful production cost benefits based on the planning analysis performed and using the latest modeling information." The grid operator said its analysis couldn't find "substantive" congestion relief or adjusted production cost benefits.

In 2017, staff said Hartburg-Sabine would alleviate congestion, ease import limitations and allow access to lower cost generation for customers in the chronically congested West of the Atchafalaya Basin and Entergy load pockets in MISO South.

MISO in late April announced it would reassess the Hartburg-Sabine junction project under its variance analysis procedures. Depending on study results, the RTO said it has one of two options: cancel the project or confer the line to Entergy in accordance with Texas's recent right of first refusal (ROFR) law for incumbent utilities. (See [MISO Study to Decide Fate of Texas Competitive Project](#).)

MISO's study accounted for last year's addition



of Entergy's 993-MW Montgomery County Power Station in southeast Texas and assumed the utility builds its planned 1.2-GW natural gas and hydrogen-powered [Orange County Advanced Power Station](#) by 2026. The Orange County plant has a signed generator interconnection agreement in MISO.

The grid operator considered that Entergy pushed back retirement of its nearby 500-MW, gas-fired Lewis Creek plant from 2025 to 2034. It also factored in the addition of two small nearby baseline reliability projects, one rated at 138 kV and the other at 230 kV.

Mayfield added that the RTO's long-range transmission plan will soon study congestion patterns in MISO South and possibly come up with new transmission solutions.

"The Hartburg-Sabine Junction just isn't economically solving the congestion we're seeing," Mayfield told stakeholders.

The line would have been MISO South's first market efficiency project.

Stakeholders pointed out that the Texas Public Utility Commission has not yet approved the Orange County plant.

"The plant is in a holding pattern," said Andy Kowalczyk of activist group 350 New Orleans.

"It seems like it'd be an awful shame not to at least do a sensitivity case with regard to the generation addition, whether it changes the outcomes for Hartburg-Sabine," the Coalition of Midwest Transmission Customers' attorney

Jim Dauphinais said.

He said MISO might find itself "bringing the project back to the table" a year from now if the plant is not approved.

Energy consultant Jennifer Vosburg said the Orange County plant is already a few hundred million above its original budget.

MISO planners said even if plant approvals fall through, it wouldn't make the line economic or necessary.

But Dauphinais said MISO wasn't presenting any study results showing that the line remains unnecessary without Orange County.

WEC Energy Group's Chris Plante said the Hartburg-Sabine was a market efficiency project that overcame several analyses to show benefits.

"I think that just demonstrates that as we go forward, we need to ensure that we have robustness testing, that even with small changes in assumptions ... we still have a project that's beneficial," he said.

"I do hope that this serves as a lesson for how MISO approaches congestion planning and how durable and defensible these projects are over time," Kowalczyk said. "I am worried that the market efficiency project tariff doesn't produce projects, and this one was undermined by the ROFR, by bottom-up [transmission] projects and by signed generator interconnection agreements." ■

MISO News

Consumer Groups File FERC Complaint Against MISO

Alliance Asks Commission to Open LRTP to Competition

By Amanda Durish Cook

An alliance of consumer groups on Friday jointly filed a complaint with FERC against MISO's practice of respecting state rights-of-first-refusal (ROFR) laws in its regional transmission planning.

The consumer alliance *asked* the commission to block MISO and other RTOs from applying "anticompetitive" ROFR laws to their regional transmission planning and cost-allocation processes.

The group made the filing as the RTO's Board of Directors prepared to consider Monday the \$10.4 billion, 18-project long-range transmission plan (LRTP) for its Midwestern states. (See related story, [MISO Board Approves \\$10B in Long-Range Tx Projects.](#)) The portfolio is the first of four that MISO is planning to modernize its system.

The group said ROFR laws conflict with FERC's rules on transmission competition and the commission's obligation to establish just and reasonable rates.

The alliance includes the Industrial Energy Consumers of America, the Coalition of MISO Transmission Customers, the Wisconsin Industrial Energy Group, Resale Power Group of Iowa, Association of Businesses Advocating Tariff Equity and the Michigan Chemistry Council.

The groups said MISO should not hamstring itself by maintaining tariff provisions that prohibit it from holding a competitive solicitation for regionally cost-allocated projects. It said ROFR laws in that application are unjust and unreasonable.

FERC should prohibit the grid operator from recognizing the laws in the LRTP and order the RTO to hold competitive solicitations for projects located in those states, the consumer alliance said.

MISO estimates \$1 billion of the portfolio will ultimately be open to competition. The grid operator said nearly \$4 billion worth of the projects are considered upgrades to existing facilities, while another \$5.5 billion of projects are in states that have enacted ROFR legislation.

Michigan, Minnesota, Iowa and the Dakotas all have ROFR laws; Wisconsin lawmakers have *considered* one but haven't passed it. Addition-

ally, MISO is likely to scrap its only market efficiency project assigned to MISO South after Texas's ROFR legislation delayed the project's start by years. (See related story, [MISO on Verge of Canceling Hartburg-Sabine Tx Project.](#))

The RTO is planning to prepare requests for proposals where ROFR laws don't prohibit competitive bidding. In those states without the legislation, incumbent transmission developers will need to provide to their regulators a notice of intent to construct.

The consumer alliance insisted that its complaint wasn't seeking to slow down any reliability projects, but that MISO "delay issuing any notices to construct to projects currently protected by state ROFR laws" in the LRTP's first cycle.

"Circumstances have substantially changed since 2013-2014 when the commission accepted the MISO tariff provisions ... that mandate that MISO apply any state law that includes a ROFR to circumvent transmission competition in MISO," the alliance said.

The alliance argued it's now clear that ROFRs

are being enacted to circumvent FERC's competition mandate and "that the burdens of state ROFR requirements do not fall solely on customers within ROFR states, forcing pro-competition states to pay for the parochial policies of incumbent preference states." They said ROFR laws are premised on the fear that incumbents will be outbid by competitive developers, are "economically inefficient by design" and "needlessly raise costs to consumers."

"The costs at issue are far from modest, and so the time is ripe for the commission to act," the alliance argued.

Industrial Energy Consumers of America President Paul Cicio said should \$5.5 billion of transmission projects be automatically assigned to incumbent utilities, consumers in MISO Midwest will pay more for regional transmission than if they were bid out.

"We are requesting that the commission act quickly to find MISO's provisions to be unjust and unreasonable and to require the replacement rate to be based on project costs resulting from competitive solicitation," Cicio said in a statement. ■



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MISO News

MISO Stays Course on Sharpening Generation Retirement Studies

By Amanda Durish Cook

MISO is all but certain to enact changes to its study process for retiring generators, stakeholders learned last week.

The RTO also continues to maintain that the changes will not introduce resource adequacy considerations into its retirement-study process.

Staff said during a Planning Subcommittee meeting July 19 that they will relax confidentiality rules around retirement data, adhere more strictly to local reliability requirements, and require more notice from resource owners in making their retirement decisions.

MISO will now impose a one-year notice requirement on retiring generation before it begins retirement studies under Attachment Y of its tariff; conduct retirement studies in on a quarterly basis; share with stakeholders the megawatt value of retirement requests systemwide; and discourage reliance on load shed as a valid mitigation option when voltage and thermal violations are uncovered in its steady state analyses. (See *MISO Bolstering Generation Retirement Studies Amid Capacity Shortage*.)

MISO has insisted that ensuring local reliability requirements is a last step, not a measure to secure resource adequacy.

The RTO has been firm that the changes will respect state jurisdictions and not extend generators' operational lives because of resource-adequacy concerns. Its retirement studies currently focus solely on the transmission system's reliability.

"The Attachment Y process is about local reliability issues associated with a resource retiring," MISO's Andy Witmeier said. "Anything related to larger resource-adequacy concerns should be discussed in the Resource Adequacy Subcommittee."

Witmeier said MISO doesn't have the authority to keep generation online over resource-adequacy concerns.

Customized Energy Solutions' David Sapper, representing MISO load-serving entities, said it wasn't clear how the grid operator would manage simultaneous studies should it encounter a large cluster of retirement requests. Staff said they will still study retirements individually, not in groups.

But Sapper insisted that MISO would still have to make assumptions about other active



Alliant Energy's Edgewater Generating Station is slated for closure in 2025 | API Construction Co.

retirement requests that stand to impact study outcomes. He pointed to downstate Illinois, where several large generators could retire at the same time.

WEC Energy Group's Chris Plante called for a transition period before the current 26-week notice is doubled. He said some generation owners have planned around the 26-week notice for years.

"I'd rather deal with this in the stakeholder process than at FERC," Plante said of MISO's future filing of the proposal.

Plante said generation owners face an "incredibly complicated" decision over whether to retire. An unexpected system support resource (SSR) designation, applied by MISO if it determines there are reliability concerns with plans to retire a generating unit, can throw a wrench into plans he said. Plante referenced the yearslong clash and complex refunding process that followed SSR status for the Presque Isle coal plant in Michigan's Upper Peninsula. (See *\$23 Million Owed to Ratepayers in Presque Isle SSR Case*.)

"The last thing my company wants to do is go through another hotly-contested FERC pro-

ceeding over who pays for an SSR," Plante said.

Stakeholders last week also voiced frustration that MISO no longer posts unsolicited comments from stakeholders as part of meeting materials. During the week's transmission-planning meetings, some stakeholders said the RTO had previously compiled stakeholder comments and shared them publicly on its meeting webpages, even when it had not opened a stakeholder comment period.

Coalition of Midwest Transmission Customers attorney Jim Dauphinais and Clean Grid Alliance's Natalie McIntire called it a change in policy and a step back for transparency.

"I think this is especially important now because MISO makes fewer formal feedback requests," McIntire said.

"I do think it's incredibly important that comments, whether informal or formal, are attached to presentation materials. I just don't see the value of not posting stakeholder comments," said Andy Kowalczyk of activist group 350 New Orleans.

MISO staff said they would further address the issue during an upcoming Steering Committee meeting. ■

MISO News

MISO, PJM Consider 4 Small Interregional Projects

By Amanda Durish Cook

MISO and PJM are considering four inter-regional transmission project candidates as targeted market efficiency projects (TMEPs).

The grid operators said during a Thursday Interregional Planning Stakeholder Advisory Committee (IPSAC) teleconference that the four congestion-relieving projects were whittled from a list of 23 solution ideas.

They are assessing:

- a potential project to upgrade ComEd terminal equipment for the Quad Cities to Rock Creek 345-kV flowgate near the Iowa-Illinois border;
- a conductor and switch replacement on the Mohomet-Champ 138-kV flowgate in central Illinois;
- bolstering the Powerton-Towerline 138-kV flowgate in central Illinois; and
- a potential fix for the congested Chicago-Praxair 138-kV flowgate near the Chicago area.

The grid operators plan to complete an evaluation of the upgrades in September. Until then, they continue to review historical congestion and perform no-harm tests, PJM Senior Transmission Engineer Jeff Goldberg said.

MISO and PJM said they were considering conducting a TMEP study in February. (See [MISO, PJM Weigh '22 Interregional Plan.](#))

The RTOs said they experienced about \$519 million in congestion costs on market-to-



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market flowgates over 2020 and 2021; \$328 million of that total has been determined as persistent and is not slated to be fixed with future upgrades.

MISO and PJM have approved three small TMEP portfolios since 2017 and one larger *interregional market efficiency project* in northwest Indiana in 2020.

TMEP projects must cost less than \$20 million, completely cover installed capital cost within four years of service, and be in service by the third summer peak from their approval. The projects are assessed using a shorter time

horizon than interregional market efficiency projects.

Earlier this year, some stakeholders asked the RTOs to also consider a more intensive interregional market efficiency project study to analyze expected future congestion instead of waiting until they amass years of expensive historical congestion. Staff officials have said the timeline this year supports the lighter TMEP study because MISO is embroiled in its long-range transmission planning work.

MISO and PJM will hold another IPSAC meeting Aug. 26. ■

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NYISO News

NY PSC Approves Con Ed Revised Emergency Response Plan

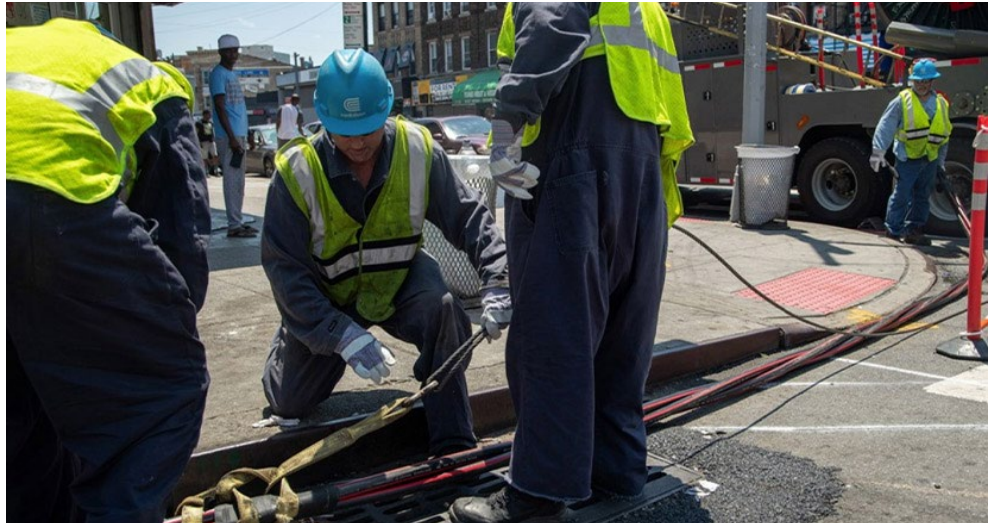
New York regulators on July 19 issued an *order* approving Consolidated Edison’s emergency response plan (ERP) after the utility restored language related to communications (21-E-0567).

The Public Service Commission in May approved such plans from all the other investor-owned utilities in the state, but rejected Con Ed’s filing “due to concerns regarding Con Edison’s removal of certain language from its existing approved ERP and the lack of additional improvements reflected in other utilities’ amended ERPs.”

The commission determined that without such language, there was a potential that Con Ed’s emergency responsiveness might suffer detrimental impacts during future events.

Unlike the other utilities, Con Ed did not file an amended ERP, even after several meetings with Department of Public Service staff to discuss possible resolutions. It initially had proposed notable changes to how it classifies certain events and had removed specific language in several sections of its ERP filed in compliance with an earlier commission order.

Much of the deleted language reflected exist-



A Con Edison crew responds to an electrical emergency power outage related to a heat wave last summer. | Con Edison

ing practices or processes that should continue to be used, such as language regarding its meteorologist and storm classifications, the commission said.

Con Ed negotiated with DPS staff to include a small set of modest amendments to augment its ERP, which now also incorporates language

on proper communication with customers, emergency management officials and government representatives. The added language includes clarifications related to contacting life-support customers who are without power because of an event. ■

— Michael Kuser

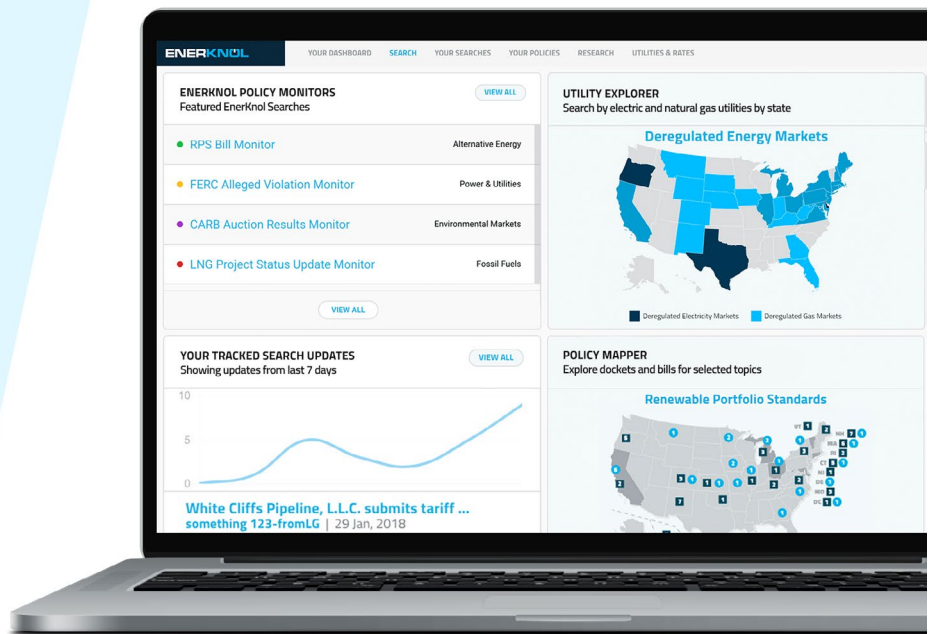
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PJM News



BOEM DEIS Sparks Sharp Divide on NJ OSW Project

Marine Conservationists Call for Slowdown, Pilot Study

By Hugh R. Morley

The draft environmental impact statement (DEIS) by the U.S. Bureau of Ocean Energy Management on New Jersey's first offshore wind project, Ocean Wind 1, drew more than 50 speakers at two hearings this month, offering no consensus on the report's merits but underscoring the deep division between project supporters and opponents.

The bulk of the speakers at the online forums held on July 14 and 21 cited few specifics from BOEM's 1,408-page report, instead offering often vigorous perspectives on whether the 1,100-MW, 98-turbine wind farm planned for a site 15 miles off Atlantic City should go ahead.

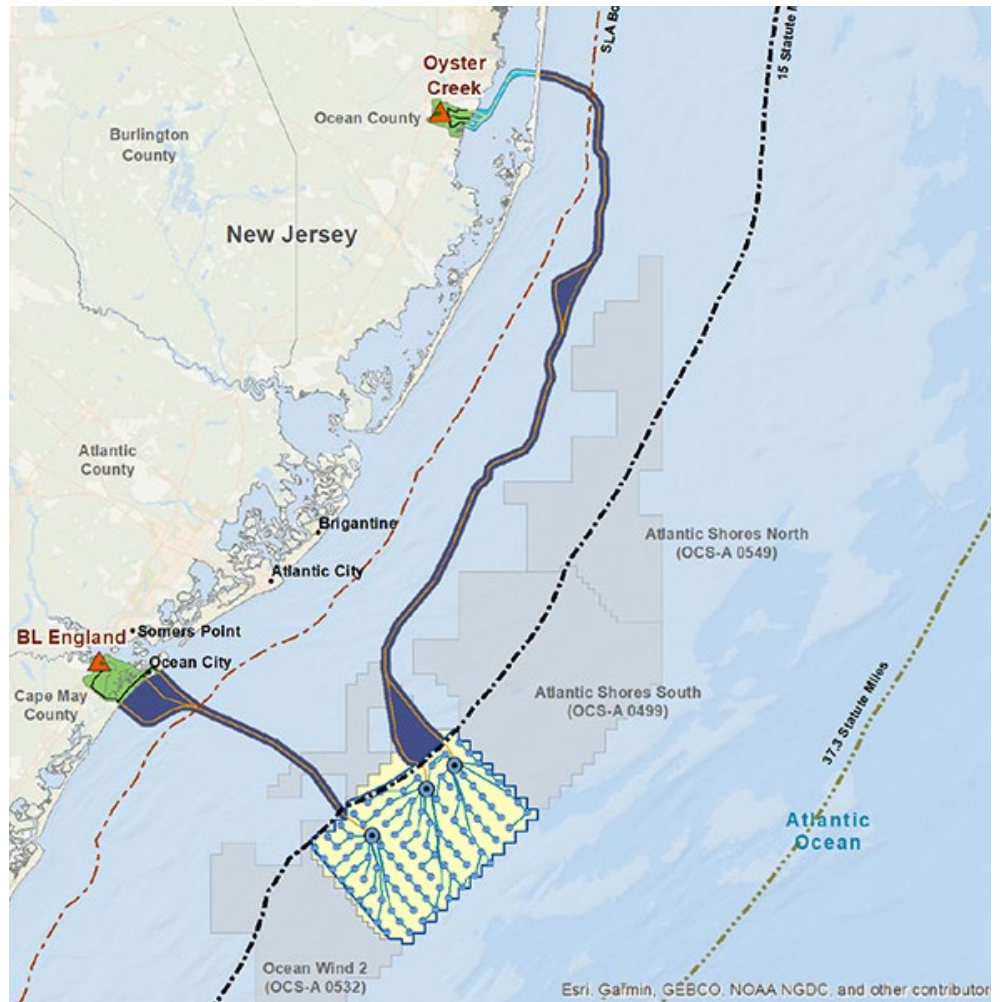
The DEIS, which BOEM released on June 17, found that Ocean Wind 1 would likely not have a major impact on most of the 19 environmental and related categories scrutinized. But the report also found that the construction and installation, operations and maintenance, and eventual decommissioning of the project could have a major impact on marine navigation and vessel traffic. (See *BOEM Draft EIS Finds Potential Major Impacts from 1st NJ OSW Project*.) About 140 people attended the forum Wednesday.

Clean Ocean Action, a nonprofit environmental organization that protects marine life, urged the federal agency to extend its public input period by 60 days to allow a more thorough analysis of the report. It also urged BOEM to approve only a pilot offshore wind project to allow the impact to be evaluated before committing to the portfolio of projects under development.

"Clean Ocean Action is not opposed to offshore wind, but the ocean deserves protection," Cindy Zipf, executive director of Clean Ocean Action, told the bureau July 14. "We are very concerned, and we have many questions."

Among them, she said, are: What will be the impact on the ocean from its "massive industrialization" by wind projects? How would it "undermine the ocean's ability to buffer climate change"? Will the area lose local seafood resources? And what are the "long-term consequences" of the projects?

"Do we really understand and know what we're doing?" asked Zipf, one of four Clean Ocean Action speakers at the hearing. "The answer, we believe, is 'no.'"



The Ocean Wind 1 project is located on the Outer Continental Shelf, approximately 15 miles from the New Jersey coast. | *Ocean Wind 2021*

Property owners from Jersey Shore towns that face the planned wind farm site also spoke vigorously against the plan, fearing it would ruin the view and the atmosphere of the shore communities.

Joan-Marie Ebert, who said she owns a second home with her husband in Ocean City on the Jersey Shore, said they only recently learned about the wind project, which was approved in 2019, by accident. She said most Ocean City homeowners are also not well aware of the project because their properties are second homes, and they live out of state.

"Nobody knows about Ocean Wind. It is alarming to me that a project of this scale and scope and size with impact to our coastal communities is being pushed through so aggressively,"

said Ebert, who spoke at both hearings. "My husband and I are not opposed to wind energy. However, 900-foot turbines, 98 of them with Ocean Wind 1, placed 15 miles off the coast, and three substations, will produce a dominant impact on the beach view."

Supporters

Project opponents, however, were heavily outnumbered by environmental and business groups and other project supporters, who cited the need to move quickly to combat the growing threat of climate change, and the economic benefits and job creation that would come from the projects.

"I understand the fear of the unknown or uncertain," James Lavor Thompson, campaigns director for the New Jersey League

PJM News



of Conservation Voters, said at Wednesday's hearing. "But the consequences of opposition to this project will have an effect on our marine life, water quality and air quality. ... We have already seen these impacts in a very real way along the Jersey coast: rising sea levels, stronger storms, impact to marine life and coastal erosion. And the crisis is only getting worse."

Supporters of the project said that offshore wind projects had been operating in Europe for years without problems. And they said the first U.S. offshore wind project, the 30-MW Block Island Wind Farm in Rhode Island that became operational in 2016, had shown that offshore wind works without causing problems.

"We already have a pilot project in Block Island," said Drew Tompkins, director of advocacy and policy at the New Jersey Work Environment Council.

Several union representatives — among them representatives of the Eastern Atlantic States Regional Council of Carpenters, Easter Millwright Regional Council and the Laborers' International Union of North America — shared their commitment to the project. So did Hilary Chebra, manager of government affairs for the Chamber of Commerce Southern New Jersey.

"The draft environmental impact statement noted that there will be notable and measurable benefits as a result of offshore wind development," said Chebra. "The jobs and economic benefits of Ocean Wind 1 are vital to the South Jersey region, to help diversify our economy that has been historically dependent on hospitality and gaming industries."

Focusing more on the impact of Ocean Wind 1 on human beings, three medical professionals urged BOEM to advance the project.

"Climate change poses threats to human health, safety and security," Aviva Gans, a pediatric physical therapist, told the agency. "And children are uniquely vulnerable to these threats."

Inga Robbins, a cardiologist and a member of Clinicians for Climate Action New Jersey, said she backed the wind projects in part because they would help combat the damage, particularly heart ailments, that are caused by pollution from fossil fuel-fired plants.

"I can't bear to see the patients I care for every day, already struggling with a disparate burden of cardiovascular disease, find themselves in a hotter city with more flooding events," she said.

Next Steps

BOEM is scheduled to hold a final hearing

today, and the 45-day public comment period ends on Aug. 8, after which the agency will release its final environmental impact statement.

Ocean Wind 1, which is planned for a site about 15 miles from the Jersey Shore around Atlantic City, is one of three offshore wind projects so far approved in two solicitations by the New Jersey's Board of Public Utilities (BPU). The agency expects to hold three solicitations to bring the total capacity of the state's offshore wind sector to 7,500 MW by 2035. (See *NJ Awards Two Offshore Wind Projects*.)

BOEM said the hearings are designed to solicit public input and new information that would shed new light on the report, such as issues over its accuracy; the adequacy of the methodology and the assumptions; questions seeking to clarify issues in the report; and alternative information sources not used.

The DEIS outlines the impact of several scenarios, including the project not going ahead, advancing as planned and advancing with modifications. These include scenarios that would remove between nine and 19 turbines that are closest to coastal communities, and a proposal to relocate eight turbines so that there is a space between Ocean Wind 1 and the Atlantic Shores project, which is planned for a nearby area.

In most cases, the DEIS concluded that the alternative scenarios would provide only minor to moderate benefits.

Requests and Questions

Kristen O'Rourke, quality of life director for the borough of Point Pleasant Beach, urged BOEM to extend the public comment period on the DEIS, in large part because the municipality's small staff doesn't have the time to fully digest the lengthy report at the height of the busy summer season.

An extension is needed "to give people like us — small people, small towns — a fighting chance to review the potential impacts to our environment," she said.

BOEM officials said they will evaluate all suggestions, including the request to extend the public comment period. And the agency responded to some questions submitted at the hearing, some of which touched on concerns that have surfaced repeatedly at forums on the offshore wind projects.

Among them was why the Ocean Wind 1 proposal places turbines only 15 miles from the shore, when proposed projects in New York are twice that distance to minimize the visual impact.

Will Waskes, project coordinator for BOEM's New Jersey office, said the state determined the location of wind projects to be built off the state's coast around 2010. The decision was "intended to protect ecologically sensitive areas and minimize use conflicts," among them those with vessel traffic and the activities of the Department of Defense, and also crafting a map of "areas that would be of sufficient size to hold a commercial-scale development." Those decisions also were based on the technologies available at the time, he said, apparently referring to smaller turbines that were the norm then.

BOEM also addressed a concern often raised at hearings about the potential health risks from electromagnetic fields (EMF) emanating from high-voltage transmission lines that will run undersea and onshore through communities. Srinivas Vishnubhotla, a civil engineer for BOEM, said the agency studied the issue in 2019, and EMF levels associated with offshore wind projects were "found to be well below the recommended limits for human exposure."

"The recommended limits for human exposure are 12 to 100 times higher than the EMF levels from cables measured at the seafloor," he said. "Onshore export cables would be buried and housed within a single duct bank buried along the onshore export cable route."

Vishnubhotla also addressed a speaker's question on the ability of turbines to withstand a hurricane, and how the agency could "guarantee the workmanship and integrity on such a huge project." He noted that a small land-based wind farm near the sea in Atlantic City "survived Hurricane Sandy and was back to full operations shortly after the storm passed." Construction integrity is ensured by having a neutral third party certified verification agent (CVA) oversee the "design, the fabrication and the installation of any approved projects" and to verify compliance with BOEM requirements.

Ric Bertsch, a resident of Ocean City, said his reading of the report suggested that some mammals could suffer hearing loss from construction of the projects.

"Marine mammals, in particular in North Atlantic right whale, are at increased risk of greater mortality," he said.

Greg Fulling, a marine biologist for BOEM, said the impact to marine mammals, sea turtles and fish depends on the distance from the noise source. "BOEM has worked directly with the National Marine Fisheries Service in evaluating and reducing these potential impacts," he said. ■

PJM News

PJM MRC/MC Preview

Below is a summary of the issues scheduled to be brought to a vote at the PJM Markets and Reliability and Members committees on Wednesday. Each item is listed by agenda number, description and projected time of discussion, followed by a summary of the issue and links to prior coverage in *RTO Insider*.

RTO Insider will be covering the discussions and votes. See next Tuesday's newsletter for a full report.

Markets and Reliability Committee

Consent Agenda (9:05-9:10)

B. Load Management Resources Testing

The MRC will be asked to endorse changes to Manual 01: Control Center and Data Exchange Requirements, Manual 18: PJM Capacity Market and Manual 28: Operating Agreement Accounting to conform with new testing requirements for demand response and price-responsive demand. The changes, which were approved by FERC in June 2020, will become effective with delivery year 2023/24 (*ER20-1590*).

C. Timing of Generation Deactivations

Members will be asked to endorse revisions to Manual 14D: Generator Operational Requirements to support the process timing changes for generation deactivations. (See "Quick Fix' Changes OK'd for Manual 14D," *PJM Operating Committee Briefs: July 14, 2022*.)

D. Start-up Cost Offer Development

PJM will seek stakeholder endorsement of

revisions to Manual 28: Operating Agreement Accounting to support the start-up cost offer development proposal the MRC approved in May. It clarifies what intervals are included in segments for determination of balancing operating reserve credits. (See "Start-up Cost Offer Development Proposal Endorsed," *PJM MRC Briefs: May 25, 2022*.)

Endorsements (9:30-10:25)

2. Application of Designated Entity Agreement (9:30-10)

Members will choose between two issue charges on PJM's administration of the designated entity agreement: one proposed by the Delaware Division of the Public Advocate and the New Jersey Division of the Rate Counsel, and a second by East Kentucky Power Cooperative on behalf of transmission owners. The latter would make out of scope any consideration of changes to the rights and responsibilities of PJM and the TOs under the Consolidated Transmission Owners' Agreement. (See *PJM TOs, Consumer Advocates at Odds over DEA Inquiry*.)

3. Market Seller Offer Cap (10-10:25)

Members will be asked to approve revisions to the market seller offer cap endorsed by the Resource Adequacy Senior Task Force. (See "Stakeholders Wary of 'Narrow' Change to Market Seller Offer Cap," *PJM Markets and Reliability Committee Briefs: June 29, 2022*.)

Members Committee

Consent Agenda (1:25-1:30)

B. Start-up Cost Offer Development

See MRC Consent Agenda item D.

Endorsements (1:30-2:05)


1. Manual 34 – CBIR Matrix Solutions Options (1:30-1:40)

John Horstmann of Dayton Power & Light and Adrien Ford of Old Dominion Electric Cooperative will seek endorsement of revisions to Manual 34: PJM Stakeholder Process to allow PJM and stakeholders to add options to a Consensus Based Issue Resolution (CBIR) matrix before posting the matrix for discussion. (See "Members Debate Change to CBIR Matrix Procedure," *PJM Stakeholders Pump the Brakes on 'Clean Energy Expertise' for Board*.)

3. Market Seller Offer Cap (1:40-2:05)

See MRC Endorsements item 3. ■

— Rich Heidorn Jr.



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SPP News

SPP Board, Regulators to Consider Reserve Margin Increase

12% Margin to be Raised to 15%, but Timing Question Remains

By Tom Kleckner

WESTMINSTER, Colo. — SPP and its members have agreed to boost the RTO's planning reserve margin to 15% from 12% but remain at odds over the timing of the increase following Markets and Operations Policy Committee discussions that Chair Denise Buffington described as "contentious."

(SPP's Regional State Committee considered the issue Monday, and the Board of Directors will consider it today, during their virtual quarterly meetings. RTO Insider will have a follow-up story later today.)

SPP's reserve margin requirement, currently 12%, is based on a probabilistic loss-of-load expectation (LOLE) study performed every two years to determine the capacity needed to meet the reliability target of a one-day outage every 10 years (0.1 days/year). LREs unable to meet their obligation can incur financial penalties from the RTO.

"There was concern that moving too quickly will put members in non-compliance from the start," Buffington told the Strategic Planning Committee the day after MOPC's July 10-11 meeting. "There were also concerns the [generator interconnection] queue isn't sufficiently caught up to actually get steel in the ground to meet those obligations."

The grid operator's staff wants to raise the planning reserve margin (PRM) to 15%, saying the 2021 study shows the current 12% requirement won't satisfy the 1-in-10 metric for the 2023 summer season. They also said an increased margin of safety is necessary, as the 31 GW of nameplate wind capacity already present on the system has increased the risk of wind volatility, with more wind projects yet to come. A 15% PRM would incent new generation and reduce the risks and costs associated with extreme weather events, they said.

COO Lanny Nickell told MOPC that SPP doesn't take lightly its responsibility to manage reliability across its footprint.

"We understand that some LREs expect to struggle to comply with the increased PRM requirement ... We understand that taking actions to increase capacity necessary to comply will be costly, likely upwards of a billion dollars in capital investment," he said.

"However, we also know that experiencing an



Every's Denise Buffington (left), and SPP COO Lanny Nickell guide MOPC's discussion. | © RTO Insider LLC

unwanted interruption of power, especially during extreme heat or extreme cold conditions, is not only extremely frustrating to customers but also very costly, especially when loss of life is involved. A decision to increase the PRM requirement to 15% as soon as possible significantly reduces our risk that we experience another event where load is not able to be served," Nickell said.

Stair-step Approach

The Supply Adequacy Working Group (SAWG) is recommending a stair-step approach, with the PRM raised one percentage point over each of the next three years. It said that would give the GI queue time to reduce its backlog, adding certainty to generation forecasts, and allow LREs short of their capacity requirements to close their gaps.

SPP resisted. "As a reliability coordinator, we cannot endorse a 13% planning reserve margin next year when we think the right number is 15%," Casey Cathey, director of system planning, said. "It's just too much of a risk to endorse a stair-step approach, given the nature of our generation mix and the uncertainties around us."

Staff updated MOPC on its efforts to clear the queue's backlog, sticking to the 2024 completion target they set during April's meeting.

They said they've reduced the current queue's number of active interconnection requests from 481, totaling 90.3 GW, to 466, totaling 87.27 GW as of June, thanks to the new three-phase interconnection study process. (See [FERC OKs New SPP Interconnection Process](#).)

SPP has added more than 25 GW of generation the last five years, most of it from renewable resources.



Usha Turner, OG&E | © RTO Insider LLC

"We should make certain [our current processes] are reflective of the current changes in our industry," Oklahoma Gas & Electric's Usha Turner said. "As we're looking at 15%, given what we are seeing in the queue and the nature of what's in the queue, is that enough?"

"We're evolving as we're seeing things happening," she said. "We need to better reflect the nature of our generation."

Stakeholders in various working groups have pointed out the LOLE study does not include 2011 and 2021 weather-related impacts, future forced outage rates, the limited availability of demand response or any safety margin beyond the 1-in-10 reliability metric.

SPP News

They said a larger, immediate increase in the PRM adds to market uncertainty and could leave LREs unable to cure capacity shortfalls. They also said they are concerned that even if excess capacity exists, it might not be available for purchase.

Nickell said that were the 15% PRM required by 2023, up to a dozen LREs would not be able to meet their obligations. Cathey noted SPP has about 3.6 GW of capacity available for purchase, but Turner responded that in her experience, that capacity is not available.

Midwest Energy's Bill Dowling, among those favoring the SAWG approach, said instituting the 15% PRM immediately would prevent generators from rethinking retirement plans "that were devised with at least an assumption that the planning reserve margin wasn't going to make a big jump.

"I don't think we can expect to get out of this by saying we need 15%," Dowling said. "We need time."

SAWG chair Natasha Henderson of Golden Spread Electric Cooperative, suggested it would be helpful to gather additional metrics around energy uncertainty. "What do we have

now? What did we have a few years ago? What will we have going forward?"

Her recommendation gained support from Nickell.

After rejecting a suggestion to delay the PRM's consideration until the October MOPC meeting, members voted on several motions before arriving at a consensus. A suggestion to increase the PRM to 13% in 2023 and 15% in 2025 fell short of two-thirds approval at 60%. Endorsing the SAWG's stair-step increase but incorporating a waiver process should the RSC reject the working group's recommendation won only 48% approval.

However, a straight motion on the stair-step method passed with 95% approval. Members followed that by endorsing the SAWG's recommendation for a performance-based accreditation for conventional resources (thermal and hydro), with a one-year delay in the implementation date.

The performance-based accreditation differentiates resources according to their historical reliability but does not change the total capacity required to meet system reliability. It would be the first time SPP has applied



SAWG Chair Natasha Henderson explains stakeholders' position during PRM discussion. | © RTO Insider LLC

this methodology.

MOPC then approved a motion directing staff to create a process for approving waivers from the resource adequacy requirement should LREs not have sufficient time to resolve their deficiency.

As the dust settled, Buffington quipped that MOPC could soon expect a quiz on Robert's Rules of Order. She was greeted with laughter. ■

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Company News

NextEra Continues to Shine Brightly

Solar Development Key to Company's Strong Quarterly Results

By Tom Kleckner

NextEra Energy leadership said Friday that “powerful tailwinds” continue to support strong demand for renewables, repeating a message from last month’s *investor conference*.

“High power prices and high gas prices ... are helping to make renewables the most economic form of generation,” CFO Kirk Crews said during the company’s quarterly conference call with financial analysts.

Crews said NextEra’s renewable developer, NextEra Energy Resources, added slightly more than 2 GW to a backlog that now totals more than 19.6 GW. That included about 1.2 GW of solar projects, the second largest quarter of solar origination in our history.

The Juno Beach, Fla.-based company said it

was pleased with the government’s recent decision to waive additional duties for two years on solar panels imported from Malaysia, Thailand, Cambodia and Vietnam. The U.S. Department of Commerce has opened an investigation into claims that panels imported from those countries contain Chinese components subject to tariffs imposed by the Trump administration and continued under President Biden. (See *Biden Waives Tariffs on Key Solar Imports for 2 Years*.)

Crews said NextEra expects its suppliers will be making ingots and wafers outside of China at the end of those two years. The Commerce Department staff have “publicly stated that panels with wafers made outside of China are not subject to its investigation,” he said.

NextEra *reported earnings* of \$1.38 billion (\$0.70/share), compared to last year’s second quarter

of \$256 million (\$0.13/share). Earnings adjusted for one-time gains and costs came in at \$1.59 billion (\$0.81/share), exceeding Zacks Investment Research’s consensus of 75 cents/share.

During the quarter, NextEra commissioned the 1.2-GW natural gas-fired Dania Beach Clean Energy Center and placed into service the 176-mile North Florida Resiliency Connection transmission line. The line physically connects NextEra’s Florida Power & Light and Gulf Power grids and is projected to yield \$1.5 billion in system benefits through consolidated operations.

“Smart capital investments such as these help lower costs and improve reliability for customers, NextEra CEO John Ketchum said.

The company’s share price gained \$1.55 on Friday and closed at \$80.25. ■



Solar panels at NextEra Energy’s corporate HQ in Juno Beach, Fla. | © RTO Insider LLC

Company Briefs

Trailblazer Pipeline Looking to Switch from Natural Gas to CO₂

Trailblazer Pipeline and its sister firm, Rockies Express Pipeline, are seeking FERC's permission to switch the 40-year-old Trailblazer Pipeline from natural gas to carbon dioxide.

The 436-mile-long pipeline runs along the Colorado and Nebraska Panhandle border before dropping into Colorado's Sedgwick County and re-entering Nebraska near Venango.

FERC is preparing a review of the conversion's possible environmental effects. The commission is taking public comments on

the request, which must arrive by Aug. 10.

More: [The North Platte Telegraph](#)

GAF Energy to Open Manufacturing Plant in Texas



Solar company GAF Energy last week said it will open a new factory in Texas to produce its residential solar roof shingles in the U.S.

rather than in Asia.

GAF Energy said the \$100 million facility in Georgetown will bring its domestic production capacity to 300 MW annually, up from 50 MW.

The announcement comes amid growing U.S. concerns about reliance on Chinese-made solar products.

More: [Reuters](#)

Vistra Appoints Moldovan as CFO

Vistra last week announced that its board of directors has appointed Kris Moldovan as its next chief financial officer, effective Aug. 1.

Moldovan, 50, has been with the company and its predecessors since 2006. Has served as senior vice president and treasurer for the last five years.

Moldovan takes over for Jim Burke, who will transition to CEO.

More: [Vistra](#)

Federal Briefs

USPS to Purchase More EVs



The Postal Service last week announced it now wants 50% of its initial purchase of 50,000 next-generation vehicles to be electric.

In the initial plan, EVs would have accounted for 10% of the new fleet. The reversal comes after the Biden administration and environmental groups said the plan had too few EVs and fell short of the administration's climate change goals.

USPS seeks to buy up to 165,000 next-generation vehicles over a decade to replace delivery trucks that went into service between 1987 and 1994.

More: [The Associated Press](#)

LNG Exports Exceeding Last Year's Pace

The seven operating LNG export terminals

in the U.S. have pumped out more than 1.7 Tcf of the gas this year through May, according to data from the Department of Energy, nearly 260 billion more than the nation's terminals had moved at the same point last year.

Leading the way was Sabine Pass LNG in Cameron Parish, La., which has exported nearly 626.9 Bcf through May — a 100-Bcf spike compared to the same period in 2021. The facility's output nearly doubled the second-place facility, Corpus Christi Liquefaction in Texas, which exported 315 Bcf through May.

The Energy Information Administration has predicted that exports will average about 10.5 Bcfd during the second half of 2022, a 6% decrease from the first half of the year. The primary culprit for the decrease is the Freeport LNG outage.

More: [The Acadiana Advocate](#)

Glick Names Ortiz to Head FERC Office of Electric Reliability

FERC Chairman Richard Glick on Wednesday named David Ortiz as director of the commission's Office of Electric Reliability (OER).

"With extreme weather and other threats that continue to challenge the security and reliability of our nation's electric grid, David Ortiz is the right choice to head OER as we continue to prioritize security and reliability of the bulk power system," Glick said in a statement.

Ortiz joined FERC in April 2016 as OER's deputy director and served as acting director twice. Before joining the commission, he served as deputy assistant secretary for energy infrastructure modeling and analysis at the Department of Energy.

More: [FERC](#)

State Briefs

ARIZONA

BrightNight, SPPA Partner for Solar-plus-storage Project

Utility-scale developer BrightNight last week announced it has entered a joint ven-



ture with Southwest

Public Power Agency (SPPA) to deliver 300 MW of solar capacity and 600 MW of battery storage.

Power will be supplied from BrightNight's Box Canyon Solar project and is expected to

meet roughly 33% of SPPA's peak capacity needs and 19% to 21% of its total energy needs.

The project is expected to become operational by 2025.

More: [pv magazine](#)

CALIFORNIA

Authorities Believe Power Lines May Have Caused Emerald Fire

An Orange County Fire Authority investigation suggested power line sparks were the likely cause of the Emerald Fire that burned through 154 acres in February.

The five-month investigation said authorities determined sparks from electrical arcing most likely started the brush fire, which was then fed by high wind speeds. The lines are owned by Southern California Edison.

More: [Daily Pilot](#)

IOWA

Waterloo Becomes Fourth City to Adopt Carbon-free Goal

The city of Waterloo last week vowed to run on carbon-free electricity by 2035, making it the fourth city in the U.S. to adopt the pledge.

City council voted unanimously to adopt the goal and joins Des Moines; Ithaca, N.Y.; and South Lake Tahoe, Calif., as cities that aim to operate on clean energy in the future.

The city said it will work with utilities, businesses, community stakeholders and residents to come up with ideas to achieve the goal.

More: [The Courier](#)

MISSOURI

Ameren Missouri to Acquire 150 MW Solar Facility



Ameren Missouri last week announced that it will purchase a 150-MW solar facility

in Illinois to help supply renewable energy to 10 new partners.

Invenergy is developing the facility to help supply power to General Motors and Walmart, among others.

The facility is expected to become operational in 2024.

More: [Daily Energy Insider](#)

NORTH DAKOTA

PSC OKs Interim Rate Increase for MDU

The Public Service Commission last week

approved an interim rate increase for Montana-Dakota Utilities as it considers the company's request for a larger, permanent hike.

The PSC approved an interim increase of about 6% (\$10.9 million). MDU wants an overall 12.3% (\$25.4 million) annual increase. The increase for residential customers would be 17% (\$15).

Customers will start seeing the increase immediately but will be reimbursed if the final order is less than the interim rate.

More: [The Bismarck Tribune](#)

OREGON

Portland City Council Approves Clean Energy Fund Grants to Nonprofits

The Portland City Council last week unanimously approved \$122 million in grants from the Portland Clean Energy Fund, a \$298 million tax-dollar-fund aimed at lowering carbon emissions and driving climate investments into low-income communities.

The 65 grants are the second batch from the PCEF. The largest grant is \$10 million to the Community Energy Project to complete 40 to 50 "deep energy retrofits" annually for five years for low-income homeowners, with a minimum of 50% being people of color. Other funds will go to the Community Cycling Center, Street Roots and Central City Concern.

The PCEF is funded by a surcharge on retailers with annual sales of \$1 billion or more in the U.S. and \$500,000 or more within Portland.

More: [Williamette Week](#)

PENNSYLVANIA

Court Reinstates RGGI Injunction



Commonwealth Court Judge **Michael H. Wojcik** on Monday reinstated his preliminary injunction barring the state from the Regional Greenhouse Gas Initiative.

Wojcik, who issued the injunction July 8, had stayed it in response to an appeal filed July 11 by the administration of Gov. Tom Wolf. But in his *order*, the judge said intervenors in the State Senate had met their burden of proof to reinstate it. Wojcik's original ruling concluded Wolf's opponents were likely to win their argument that the administration's

plan to join RGGI required legislative approval. (See [Court Blocks Pa. from Joining RGGI](#).)

PJM's Independent Market Monitor issued a notice Monday saying generators cannot include RGGI costs in their cost-based offers effective beginning today, for Wednesday.

More: [Bloomberg Law](#); [Monitoring Analytics](#)

SOUTH DAKOTA

Brown County Commission Issues Moratorium on Pipelines

The Brown County Commission last week unanimously approved a one-year moratorium on the construction of all pipelines.

The resolution, "imposes a temporary moratorium on the issuance of any and all permits, licenses or approvals for the construction, installation or use of any transmission pipeline requiring the approval of the South Dakota Public Utilities Commission, traversing those lands contained within the unincorporated areas of Brown County, S.D., including the construction of any transmission pipeline-related infrastructure."

The resolution gives the Planning and Zoning Office up to a year to review related regulations. If that review process is not complete by then, the moratorium could be extended another year.

More: [Aberdeen News](#)

VIRGINIA

SCC Approves Appalachian Power's Latest Renewable Energy Plan

The State Corporation Commission last week approved Appalachian Power's latest plan to generate all carbon-free electricity by 2050.

Doing so will cost Appalachian \$32 million in the upcoming rate year. To cover the expenses, the commission granted a rate increase of another \$2.37 to the average monthly bill. The SCC also granted Appalachian's request to own or purchase power from four solar farms in Virginia, a fifth in West Virginia and a wind facility in Illinois. Together, the units will produce about 493 MW.

The Virginia Clean Economy Act, passed in 2020, requires Appalachian to annually update a plan that documents its gradual movement toward carbon-free power by mid-century.

More: [The Roanoke Times](#)

WISCONSIN

Labor, Material Shortages Bump Up Cost of Iowa County Solar Farm



Madison Gas and Electric and We Energies last week said a combination

of supply-chain constraints, increased labor costs and a trade investigation have resulted in a \$32 million (16%) cost overrun and a three-month delay for the Badger Hollow II solar farm.

The utilities said the cost increases will

enable the project to avoid significantly longer delays, resulting in lower greenhouse gas emissions and lowering future costs for customers.

The first phase of the 300-MW project was completed in 2021 after delays attributed to the COVID-19 pandemic.

More: [Wisconsin State Journal](#)

Utilities Partner with Biogas Farmers to Replace Fossil Gas

The Public Service Commission last week voted unanimously to approve WEC Energy Group's \$75 million pilot program to replace

some of its natural gas supply with renewable methane from local farms.

This approach will allow farmers to hook up directly to the gas distribution network rather than having to haul pressurized gas to an interstate pipeline portal.

Created during the anaerobic digestion of organic material, renewable methane is interchangeable with the fossil fuel extracted from the ground and can be blended into pipeline supplies used for home heating, transportation and electricity generation.

More: [Wisconsin State Journal](#)

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