

RTO Insider

Your Eyes and Ears on the Organized Electric Markets
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December 15, 2020

Southeast Utilities Announce Plan for Regional Market *Not an RTO, Companies Say*

By Rich Heidorn Jr.

Eighteen Southeastern utilities and cooperatives, led by Duke Energy, Southern Co. and the Tennessee Valley Authority, *announced* Friday they will seek FERC approval to launch a 15-minute energy market next year.

The Southeast Energy Exchange Market (SEEM) will be “an overlay to the existing bilateral market to increase efficiency and opportunities for wholesale economic energy purchases and sales,” Duke Energy Carolinas and Duke Energy Progress said in an informational *filing* to the North Carolina Utilities Commission. The system will provide automated matching, reservation and tagging functions.

“In the existing bilateral market, buyers and sellers have to find each other. The SEEM will increase efficiencies by using an electronic algorithm-based wholesale energy trading platform to match willing buyers and sellers in the Southeast region who are already able to transact under existing power sales agreements and authorizations.”

Duke said the market will be under the sole jurisdiction of FERC and that it will not replace or change existing federal balancing authority or transmission provider reliability requirements.

The agreement is not a pooling agreement or a wholesale power sales agreement, Duke said. It will use otherwise unused transmission capacity, and the transactions matched via SEEM will be consummated under existing bilateral agreements between the buyer and seller, Duke said.

The company’s filing included the SEEM “platform agreement” and other governing documents.

Listed as founding members of SEEM are: Associated Electric Cooperative Inc. (AECI), Dalton Utilities, Dominion Energy South Carolina, Duke Energy Carolinas, Duke Energy Progress, Electricities of North Carolina, Georgia System Operations Corp., Georgia

Continued on page 3

Invenergy Renewing Push for Grain Belt Express

By Jason York

Invenergy Vice President for Regulatory Affairs Nicole Luckey last week provided an update on her company’s efforts to win approval of the *Grain Belt Express*, which the company acquired this year after Clean Line Energy Partners abandoned it in the face of regulatory, legal and political hurdles.

Invenergy is making a revitalized push for the approximately 800-mile HVDC transmission line that would carry 4,000 MW of wind energy from western Kansas through Missouri and Illinois to the Indiana border, Luckey told the Missouri Energy Initiative’s Midwest Energy Policy Series



Nicole Luckey, Invenergy | Missouri Energy Initiative

Continued on page 19

MISO Prepares Members for Pricy Tx Expansion

By Amanda Durish Cook

MISO executives last week said an evolving energy industry heralds big spending on transmission projects in the RTO’s footprint.

Vice President of System Planning Jennifer Curran borrowed a line from CEO John Bear when she told the MISO Board of Directors, “If you love renewables, you better love transmission.”

“And that’s very true,” she said during the board’s System Planning Committee on Dec. 7, noting that transmission is key to linking renewable sources with load centers.

The grid operator announced in July that it will begin a long-term transmission planning *effort*, driven by an accelerating fleet transition as customer preferences, decarbonization goals and economics converge. MISO has said



Ameren line construction | Plocher Construction

its members’ decarbonization and renewable goals are dependent on it “addressing rapidly worsening deliverability.”

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FERC/Federal News



Southeast Utilities Announce Plan for Regional Market

Not an RTO, Companies Say

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Transmission, LG&E and KU Energy, MEAG Power, North Carolina Electric Membership Corp., Oglethorpe Power, PowerSouth, Santee Cooper, Southern's Georgia Power and Mississippi Power, and TVA.

The companies said an independent third-party consultant estimated the market will provide members a total of \$40 million to \$50 million in annual savings in the near term, potentially growing to \$100 million to \$150 million annually "as more solar and other variable energy resources are added."

Not an RTO

The companies made it clear that SEEM is not a gateway to an RTO. "Importantly, SEEM members maintain local control of their generation and transmission assets, and participation is voluntary. Many of the member companies operate within state guidelines and directives, so having full control over their respective generation and transmission resources is an important governing requirement," they said.

"We're assessing the details released by the utilities today, but we've been suspect about this from the beginning," Frank Rambo, the head of the Southern Environmental Law Center's clean energy and air program, said Friday. "If your goals are truly to encourage renewables and lower costs, this is not what you propose and not where you stop. You would go much further in reforming the wholesale market."

"While we are still digesting the filing, the Southeast Energy Exchange Market proposal would benefit from a number of improvements," said Sean Gallagher, vice president of state affairs at the Solar Energy Industries Association. "The proposal is missing critical details about renewable energy integration as well as a mechanism to prevent price fixing. Both issues will ultimately impact ratepayers and are a hallmark of monopoly utility power. We support a competitive marketplace in the Southeast. Stakeholder input will be a critical part of this effort, and we look forward to engaging with regulators to help improve this proposal and create more opportunities for competition."

When word of the prospective market broke in July following months of secret negotiations, Maggie Shober, director of power market analytics for the Southeast Alliance for Clean Energy, said it appeared to be an effort to avoid legislative action to create an RTO in the Carolinas. (See *Southeast Utilities Talking Regional Market*.)

North Carolina House Bill 958, introduced in April 2019, would authorize the North Carolina Utilities Commission to require the state's investor-owned utilities to establish or join a regional transmission entity after determining such a move would be in the public interest. It was referred to the House Committee on Rules, Calendar and Operations of the House.

South Carolina lawmakers introduced legislation (S. 998 and H. 4940) in January 2020 that would establish an Electricity Market Reform Measures Study Committee to study the benefits of electricity market reforms and whether the legislature should adopt them. In February, H. 4940 crossed over to the Senate.

Shober said her organization is pleased with the utilities' proposal for SEEM, calling it "a potential stepping stone toward letting clean energy resources compete with existing fossil generation on an even playing field."

"The governance and stakeholder structures matter," she added. "The settlement method is unique and has not been tested under a similar setup anywhere in the country. I suspect that these will be some of the key discussion points as SEEM moves through the regulatory process."

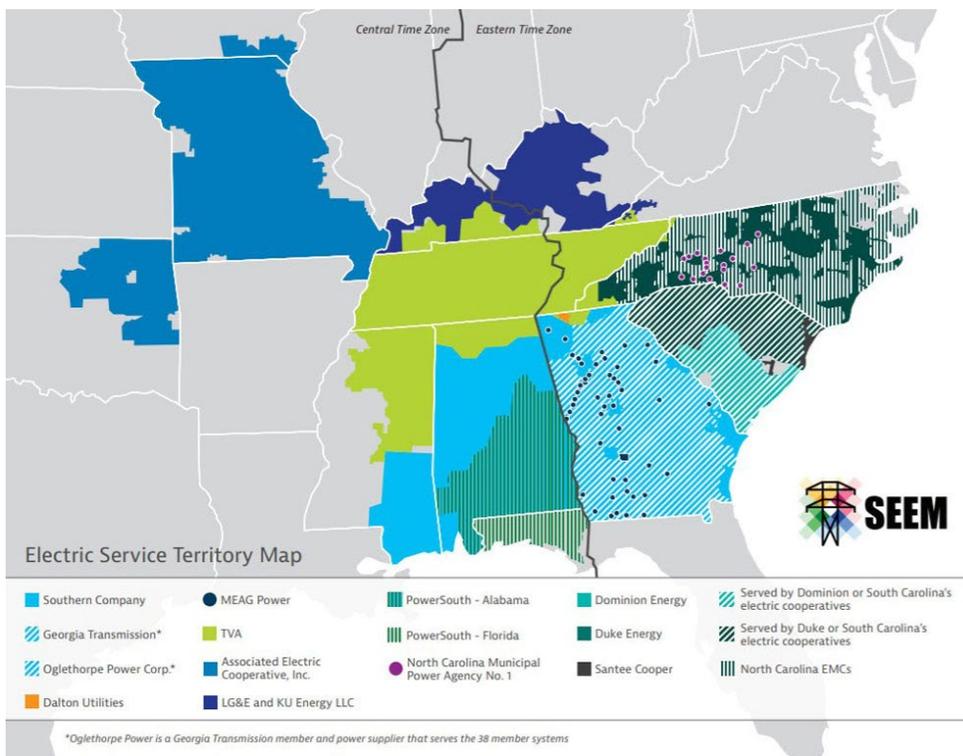
Administrator

The market will be run by a Southeast EEM Administrator and overseen by a four-member Operating Committee (two members representing investor-owned utilities and one each from cooperatives and governmental utilities) and a Membership Board.

Each member will get at least one vote on the Membership Board (the "Popular Vote") plus a number of votes based on its share of the net energy for load ("Net Energy for Load Vote").

One quarter of the market's costs will be allocated on a per-member basis with the remainder allocated based on net load shares.

A spokesman for AECEI said start-up costs are expected to be less than \$5 million with annual operating costs of \$1 million to \$3 million. ■



Map of proposed Southeast Energy Exchange Market | SEEM

FERC/Federal News



State Decarbonization not on Track, Study Says

By Rich Heidom Jr.

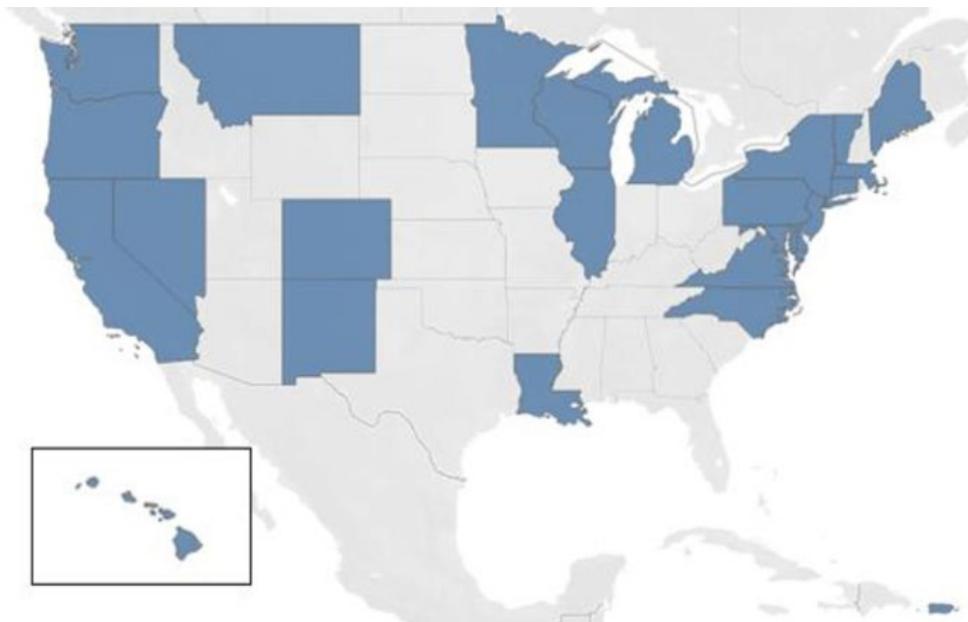
States that have set goals to reduce greenhouse gas emissions have yet to implement sufficient policies to meet their pledges, the Environmental Defense Fund said in a study released Wednesday.

Twenty-five states and Puerto Rico, which have pledged to meet the U.S. commitment under the Paris Agreement on climate change, are on a trajectory to reduce emissions by about 18% below 2005 levels by 2025, well below the 26 to 28% reduction promised, EDF said.

Based on emissions data from Rhodium Group, the study included Puerto Rico and 24 states that created the *U.S. Climate Alliance* after President Trump announced his intention to withdraw from the 2015 international agreement. It also included Louisiana, whose governor separately *announced* the state would meet the 2025 Paris target and eliminate net emissions by 2050.

EDF said the gaps are even larger when compared with the reductions the U.N. Intergovernmental Panel on Climate Change (IPCC) says are needed to avoid the worst consequences of climate change. The study said the states and Puerto Rico are on track to reduce emissions by only 11% from 2010 levels by 2030, rather than the 45% IPCC says is needed.

“While many states have taken important steps on climate, they are not moving fast enough to turn commitments into the policies that will



EDF's study focused on 25 states and Puerto Rico, which have made commitments to reduce their carbon emissions in line with the Paris Agreement. | EDF

lock in the needed reductions in pollution,” said Pam Kiely, EDF’s senior director for regulatory strategy. “Making a climate commitment is only the starting point — not the finish line. Even under a new president with a meaningful climate agenda, state policies are essential for securing significant and immediate reductions in climate-warming pollution. ... It’s also time for states that haven’t made a climate commitment to join the effort.”

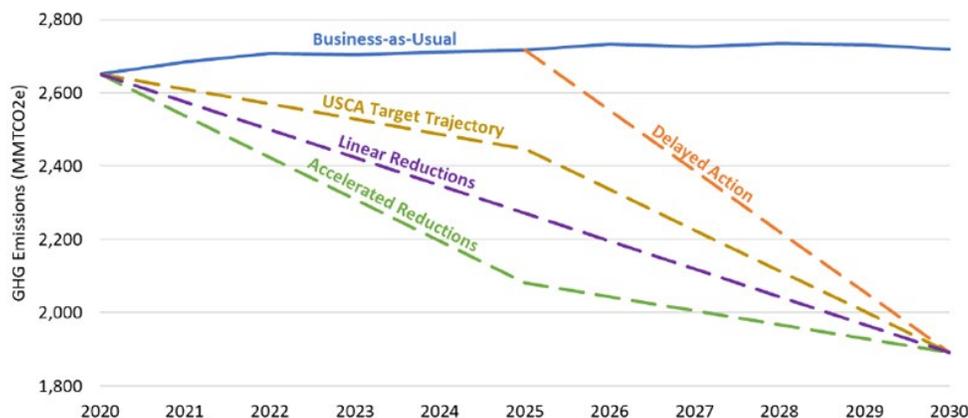
EDF’s study recommended the establishment of declining, enforceable limits on GHG

emissions, citing the model of the Regional Greenhouse Gas Initiative. It also said a well designed carbon price “can enable much greater ambition by securing the most cost-effective reductions, jumpstarting innovation and accelerating early action.”

“Regardless of the specific suite of policies deployed, it is imperative that states focus on the targets they have set, acknowledge their current emissions gaps and take action to achieve quantifiable reductions in pollution needed to limit warming over the coming decades,” EDF said.

The study cited New Mexico Gov. Michelle Lujan Grisham (D) as setting a good *example*, saying she is “engaging in a robust data analysis, transparently laying out the emissions gap and setting a course to enact comprehensive emission-reduction policies to ensure the gap is closed.”

The study says that although the IPCC has also called for net-zero carbon dioxide emissions by 2050, the amount emitted before that year is also crucial. “Carbon dioxide can remain in the atmosphere for thousands of years, so emissions entering the atmosphere over the next few years will continue to warm the planet for many decades to come,” EDF said. “The earlier we reduce emissions, the better the chance we have at achieving temperature stability at desirable levels.” ■



This chart shows different trajectories the states analyzed by EDF could take to meet the 2030 emission reduction target of the U.N. Intergovernmental Panel on Climate Change. While all of the pathways result in the same emission level in 2030, delaying action until 2025 would result in a cumulative reduction of only 2,540 million metric tons of carbon dioxide equivalent — less than half as much as the reductions under the accelerated pathway. | EDF

FERC/Federal News



Industry Eager for New Leadership on Tx, Climate

Officials Express Hope for Breakthroughs on Long-desired Policy Changes

By Michael Brooks

Panelists during last week's fourth annual gridCONNECT conference expressed tepid hope that the incoming Biden administration will be able to advance some of the policies they say are needed to integrate the surge of renewables coming online and address climate change.

Tepid because, as many noted, regardless of the results of the Jan. 5 special elections in Georgia that will decide which party controls the Senate, Congress will remain bitterly divided for at least the next two years. Many speakers listed off the issues that the two parties can come to some agreement on, such as energy efficiency, research and development funding, and enhancing grid cybersecurity.

But as they did so, there were notable hints of doubt, or even fatigue, in their voices.

"Can we reconfigure the grid in a way that allows us to take advantage of these [renewable] resources ... and take advantage of this

changing energy landscape?" posited Tracy Warren, director of the American Council on Renewable Energy's *Macro Grid Initiative*, which seeks to expand transmission nationwide, on Dec. 8, the first day of the online conference. (See *'Macro Grid' Seeks to Connect Grid's Regions.*)

"I think it is a serious question [of] 'can we do this?'" she continued. "As many of you know, we've been talking about infrastructure for a long time. 'Infrastructure Week in Washington' is a punchline to unfunny jokes. Look at what's happening now: Congress is having difficulty passing a COVID relief bill in the middle of a pandemic."

The need for more transmission pervaded nearly every discussion during the conference, regardless of whether it was a panel topic. But past failures of ambitious, interstate transmission providers, such as Clean Line Energy Partners, also frequently came up.

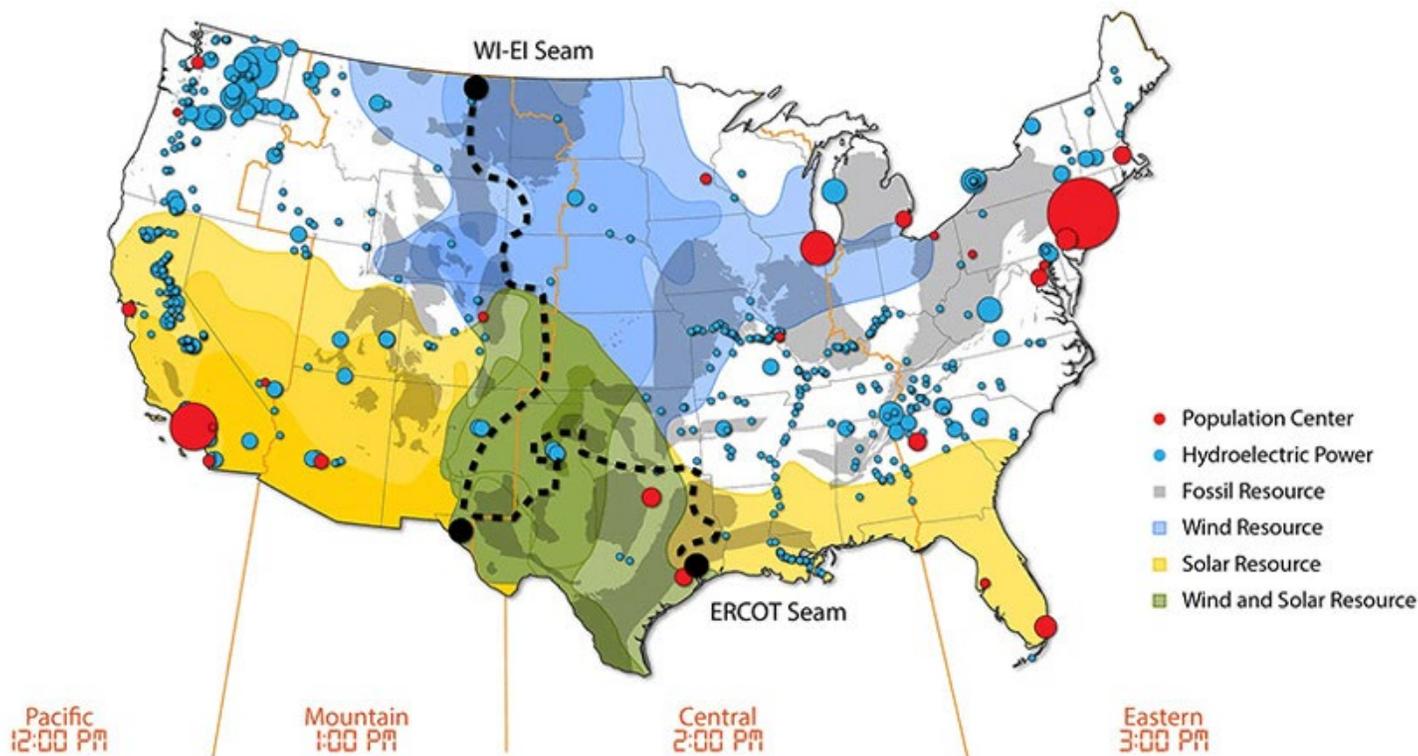
"I was looking over some notes from a transmission conference I spoke at about 12 years ago, and unfortunately the three points haven't changed," Jonathan Weisgall, vice president for

legislative and regulatory affairs at Berkshire Hathaway Energy, said Wednesday. "I once joked [that] we better hire eighth-graders for our transmission department so they can actually see projects finished before they retire."

"We need some direction; we need some leadership at the federal level," said Jay Caspary, vice president at Grid Strategies. "I don't think the existing planning processes, at least at the regional level, are looking out far enough and reflecting what we expect to happen [in] 20, 30, 40 years. They're more short-term and looking at the reliability problems in the next few years."

But even that approach, Caspary noted, failed this year during a record heat wave in the Western U.S. that led to rolling blackouts in California. One of the main problems that led to them was the state's lack of import capability. "There was 12,000 MW of wind in the [Great Plains] that couldn't get there," Caspary said. "We need to think differently."

Weisgall, Caspary and others called for FERC to revisit Order 1000 after President-elect Joe



Stitching together the power system's major regions would allow the U.S. to fully harness its renewable resources, ACORE and other groups argue, citing NREL's Interconnections Seams Study. | NREL

FERC/Federal News



Biden takes office and names a new chairman. They also expressed hope that it would continue to direct the integration of new technologies into RTO markets, similar to Orders 841 and 2222.

“We’ve got to improve the business case for more transmission investment,” Weisgall said. “We’ve got to do that at FERC, in Congress and in the states.” He also called for Congress to designate an agency — either FERC or the Department of Energy — as a single point of contact for transmission planning.

Weisgall noted that Berkshire’s Iowa-based MidAmerican Energy joined MISO, and NV Energy and PacifiCorp the Western Energy Imbalance Market (EIM), without any legislative or regulatory mandates. But despite the EIM’s success, and the expected benefits of its upcoming extended day-ahead market, a full-fledged RTO would provide even more, such as more efficient dispatch of renewables, he said. “Nobody disagrees with that. Nobody disagrees with the goal of trying to minimize the number of seams and maximizing markets. We really do need a full regional market to do that.”

The main problem? “Cali-phobia.”

Weisgall shared the panel with CAISO Board of Governors Chair Angelina Galiteva and NYISO CEO Richard Dewey. He noted that while both represented the U.S.’ two ISOs, NYISO is unlike CAISO in that the latter was formed by California law with a board appointed by the state’s governor. “You’re not going to get to a West-wide RTO if the California governor appoints that board,” requiring a change to state law or even the Federal Power Act, he said. “It’s going to be incredibly difficult” given



John Hofmeister, CEO of Citizens for Affordable Energy | [gridCONNEX](#)



Clockwise from top left: CAISO Board of Governors Chair Angelina Galiteva; NYISO CEO Richard Dewey; and Jonathan Weisgall, Berkshire Hathaway Energy. | [gridCONNEX](#)

“Nobody disagrees with the goal of trying to minimize the number of seams and maximizing markets. We really do need a full regional market to do that.”

— Jonathan Weisgall, vice president for legislative and regulatory affairs at Berkshire Hathaway Energy

the political diversity in the West and dysfunction in Washington.

‘Dysfunctional and Unfixable’

Government dysfunction was the main topic

of a keynote address on the last day of the conference by John Hofmeister, CEO of Citizens for Affordable Energy and former president of Shell Oil. He took the pessimism about Congress at the conference to the next level.

“The governance of energy [in the U.S.] is broken and dysfunctional and unfixable in its current form,” Hofmeister said. “Twenty years into the 21st century, and we are still stumbling along as a society” in addressing climate change. “Nine presidents, from Richard Nixon to Donald Trump, have failed to fix this problem.”

Hofmeister’s message was less about the urgency of the problem than its magnitude and the inherent inability of the U.S. government to solve it. Two-year election cycles lead Congress to focus only on short-term problems, while the multitude of federal agencies and congressional committees responsible for energy policy each have their own priorities, making it impossible for the government to be “on the same page” about global problems, he argued.

The one system “that sustains us through thick and thin, regardless of election cycle,” has been the Federal Reserve, whose Board of Governors comprises seven members nominated by the president and confirmed by the Senate for staggered 14-year terms. He called for a similar body dedicated to setting policy on climate change, but he acknowledged it was unlikely.

“From my standpoint, I’m less optimistic than I was 10 years ago ... that we can [solve climate change] rationally and pragmatically.” ■

CAISO/West News

California Lithium Extraction Plan Advances

'Lithium Valley' Near Salton Sea Could Help Meet Battery Demand

By Hudson Sangree

A proposal to extract lithium for battery production from geothermal wells in California moved forward Wednesday when the state's Energy Commission named most of the members of a new blue-ribbon panel to address the plan.

Energy commissioners said the idea of having a "Lithium Valley" in far Southern California could promote the state's goals of adopting utility-scale battery storage and electric vehicles while reversing the fortunes of the imperiled Salton Sea and its surrounding communities.

Created by a state statute earlier this year, the Blue Ribbon Commission on Lithium Extraction in California, commonly called the Lithium Valley Commission, is intended to foster that plan.

"I am really excited about this," CEC Commissioner Karen Douglas said. "We have a real opportunity to put Lithium Valley ... on the map in a way that also supports local economic

development and is the most environmentally positive way of getting bulk amounts of lithium ... that I know of."

Most lithium for lithium-ion batteries comes from South America, Australia and China. Hard-rock mining, which pollutes water, and evaporation ponds, which are depleting the scarce supply of water in Chile's Atacama Desert, are the main methods of obtaining lithium today.

The Salton Sea, a vast lake created accidentally in 1905 by a levee breach, is drying up and becoming more saline. Rotting fish carcasses line its shores. Dust storms blow toxins from a century of agricultural runoff. Imperial County, which encompasses the proposed area of lithium development, is among the state's poorest regions.

Geothermal energy is abundant, however, and the existing generating stations and surrounding areas are potential sources of lithium. Geothermal brine — subterranean waters awash in minerals and naturally heated to 500 degrees Fahrenheit — contain huge amounts

of lithium. The problem is extracting it in bulk at competitive prices.

"It's not alchemy," said Jonathan Weisgall, a new blue-ribbon panel member and vice president of legislative and regulatory affairs at Berkshire Hathaway Energy, which hopes to be a major player in the field. "The lithium is there. We've recovered it in the laboratory. The question is, can it be done in a commercial way? That's what this commission needs to promote to get California on the global map for lithium production."

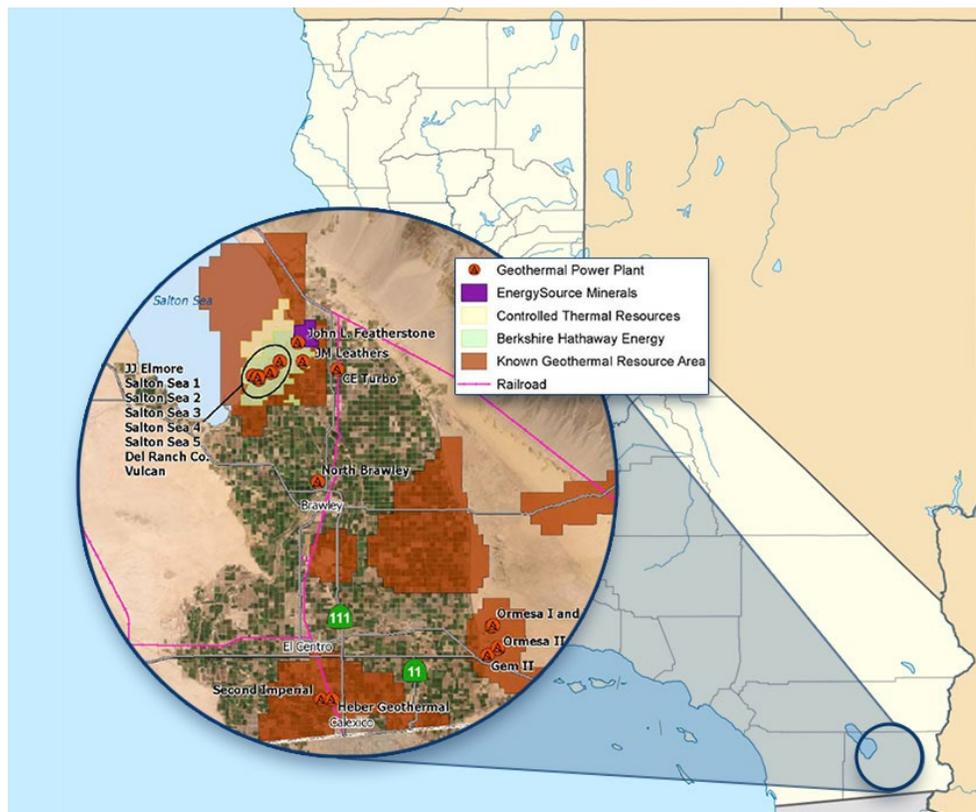
Efforts to extract lithium have sputtered and died before, but a bill enacted this year, [AB 1657](#), established the Lithium Valley Commission to explore the possibilities and report to the state by October 2022. The 14-person commission — nine of whom are CEC-appointed members — consists of representatives from lithium extraction firms, EV makers, local tribes, utilities and environmental groups. Five other members are appointed by the California Public Utilities Commission, the governor, lawmakers and the secretary of the state's Natural Resources Agency.

"The Lithium Valley Commission is charged with reviewing, investigating and analyzing certain issues and potential incentives regarding lithium extraction and use in California, and to consult, when feasible, with the United States Environmental Protection Agency and the United States Department of Energy in performing these tasks," the CEC said in its background memorandum.

Gov. Gavin Newsom's order for all new cars sold in California to be zero-emission vehicles by 2035 is expected to give the EV market a huge boost, while the state's mandate to rely on 100% clean energy by 2045 will require thousands of megawatts of batteries to store solar and wind energy for later use.

The CEC devoted \$14 million earlier this year to lithium extraction innovation projects, Chair David Hochschild noted.

The new commission "dovetails beautifully with what's happening in the energy storage and electric vehicle markets," Hochschild said. "We are going to see a tenfold increase in the amount of energy storage coming online in California in the next year and electric vehicles, of course. Everyone is seeing what's going on. ... There's just incredible momentum, and so demand for lithium is going to grow at a healthy clip." ■



A map showing geothermal areas where lithium could be extracted | California Energy Commission

CAISO/West News

CAISO CEO Defends Blackouts Response

Mainzer Insists Resource Adequacy, Transparency are Top Jobs

By Hudson Sangree

CAISO's CEO and four other top officials discussed the ISO's handling of California's mid-August blackouts and actions to head off future shortages in a webinar Wednesday hosted by the Clean Coalition, a nonprofit that advocates for clean energy and grid modernization.

The *webinar* was intended partly as a response to a similar Clean Coalition event last month in which Loretta Lynch, former president of the California Public Utilities Commission, questioned CAISO's actions in August and called on the state's attorney general to investigate ISO market practices. (See *Former CPUC President Calls for CAISO Probe.*)

"I think it's time for the California attorney general to investigate what happened at the ISO and, more than that, the ISO's market practices that can't keep the lights on," Lynch said at the time.

CEO Elliot Mainzer, who assumed his role Sept. 30, denied any insinuation of a coverup Wednesday. He said the ISO's top priorities include transparency, market integrity and resource adequacy.

"This is clearly a pivotal moment for the state, and I think we all recognize that it's essential that we develop a clear-eyed understanding of the root causes of the summer events," Mainzer said. "This is exactly what we are working on at the moment."

CAISO, the CPUC and the California Energy Commission (CEC) plan to release a final report by Dec. 31 on the root causes of the August blackouts and the planning, procurement and operational changes needed to prevent further outages, Mainzer said. The report will build on a preliminary analysis sent to Gov. Gavin Newsom in October. (See *CAISO Says Constrained Tx Contributed to Blackouts.*)

Among Lynch's questions in November was why CAISO had allowed large exports during an extreme heat wave when it knew the system would be strained. She also questioned why some generators were not operating and asked whether convergence bidding, a financial hedge on supply and demand, played a role.

In additional written questions read to Mainzer on Wednesday, Lynch asked about



Clockwise from top left: CAISO CEO Elliot Mainzer; COO Mark Rothleder; Vice President Neil Millar; Anna McKenna, interim head of market policy and performance; and Vice President Stacey Crowley discuss resource adequacy | *Clean Coalition*

the ISO's views on transparency and why it had sought permission to withhold information from the CPUC in a recent proceeding to secure emergency capacity for next summer.

Mainzer insisted there had been no effort by CAISO staff to obfuscate. "From day one, personally I have been very pleased with my staff's openness and their commitment to rigorously analyze and learn from the events of August," he said.

A report by the ISO's Department of Market Monitoring found no evidence of market manipulation or strategic outages, Mainzer noted. (See *CAISO Wasn't Gamed in Blackouts, Watchdog Finds.*)

"That said, we need to stay ever vigilant on that front," he said. "The integrity of our markets is of paramount importance to me."

Responding to Lynch's question about the CPUC proceeding, Mainzer said his understanding was the ISO had sought to avoid releasing reams of data to hasten the PUC's emergency procurement process. But he said of Lynch's query, "I'll take that as a fair question. Certainly, my commitment to transparency shouldn't expire in the first inning."

'Vulnerabilities' for Several Years

COO Mark Rothleder, who is leading the root-

cause analysis, reiterated that several major factors caused the Aug. 14-15 blackouts and energy emergencies over Labor Day weekend that nearly led to blackouts. The main causes included "climate change-induced extreme [heat] conditions ... across the Western United States" that exceeded planning targets, and inadequate supply during the net peak — the early evening hours, when solar dropped offline but demand remained high.

The ISO is examining its market practices that may have contributed to the strained conditions including rules on exports and scheduling, he said.

Rothleder warned that "vulnerabilities and the need for additional capacity will exist for several years," as aging gas plants and the state's last working nuclear plant, Diablo Canyon, cease operations. Shortfalls next summer could range from 450 to 3,300 MW, he said.

Most of the new resources coming online by summer 2021 will be storage, and the ISO needs to ensure that operators maximize their ability to contribute during the hour or two after solar generation wanes.

CAISO is asking the CPUC to increase its planning reserve margin from 15% to 20% for peak and net peak times and to procure additional resources in anticipation of summer shortfalls, he said. ■

CAISO/West News

CPUC's Randolph Named CARB Chair

By Hudson Sangree



CPUC Commissioner Liane Randolph | © RTO Insider

California Gov. Gavin Newsom on Wednesday appointed Liane Randolph, a member of the state's Public Utilities Commission, as the next chair of the California Air Resources Board.

CARB oversees vehicle emissions, among other

roles, and has battled with the Trump administration in recent years. Its policies have influenced manufacturing in the automotive sector for decades and will continue to do so with the state's adoption of electric vehicles. In September, the governor ordered that all new vehicles sold in the state must be emissions-free by 2035. (See [Can California Meet Its EV Mandates?](#))

"Cleaner air is essential for California's families, and Liane Randolph is the kind of bold, innovative leader that will lead in our fight against climate change with equity and all California's communities at heart," Newsom said in a statement.

Current CARB chair Mary Nichols is retiring at the end of this year and is being considered by

President-elect Joe Biden as head of the U.S. Environmental Protection Agency, according to the Associated Press and other news outlets.

Randolph, 55, was named by former Gov. Jerry Brown to the CPUC in 2015 after years working in state government and in private practice as an attorney. She served as deputy secretary and general counsel at California's massive Natural Resources Agency from 2011 to 2014 and as head of the state's political watchdog, the Fair Political Practices Commission, during the tenure of Gov. Arnold Schwarzenegger, from 2003 to 2007.

In a statement released by the CPUC, Randolph said she was "beyond excited and honored to join the path-breaking team at CARB, which has been at the forefront of environmental progress for decades."

During Randolph's time at the CPUC, the commission has dealt with California's mandate to switch to 100% clean-energy resources, the massive gas leak at the Aliso Canyon storage facility and the bankruptcy of Pacific Gas and Electric after it was blamed for catastrophic wildfires.

Randolph is a centrist on the CPUC, often reaching decisions that her colleagues support but may be more business-friendly than some

would like. For instance, Randolph oversaw PG&E's general rate case that awarded the utility a \$1.3 billion rate increase over the next three years, much of it to harden the utility's grid against wildfires. (See [PG&E Gets \\$1.3B Rate Hike, Cancels Mass Blackouts.](#))

Commissioner Martha Guzman Aceves said she would vote for the decision to protect residents even though it would hit poorer households harder during the pandemic and economic downturn. Guzman Aceves also expressed doubt that PG&E would maintain and upgrade its long-neglected power lines.

Environmental justice groups had advocated for Guzman Aceves to be the next CARB chair, POLITICO reported.

Newsom named four other members to CARB: John Balmes, 70, professor of medicine and environmental health at the University of California, San Francisco, and at UC Berkeley; Belmont City Council member Davin Hurt, 45; Los Angeles attorney Gideon Kracov, 49; and Tania Pacheco-Werner, 36, assistant co-director of the Central Valley Health Policy Institute at California State University, Fresno.

Newsom will appoint Randolph's successor on the five-member CPUC. All the appointments will require confirmation by the state Senate. ■

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CAISO/West News

Ore. Governor Plots Western Roadmap for EVs

By Robert Mullin

Oregon Gov. Kate Brown (D) on Thursday set out a vision for building electric vehicle charging infrastructure across the West that was conspicuously light on environmental imperatives but heavy on economic ones.

In fact, Brown's keynote speech at the virtual annual meeting of the Western Governors' Association (WGA) made no mention of climate change, despite the fact that transportation electrification is a key factor in decarbonization strategies for states across the U.S., including Oregon, which is pursuing greenhouse gas reductions under Brown's [Executive Order 20-04](#). (See [Oregon PUC Plans Take on Decarbonization](#).)

The omission may have been a concession to the spirit of bipartisanship touted by the WGA, an organization comprising governors from 22 states with widely divergent policies and perspectives on global warming.

As WGA's current chair, Brown established the [Electric Vehicles Roadmap Initiative](#) as the signature effort of her one-year term, which began in July. In her speech, Brown said transportation electrification is "an issue that bolsters our current economies and creates a roadmap both

literally and figuratively to the future."

She noted that a number of Western states are working to encourage individuals and business to adopt EVs "because we recognize that a robust and efficient transportation sector is key to meeting economic goals and connecting businesses to regional and international markets."

The governor also played to regional sympathies regarding energy independence.

"The use of electric vehicles also allows us to power our transportation system with energy produced right here in our Western states. As we all know, the wind in our plains, the sun in our deserts and the water in our rivers are less subject to the global geopolitical forces that influence oil markets," she said.

Brown pointed to the "good news" of collaborative efforts already occurring across state — and international — lines, including the [West Coast Electric Highway](#), an agreement among California, Oregon, Washington and British Columbia to build a network of fast-charging stations every 25 to 50 miles along Interstate 5 and U.S. Route 101 "to allow electric vehicles users to travel the length of the West Coast with the same certainty they would have if they were driving a gas vehicle."

In a "shining example of bipartisan collaboration" farther inland, Brown said, Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming have joined up to create the [Regional Electric Vehicle West Plan](#) to foster EV travel in the Intermountain region.

"These efforts are born out of a mutual understanding that facilitating the use of electric vehicles isn't a political imperative; it's an economic one, making it easier for both consumers and businesses to travel and transport goods. Using electric vehicles frees up household incomes and yields increased profits," Brown said.

The governor said she believes the region is "on the precipice of a historic transition" to be ushered in by coordinated planning and investment related to EV infrastructure.

"My chair's initiative is working to coordinate technical aspects between existing subregional EV collaboratives and encourage participation from our Western states not yet engaged in EV network planning," she said.

Brown's goal: to reach an expanded regional agreement on EV charging by the next annual WGA meeting in a year.

"Fortunately, we are already well on our way," Brown said. "We have held seven work sessions. We've brought together officials from the public sector with electric utilities, electric vehicle manufacturers and charging station manufacturers to chart a coordinated path forward to the expanded use of EVs. We've deliberated opportunities for states to support the growth of the consumer, medium-duty and heavy-duty EV sectors, [and] promote investment by utilities and their rate structures."

Next year will see "the hard work of synthesizing the findings of these sessions" into a potential interstate agreement, Brown said. WGA will hold a series of public webinars to explore the expansion of EV use in the West.

Brown has asked her team to determine how to ensure the success of a potential agreement. "An agreement is only as successful as its implementation, and I'd like each party to be equally committed to the expansion of EV infrastructure across the entire West."

"This work is emblematic of the spirit of the Western Governors' Association, building on the successful efforts of individual states to create mutual benefit for all of us," Brown said. ■



Oregon Gov. Kate Brown | Western Governors' Association

CAISO/West News

Hydrogen for FCEVs Gets Big Boost in California

Energy Commission Puts \$116 Million Toward Building Stations

By Hudson Sangree

The California Energy Commission allocated up to \$116 million on Wednesday to install fueling stations for hydrogen-powered fuel cell electric vehicles with the goal of having 200 stations supporting 230,000 vehicles in the next decade.

The grants to three companies — Iwatani Corp. of America, FirstElement Fuel and Equilon Enterprises — could bring the total to 179 stations in the coming years, the CEC said.

Building hydrogen fueling infrastructure will help solve the “chicken-and-egg problem” of increasing the number hydrogen-powered vehicles, Commissioner Patty Monahan said. Hydrogen-powered cars from makers such as Toyota have been slow to arrive, but that is partly due to a lack of fueling infrastructure.

“What we’re seeing in California right now is, ‘Well, here’s your chicken; where’s the egg?’” Monahan said. “We want to see more fuel cell vehicles on the road.”

“We’ve got the infrastructure,” she said. “Now ... show us the vehicles.”

Even with the new funding, hydrogen fueling stations and fuel cell electric vehicles likely will continue to make up only a small part of the state’s bid to get rid of polluting cars and trucks. California already has hundreds of thousands of plug-in electric vehicles and thousands of high-speed chargers available.

The state is aiming to have 5 million EVs on the road by 2030, requiring hundreds of thousands additional chargers in workplaces and public spaces such as shopping centers. (See [California Needs Huge Number of EV Chargers.](#))

The CEC said, however, that the hydrogen stations will help meet Gov. Gavin Newsom’s order that all new passenger vehicles sold in the state must be zero-emissions vehicles by 2035.

Currently 45 hydrogen stations exist, mainly in Southern California, and 16 more are in development, the agency said. The grants will help build 111 new stations, bringing the total to 172. Seven more stations are under develop-

ment using only private funds.

The \$116 million, to be distributed in batches as the grantees meet specific milestones, will be paired with \$131 million in private matching funds.

The new stations will also serve medium- and heavy-duty vehicles, potentially a big advance in reducing emissions, Monahan said.

Hydrogen fuel cell vehicles, which use oxygen and hydrogen to create electricity, have the advantage of being able to be fueled quickly on the road, much like gasoline-powered vehicles. But the expense of making hydrogen, which requires large amounts of electricity, and the difficulty of obtaining the rare and pricey vehicles, has thwarted widespread adoption.

Monahan said that could change if nations, including China and members of the European Union, support a “global scale-up.”

“We need a global transition to fuel cell electric vehicles to really be able to drive down costs and build up scale,” she said. “We’re trying to show in California how to do it.” ■



| Toyota USA

ERCOT News



ERCOT Board of Directors/Annual Meeting Briefs

Passport Program to Take off in 2021

ERCOT's Board of Directors last week approved a package of nearly three dozen revision requests that included the final work of two task forces developing policies and principles for energy storage resources (ESRs) and the real-time co-optimization (RTC) of energy and ancillary services.

Board Chair Craven Crowell called the work a "major milestone" in the development of ERCOT's *Passport Program*, which is designed to allow emerging technologies to expand their participation in the market. Staff and stakeholders will spend the next four years aligning the task forces' work with an upgrade of the Texas grid operator's energy management system that also incorporates distribution generation resources (DGRs) into its systems.

"That's a huge win for us, but work still needs to be done to button up some of the details," chair of ERCOT's RTC task force Matt Mereness said.

That work will begin in February during the board's next meeting, when staff will begin updates on Passport's schedule and status. ERCOT said it will have one of the world's most sophisticated market designs when the program is completed in 2024.

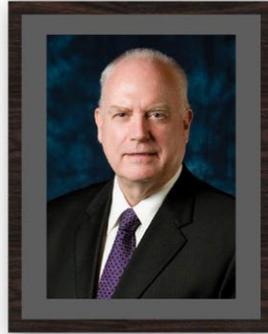
"I look at what was done there as world class," said Engie's Bob Helton, who chairs the Technical Advisory Committee that oversaw the task forces. "I would really like to see other RTOs follow the same process."

Staff and stakeholders have drafted more than 700 pages of new and/or revised protocols and market rules for ESRs, DGRs and RTC. Now that they are approved, they will be used to draft business requirements for implementation.

ERCOT CEO Bill Magness said Passport represents "the most major changes in our system we've seen in a number of years." The program, which staff expect to cost as much as \$55 billion, will touch nearly every single ISO system, as well as those stakeholders use to communicate with ERCOT.

"We are in a good position to start taking on the work in 2021," Magness said, noting much of what has been accomplished was done with staff and stakeholders working remotely from their homes.

"This is unprecedented how well this has gone," Public Utility Commission Chair DeAnn



Outgoing ERCOT board members, from left: Craven Crowell, Judy Walsh and Karl Pfirrmann | ERCOT

Walker said.

The PUC directed ERCOT to add RTC to its market in 2018. The market tool will award ancillary services every five minutes during the operating day, allowing the market to adjust to changing grid conditions. The commission recently opened a rulemaking to implement RTC in the market ([51588](#)).

Crowell, Walsh, Pfirrmann Honored

In a virtual sendoff, staff and stakeholders honored Crowell, his vice chair, Judy Walsh, and Karl Pfirrmann for their nine years of service together on the board.

The three unaffiliated directors joined the board in 2012 for the first of three three-year terms. Crowell and Walsh have held their leadership positions ever since; ERCOT bylaws require the chair and vice chair be unaffiliated directors. Pfirrmann chaired the Human Resources and Governance Committee.

"Well, I guess this day had to come," Magness said in kicking off the honors. "In 2020, we talk about how we miss people, how we miss being in person. Some days, it's just good to be in sweatpants and not drive anywhere. This really would be a good day to have handshakes and hugs available, to really send our friends off, but words are going to need to do today."

Staff presented a video with words of praise for Crowell, Walsh and Pfirrmann from the PUC's three regulators, previous PUC Chairs Donna Nelson and Pat Wood, and fellow directors. In his comments, Commissioner Arthur D'Andrea made the three honorary Texans for life "through the power invested in me" by the state's Public Utility Regulatory Act. They will all receive state flags flown over the Capitol in recognition of their service and honorary resolutions from the Texas Senate Committee

of Business and Commerce.

"I've looked at PURA before and I'm not sure [D'Andrea's power] is in there, but Arthur knows the law, and I trust him," Magness said.

"I will miss working with Judy and Karl. I've always felt a special bond with the two of them," Crowell said. He thanked Nelson for encouraging him to apply for an ERCOT board position while he was still on the Texas Reliability Entity's board and ERCOT staff for being some of the brightest people in the industry.

Walsh recalled her time on the PUC with Wood, when they helped deregulate the Texas electric industry and usher in "the best wholesale and retail market anywhere."

"Who would have believed two little ol' regulators could or would do a thing like that," Walsh said.

Pfirrmann, who is celebrating 50 years in the industry this month, harkened back to a time when televisions were black and white and Saturday mornings were reserved for "Sky King," Roy Rogers and Dale Evans.

"Google their names to figure it out," he said, before referencing Rogers and Evans signature song, "[Happy Trails](#) to y'all."

Members approved in a voice vote former Consolidated Edison CEO Craig Ivey's nomination to the board's last remaining open unaffiliated director's slot. His name has been sent to the PUC for final approval. (See "Con Ed CEO Nominated to Board," [ERCOT Board of Directors Briefs: Oct. 13, 2020](#).)

"This usually takes a lot longer when we sit down to eat," Magness said.

The commission in November approved the elections of Michigan Public Service Commis-

ERCOT News



sioner Sally Talberg, retired ISO-NE General Counsel Raymond Hepper, and incumbent Director Terry Bulger to the ERCOT board. (See [Texas PUC Approves ERCOT Board Members.](#))

The board and its committees will nominate and elect their chairs and vice chairs during their February meetings.

Record Solar Generation Installed

Magness said ERCOT integrated a record 2,849 MW of utility-scale solar projects over the last 12 months, along with 4,777 MW of wind capacity, despite the COVID-19 pandemic. The ISO also saw 14 days of more than 20 GW of wind energy on the system. It currently has more than 25 GW of installed wind capacity and 3.8 GW of installed solar capacity after having shed more than 5.6 GW of coal generation since 2014.

"There are a lot of changes in the resource mix," Magness said during his [CEO update](#).

ERCOT is on track to finish the year \$28.5 million over budget, driven primarily by shortfalls in the administrative fee (\$10.6 million) and interest expense (\$15.7 million). The ISO's expenditures are projected to be \$2.6 million over budget.

"The [weather] forecast was about right. It was the [pandemic's] economic forecast that brought [the administrative fee] down a little bit," Magness said.

Directors Approve Opposed NPRRs

Helton celebrated the end of three years as TAC's chair by bringing forward a pair of revision requests that he said were among the "most divisive" he has seen.

"So I'm going out on a high point," he joked.

Both nodal protocol revision requests (NPRRs) received opposing votes during recent TAC meetings on their way to comfort-

able endorsements.

The board passed [NPRR1055](#) by an 11-4 margin in a roll call vote, raising similar concerns as did TAC members over staff's decision to sponsor the measure on behalf of non-opt-in entities (NOIEs). (See "REPs, NOIEs Debate Revision Change," [ERCOT Technical Advisory Committee Briefs: Nov. 18, 2020.](#))

Two unaffiliated directors and members representing the independent retail electric provider and independent power marketer segments voted against the change.

"This should have been sponsored by the NOIE community because this is an exception for them," DC Energy's Seth Cochran said.

The revision gives ERCOT the discretion to accept for good cause NOIEs' late submissions that they own or control their generation resources serving as a source resource node, or that the resource has a contractual commitment for capacity and/or energy with the NOIE. The attestation allows the ISO to certify congestion-hedging instruments granted to NOIEs.

The change also requires ERCOT to post a market notice by Sept. 1 of each year, reminding NOIEs of the annual deadline.

"We were approached by some of the NOIEs who missed this deadline. ... There were issues around timing being coincident with when people were moving to remote work," Magness said. "We needed to ask the market to approve [[NPRR1055](#)] because we don't have it in the protocols. We don't think it harms our ability to get the work done in this very limited situation."

The board approved [NPRR945](#) with only one dissenting vote from Brazos Electric Power Cooperative's Clifton Karnei. Representing the cooperative market, Karnie sided with fellow sector members that opposed the measure at

TAC, saying it could shift transmission costs to entities that cannot shift their load. (See [ERCOT Technical Advisory Committee Briefs: Oct. 28, 2020.](#))

The NPRR removes the "associated load" term that some proponents say has been interpreted in some instances to restrict net-metered private-service arrangements to the same entity that owns the load and generation. The revision requires that entities be behind the same interconnection point.

Board Confirms 2021 TAC Reps

The board confirmed the [2021 TAC representatives](#), which includes three new members along with 2021's holdovers: Avangrid Renewables' Thresa Allen in the independent generator segment; EDF Trading North America's Kevin Bunch in the independent power marketers segment; and CenterPoint Energy's Eric Easton in the investor-owned utilities segment.

TAC will choose its leadership when it meets again in January.

The directors also signed off on a pair of measures endorsed last month by TAC: [ramp-rate restrictions](#) for the Southern Cross DC tie to clarify ERCOT will curtail schedules when necessary to conform with the system's ramp capability, and staff's recommendation to [change the methodologies](#) used to compute non-spinning reserve and regulation reserve service in response to incoming solar generation's additional variability and uncertainty. (See "New Interconnection Process for Sub-10-MW Generator," [ERCOT Technical Advisory Committee Briefs: Nov. 18, 2020.](#))

In other actions, the board:

- approved an [adjunct membership](#) for Solar Prime. A corporate member when 2020 began, the solar developer lost its status upon the sale of generation assets but expects to meet membership criteria early next year.
- accepted Schellman & Co.'s 2020 [system and organization control audit](#) with no testing exceptions.
- agreed with the Human Resource and Governance Committee's recommendation to approve the 2021 ERCOT [key performance indicators](#).

Consent Agenda Includes 32 Changes

The directors unanimously approved a consent agenda comprised of 20 NPRRs, a change to the Commercial Operations Market Guide (COPMGR), three revisions to the Nodal Operating Guide (NOGRRs), an Other Binding Document (OBDRR) modification, four revi-



The Passport Program's timeline. | ERCOT

ERCOT News



sions to the Planning Guide (PGRRs), one system change request (SCR) and single changes to the Resource Registration Guide (RRGR) and Verifiable Cost Manual (VCMRR):

- **NPRR1001:** clarifies that ERCOT will issue an “emergency notice” when it is operating in an “emergency condition,” but issuing an “operating condition notice,” “advisory” or “watch” does not mean that ERCOT is operating in an “emergency condition.”
- **NPRR1007:** updates the ERCOT system’s management activities in the protocols to address changes associated with RTC’s implementation.
- **NPRR1008:** updates day-ahead operations in the protocols to address changes associated with RTC’s implementation.
- **NPRR1009:** updates transmission security analysis and reliability unit commitment to address changes associated with RTC’s implementation.
- **NPRR1010:** updates the adjustment period and real-time operations in the protocols to address changes associated with RTC’s implementation.
- **NPRR1011:** updates performance monitoring in the protocols to address changes associated with RTC’s implementation.
- **NPRR1012:** updates settlement and billing in the protocols to address changes associated with RTC’s implementation.
- **NPRR1013:** updates the protected information provisions, definitions and acronyms, market participants’ registration and qualification, and market suspension and restart in the protocols to address changes associated with RTC’s implementation.
- **NPRR1014:** enables ESRs’ integration into the ERCOT core systems as a single-model resource, replacing the existing “combination model” paradigm where ESRs are treated as two resources — a generation resource and a controllable-load resource. This NPRR will be implemented simultaneously with other RTC-related changes and with the upgrade to the ERCOT EMS in 2024.
- **NPRR1026:** establishes rules for and enables self-limiting facilities’ integration into the ERCOT markets and core systems.
- **NPRR1028:** requires qualified scheduling entities to notify ERCOT of physical limitations on their resources’ starting ability that are not modeled in the reliability unit commitment software and excuses compliance with parts of RUC dispatch instructions that violate a notified resource’s physical limitations. The NPRR also establishes a requirement that ERCOT extend a RUC commitment to honor a resource’s minimum run-time limitation when a physical limitation delays its ability to reach its low sustained limit.
- **NPRR1029:** enables DC-coupled resources’ (defined as an ESR type required to follow all rules associated with ESRs in addition to meeting this change’s requirement) integration into ERCOT’s core systems. The NPRR applies to both the current combo model era and the future single model era.
- **NPRR1031:** requires ERCOT to post operations messages informing market participants when load is curtailed because of a transmission problem.
- **NPRR1032:** limits the DC tie schedules used in RUC optimization and settlements to the ties’ physical rating.
- **NPRR1039:** removes the defined term “market information system public area” from the protocols and replaces it with “ERCOT website.”
- **NPRR1041:** adjusts the expiration of the protected information status of wholesale storage load data from 180 days to 60 days, aligning the disclosure of real power consumption and metered generation output to 60 days after each operating day.
- **NPRR1042:** adjusts the planned capacity in the Capacity, Demand and Reserves report to remove previously mothballed or retired generation resources that may be repowered but do not have an owner that intends to operate them.
- **NPRR1043:** clarifies that ESRs’ withdrawn charging load (excluding auxiliary load) will be settled based on the nodal price similar to its injections, even if the ESR does not seek or cannot qualify for wholesale storage load (WSL) treatment by replacing the term “ESR load that is not WSL” with the defined term, “non-WSL ESR charging load.” The latter load will be priced at nodal but, unlike ESRs receiving WSL treatment, will be subject to applicable load ratio share-based charges.
- **NPRR1046:** removes additional uses of “dynamically scheduled resource” to align with [NPRR1000](#).
- **NPRR1047:** consolidates gray-box language related to [NPRR973](#) and [NPRR1016](#).
- **COPMGR048:** removes the defined term “market information system public area” in the protocols and replaces it with “ERCOT website.”
- **NOGRR207:** clarifies that ERCOT’s issuance of an “operating condition notice,” “advisory” or “watch” does not mean that ERCOT is operating in an emergency condition.
- **NOGRR211:** updates language related to supplemental ancillary service markets, ancillary service deployment and ancillary service responsibilities and obligations to address changes associated with RTC’s implementation.
- **NOGRR217:** removes the defined term “market information system public area” in the protocols and replaces it with “ERCOT website.”
- **OBDRR020:** updates the methodology for setting maximum shadow prices for network and power balance constraints to address changes associated with RTC’s implementation.
- **PGRR081:** describes how self-limiting facilities will be evaluated in the generation resource interconnection or change request process.
- **PGRR082:** extends the interconnection process to distribution-connected resources and settlement-only generators (SOGs) and clarifies the roles of ERCOT and transmission and/or distribution service providers.
- **PGRR083:** requires a Regional Planning Group (RPG) project number for projects submitted for RPG review and removes the specification of transmission project information tracking information from the Planning Guide.
- **PGRR084:** removes the defined term “market information system public area” in the protocols and replaces it with “ERCOT website.”
- **RRGR023:** establishes provisions and requirements in the guide for ESRs that are identical to those already in place for generation resources and SOGs.
- **SCR812:** creates an Intermittent Renewable Generation Integration report similar to wind and solar power production integration reports.
- **VCMRR030:** removes the defined term “market information system public area” in the protocols and replaces it with “ERCOT website.” ■

— Tom Kleckner

ISO-NE News

NEPOOL Markets Committee Briefs

Summer Wholesale Costs Down, Monitor Says

ISO-NE's summer wholesale market costs totaled \$1.48 billion, a 15% decrease from a year earlier because of lower energy and capacity costs, according to the quarterly markets report released by the RTO's Internal Market Monitor.

Average day-ahead and real-time Hub LMPs were \$22.50 and \$22.52/MWh, respectively, coinciding with lower natural gas prices. The average natural gas price was \$1.62/MMBtu (or \$12.64/MWh assuming a 7,800 Btu/kWh heat rate), 25% lower than the summer 2019 price of \$2.17/MMBtu (or \$16.93/MWh).

Capacity market costs decreased by 19% to \$603 million, down by \$143 million from last summer. The first quarter of the FCA 11 capacity commitment period saw clearing prices of \$5.30/kW-month for Rest-of-System, compared to the higher FCA 10 price of \$7.03/kW-month.

Gross real-time reserve payments totaled \$4.4 million, a 67% increase from the same period a year ago, driven by redispatch to maintain reserves during tight system conditions. That led to larger 10-minute non-spinning reserve and 30-minute operating reserve payments, which respectively rose by \$847,000 and \$437,000. The average non-zero spinning reserve price decreased relative to summer 2019 from \$9.81 to \$6.96/MWh. The frequency of non-zero spinning reserve prices increased to 506 hours from 365 hours.

Total regulation payments were up 11% to \$6.4 million compared to the previous summer with the increase reflecting higher regulation capacity requirements, along with an increase in service-offer costs. Net commitment period compensation (NCPC) costs totaled \$7 million, up by 4% over last summer, but still represented less than 1% of the total energy costs, consistent with the historical range.

Economic payments made up 81% (\$5.6 million) of the total, a 46% increase from 2019 steered by real-time commitments made because of generator trips and load forecast error. Local reliability payments fell by 60% to \$900,000, with most occurring in the day-ahead market and going to generators in Maine and northeastern Massachusetts to support planned transmission outages.

DNE Wind Generator Must Offer Compliance

As a special topic, the IMM also reviewed day-ahead offers and clearing of wind generators affected by the June 2019 must-offer requirements for do-not-exceed (DNE) dispatchable capacity market resources. ISO-NE now requires DNE dispatchable generators with capacity supply obligations to offer the full hourly amount of expected real-time generation into the day-ahead market.

A rise in day-ahead offers from DNE resources has translated to increased clearing for those generators, leading to the "small impact" of virtual supply clearing at wind generator nodes

off-peak hours.

Since June 2019, cleared offers have averaged 70% of real-time production compared with 41% previously. Cleared virtual supply at wind nodes has decreased from 25% to 18% of real-time wind production, the Monitor said.

Order 2222 Compliance Discussion Begins

In September, FERC issued a long-awaited order requiring RTOs and ISOs to open their markets to distributed energy resource aggregations. (See *FERC Open RTO Markets to DER Aggregation*.) ISO-NE has now started the discussion on compliance with Order 2222.

The RTO's Henry Yoshimura presented the 11 key compliance directives outlined in the order and the process schedule that concludes with a FERC filing on July 19, 2021.

The first order of business is collecting perspectives and feedback from stakeholders by Dec. 22, which ISO-NE will review and discuss early next year with interested entities directly affected by compliance requirements. The RTO will then develop a high-level proposed approach vetted through the NEPOOL process, including drafting and discussing Tariff changes and conceptual amendments and concluding with votes in various committees starting in June.

MC Actions

The committee voted to adopt changes to the NEPOOL Generation Information System (GIS) and GIS Operating Rules related to improvements to third-party meter reader uploads and reflect the addition of "Clean Existing Generation" to the *Massachusetts Clean Energy Standard*.

At its October meeting, the MC agreed to direct the GIS Operating Rules Working Group to consider changes requested by the Massachusetts Department of Environmental Protection, which revised its regulations to include a requirement that retail load-serving entities subject to the standard have a certain percentage of energy from "clean existing generation units." (See "GIS Working Group to Consider Massachusetts 'Clean Generation' Changes" in *NEPOOL Markets Committee Briefs: Oct. 6-8, 2020*.)

The committee also re-elected Vice Chair Bill Fowler, president of Sigma Consultants, to continue his role in 2021. ■

— Jason York



ISO-NE's summer wholesale market costs decreased from the previous summer because of lower energy and capacity costs. | ISO-NE

ISO-NE News

Overheard at 168th NE Electricity Restructuring Roundtable

More than 450 people tuned into Raab Associates' 168th New England Electricity Restructuring Roundtable last week to hear talk about clean energy and decarbonization, the implications of the November elections and the case for wholesale power market redesign.

Here is some of what we heard during the event, hosted by Boston law firm Foley Hoag.

Markey: Climate Issues Top Agenda



Sen. Edward Markey
(D-Mass.) | Raab
Associates

During his keynote speech, U.S. Sen. Ed Markey (D-Mass.) said that amid “the coronavirus pandemic ... an economic recession to climate change, the intersection of all these devastating crises is demanding that we restructure our energy systems, restructure our economy, restructure our democracy.”

“That was what was on the ballot in November,” Markey said.

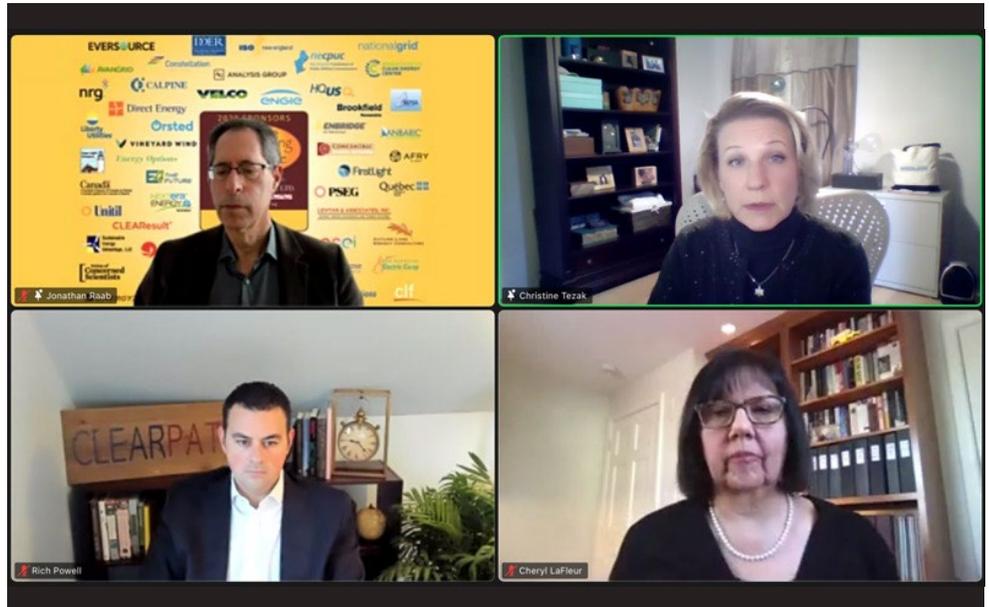
“Nothing has been the same” since he and Rep. Alexandria Ocasio-Cortez (D-N.Y.) *introduced* the Green New Deal in February 2019, which “unleashed an incredible response, especially from young people ... demanding that the climate be put at the top of the agenda.”

Markey said there is “a real chance to use clean energy development as a way of putting millions of people to work in a relatively short period of time.”

“The good news is that it’s at the center of the agenda for the [incoming] Biden administration, and it needs to be,” Markey said. “From March until June of 2020, the clean energy sector lost more than 500,000 jobs, 14% of their workforce, and as a global clean energy hub, Massachusetts has been hit particularly hard, but the transition to clean energy could not be stopped even this year.”

Markey noted that 18 GW of new solar and 15 GW of wind will have been installed this year, compared with 2 GW and 25 GW, respectively, when President-elect Joe Biden was sworn in as vice president more than 10 years ago. “So, look where we are now,” he said.

While it is not the Green New Deal, Markey said Biden is “laying out a very ambitious, very aggressive energy plan.” Naming former Secretary of State John Kerry as his climate



Clockwise from top left: Jonathan Raab, Raab Associates; Christine Tezak, ClearView; Cheryl LaFleur, ISO-NE; and Rich Powell, ClearPath | Raab Associates

envoy is “absolutely a signal to the rest of the world,” he said.

Markey said that to achieve the Green New Deal’s objectives of a 100% clean energy economy and carbon-free power sector by 2035 will require billions of dollars for battery storage and promoting electric vehicle adoption through the construction of at least 500,000 new charging stations.

“This is not pie in the sky, put a man-on-the-moon stuff; these are largely technologies that already exist,” Markey said. “It’s been a political problem but not a technological problem. ... We know we can get this done. It is just a matter of political will. I will be working very hard to make sure that these hundreds of billions of dollars are spent in a way in which we have public-private partnerships jumpstarting clean energy innovation and deployment.”

Markey said that he introduced a bill with Sen. Chris Van Hollen (D-Md.) that would create a \$35 billion clean energy climate bank to spur \$1 trillion in private investments and put an estimated 5 million American workers back to work in “good, clean, green jobs.”

Markey said New England states have the chance to be “the true leaders of the Green New Deal” or some variation of it. He said college and high school students joined his recent re-election campaign by the thousands over the issue.

“So it’s only going to intensify politically as each year goes by,” he said.

Pursuing Goals Through Wholesale Market Redesign

Moderating a panel on wholesale market redesign, Jonathan Raab said New England states are increasingly using long-term power purchase agreements for offshore wind, nuclear and Canadian hydropower “to meet aggressive decarbonized electricity mandates” even though the PPAs “don’t mesh very neatly with New England’s current wholesale market designs.”

Raab added that ISO-NE’s Competitive Auctions with Sponsored Policy Resources (CASPR) initiative that created a two-stage capacity auction to accommodate state renewable energy procurements, recently affirmed by FERC in a party-line decision, was initially intended as an interim measure. (See [FERC Defends CASPR Order](#).)

“Stakeholders in the states are now engaged in a yearlong, intensive effort to try and redesign or layer on alternatives that will better support the pursuit of these clean energy and decarbonization mandates while also taking full advantage of the competitive wholesale markets that we have here,” Raab said.

In October, five New England governors issued a joint statement calling for changes and

ISO-NE News



reforms to wholesale market design, transmission planning and RTO governance to enable states to better meet their decarbonization goals. (See *New England Governors Call for RTO Reform* and *States Demand 'Central Role' in ISO-NE Market Design*.)

Carbon pricing and a forward clean energy market are two of the potential solutions.

Paul Hibbard, principal at Analysis Group, said the conventional wisdom is that carbon pricing is not likely to become the primary basis for meeting New England state climate targets. It is viewed as “politically suspect” and would be labeled as a “tax.” Prices would need to be high relative to the current Regional Greenhouse Gas Initiative prices. Additionally, it is opposed by key groups and industries, including those that benefit from entrenched policies, and supportive policymakers, legislators and governors remain “few and far between.”

Hibbard said consumers and businesses will pay substantially more to meet emission reduction requirements than they would under an efficient carbon pricing mechanism because states will continue to administer a wide-ranging palette of complicated policy programs, with associated costs and inefficiencies.

Hibbard said a carbon price would increase the price of electricity, “but the overall level of consumer payment for energy is lower when you take into account the cost avoided for heating fuel and gasoline for vehicles.”

Kathleen Spees, principal at The Brattle Group, *presented* “another path forward for

achieving that clean energy future.” The forward clean energy market (FCEM) would be a centralized, three-year forward auction in which buyers and sellers could voluntarily exchange clean energy attribute credits (CEACs), which is akin to a renewable energy credit (REC).

A “dynamic” CEAC would award more credits to resources that displace more carbon emissions, focusing incentives that abate carbon emissions more quickly. A second option would allow buyers to register a preference for “targeted” resource types to meet carve-outs for preferred technologies such as storage or offshore wind. An FCEM could address the conflict between state and federal policymakers on issues such as the minimum offer price rule and CASPR.

Spees said that an FCEM could save customers about \$4.5 billion and abate 7.4 additional megatons of carbon over 10 years compared to traditional state contracting.

Judy Chang, undersecretary of energy for the Massachusetts Executive Office of Energy and Environmental Affairs, said New England *needs* “a regional market that really supports and facilitates the transition to a decarbonized future,” despite differences in state targets.

“In the ideal situation, we would like to have an economywide carbon price of some kind to reduce emissions,” Chang said. “We prefer to procure clean energy from a regional perspective from a regional market. We prefer to have a larger competitive market to ensure

that we continue to procure and use clean energy needed to help us to decarbonize and do that in the most cost-effective way ... so we see the forward clean energy market and the integrated clean capacity market as having the potential to meet the needs of the states.”

Election Implications on Clean Energy, Decarbonization

Former FERC Chair Cheryl LaFleur was featured on a panel that discussed recent election results and the potential impacts of clean energy and decarbonization goals from federal and regional perspectives.

LaFleur, now on the ISO-NE Board of Directors, said that with a Democrat in the White House, “there will be considerably more opportunity and ability to advance climate policies, especially in contrast to the last four years.”

She prefaced her remarks with the belief that Republicans will win at least one of the two remaining Senate seats during the runoff elections in Georgia next month, which would likely negate “any kind of overarching federal legislation to set a national goal, like a clean energy standard or a carbon cap and trade, helpful though that might be.”

In a divided government, there will be “a lot of opportunity for action” by the president through executive orders and by the various federal agencies whose actions affect climate change and energy policy in many ways, LaFleur said.

“I hope there will be a potential for far more cooperation, rather than cross action, among the federal agencies, and more mutually supportive action between the federal and state governments rather than tension as there has been recently,” she said.

Rich Powell, executive director of ClearPath and ClearPath Action, which seek to develop and advance conservative policies to accelerate clean energy innovation, said the priority for finding a bipartisan path forward on climate and clean energy policy has “never been higher, has never been clearer.”

Christine Tezak, managing director at ClearView Energy Partners, said the first 100 days of the Biden administration could look very similar to the Trump administration with respect to executive orders directing agencies to roll back several of the initiatives from the previous four years. ■



Clockwise from top left: Judy Chang, Massachusetts Executive Office of Energy and Environmental Affairs; Jonathan Raab, Raab Associates; Paul Hibbard, Analysis Group; and Kathleen Spees, The Brattle Group | Raab Associates

— Jason York

MISO News

MISO Members Request More Access to Directors

By Amanda Durish Cook

MISO members again last week asked the RTO to facilitate less stage-managed access by stakeholders to its Board of Directors.

In the past some members have recommended MISO host technical presentations with stakeholders and board participants. Others have said the grid operator could add nonpublic meetings that allow sectors to meet with directors. (See [MISO Members Back Voting Rights for New Sector](#).)

Speaking during the Advisory Committee's teleconference Wednesday, Clean Grid Alliance Executive Director Beth Soholt said all 11 MISO sectors should appear before the board annually to discuss their top three priorities for the year.

DC Energy's Bruce Bleiweis said MISO could use additional and different means for all stakeholders to interact with directors.

"Advisory Committee meetings are usually four- to five-hour affairs, and we only got to

talk to them for 90 minutes on one topic at this meeting," he said, adding that even during the 90 minutes, committee members were allowed to speak, but not stakeholders.

"It's difficult to interact with the board during [quarterly Board Week] receptions because I feel that they're being handled by MISO," Indiana Utility Regulatory Commissioner Sarah Freeman said.

Sustainable FERC Project Director John Moore said it might help if MISO held an additional annual meeting where members can discuss the RTO's governance and concerns about the stakeholder process with directors.

"I'm not sure we have that kind of conversation with the board now. I'm not a fan of having just another large, hot-topic style discussion," Moore. "I think governance is a big issue."

Gabel Associates' Travis Stewart said that the Advisory Committee's hot-topic discussion last week on FERC Order 2222 was the first real policy-driven discussion of 2020. (See [Members Counsel MISO on Order 2222 Prep.](#)) He pointed

out that the first quarterly hot-topic discussion was canceled, the second focused on the COVID-19 response and the third centered on MISO's relationships with its neighboring systems.

"I appreciate that some of these discussions have been condensed because we're virtual this year," Stewart said. He added that curtailed discussion during board committee meetings seemed to be the norm long before the pandemic took hold.

Advisory Committee Liaison Bob Kuzman took notes and said staff would discuss the suggestions.

Advisory Committee Chair Audrey Penner said members proposed solid ideas for more board engagement. She suggested MISO implement one or two in 2021, keeping in mind that any new meetings or format does not have to be permanent.

"In 2021, we can implement an idea, and if it doesn't work, we can revisit it again in 2022," she said. ■

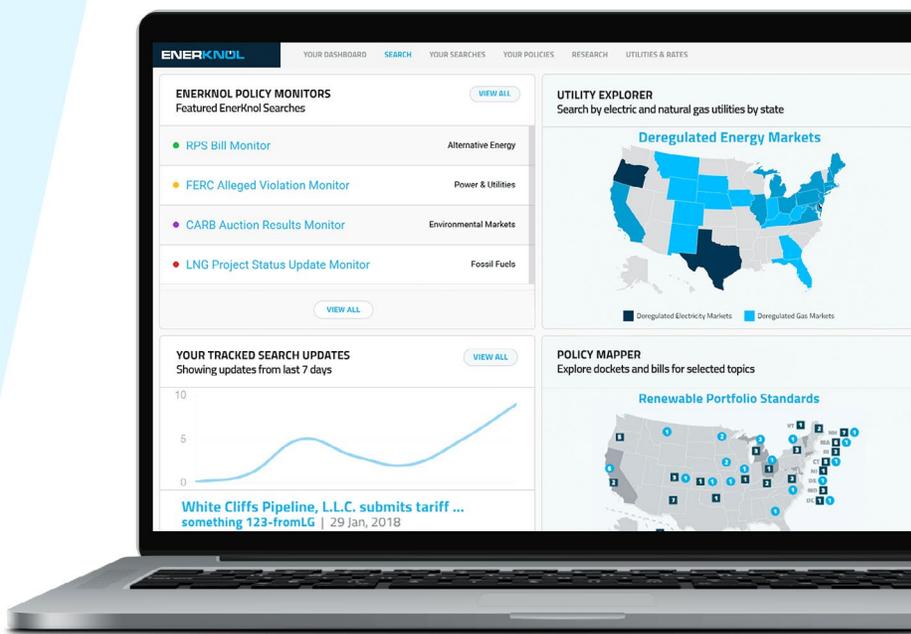
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MISO News

MISO Prepares Members for Pricy Tx Expansion

Continued from page 1

Curran said an increase in renewables and a waning reliance on coal is driving the long-term planning effort.

“When we see fossil plants retire, they’re often replaced with resources such as wind and solar,” she said.

MISO’s most conservative 20-year planning future now calls for three times as many renewable resources than planned by the grid operator’s last long-term effort, the 2011 Multi-Value Project (MVP) portfolio. Even then, stakeholders said the future’s projection of 60 GW of additional renewable resources is too conservative.

MISO executives repeatedly warned during December’s Board Week that a long-term transmission buildout could reach several billion dollars.

“We have a big challenge in front of us,” Curran said, noting that the price tag for all the transmission “will be significant.”

But she said many landowners still don’t want new transmission towers erected near their property.

“There’s a lot of resistance to new right-of-way,” she added.

Curran said MISO is looking for ways to best leverage its existing transmission right-of-way to help “speed things up.”

She also said that cost-allocation decisions loom as a potential stumbling block.

“We’re going to be talking about different drivers for transmission than we have in the past,” she said, adding that while the footprint’s jurisdictions and utilities are moving toward clean energy, it’s not being done at the same pace. That leads to a variable value placed on transmission accessing renewable generation.

Curran said MISO’s order of business in 2021 is to use its most conservative 20-year future planning scenario to create an early transmission map of possible projects. She said some project ideas may have stronger business cases and will be able to proceed as early as the RTO’s 2021 expansion plan (MTEP 21).

MISO already has “corridors of need” in mind, Curran said. She added that the interconnection queue’s “heavy activity” in MISO West can identify areas of potential transmission build-out.

Director Mark Johnson asked if FERC’s push for dynamic transmission line ratings would diminish the scope or number of necessary projects.

“Ambient-adjusted ratings would only have a very little — if minimal — impact on the long-range transmission perspective,” Curran said. She said while dynamic ratings would be useful in real-time, it wouldn’t replace the need for transmission projects.

MISO Director of Operations Planning J.T. Smith said planners predict a 5 or 6% transmission capability increase in the system with dynamic line ratings.

However, MISO Independent Market Monitor David Patton said his analysis indicated a 10% increase in capability.

“We’ve been on what can only be described as a campaign or crusade for this for the past two to three years,” Patton said, referencing his monitoring staff. “This is not something that is new. ERCOT already does this, [as do transmission owners] outside of RTOs.”

1st SATA Project Gains Approval

The board unanimously approved American Transmission Co.’s energy storage project in central Wisconsin, originally part of the MTEP 19 assessment, that is poised to fend off reliability issues.

The \$8 million, 2.5 MW/5 MWh battery project, MISO’s first storage-as-transmission project, has been on hold because the RTO didn’t have FERC approval to govern the project’s operation. FERC in early August approved MISO’s ruleset, paving the way for its operation. It is expected to be in service by the end of 2021. (See [FERC Greenlights MISO Storage-as-Tx Proposal](#).)

Aubrey Johnson, MISO’s executive director of system planning, said staff considered stakeholder concerns that their analysis didn’t go far enough in studying alternatives to the battery project.

“MISO’s analysis shows that this project is the most cost-effective solution,” he said. Johnson said in this case, a wires solution to solve the potential voltage, thermal and instability concerns would have taken longer to construct and been more expensive.

Director Phyllis Currie asked whether MISO expects to see more storage-as-transmission projects. Johnson said while the grid operator

expects to see more projects, he doesn’t expect them to become commonplace.

“It really is a narrow slice of application. I don’t think we’ll see a ton of them, but we’ll see more,” he predicted.

The board also unanimously approved the \$4 billion, 514-project MTEP 20 portfolio. (See [MTEP 20 Passes 1st Board Endorsement](#).)

One MVP Left

MISO is down to one unfinished project of its last long-term transmission planning effort, 2011’s MVP [portfolio](#).

Ameren’s last segment of the \$408 million, 345-kV Pana-Faraday-Kansas-Sugar Creek line in Illinois and Indiana was energized this week, leaving only the embattled Cardinal Hickory Creek line to be built.

Conservation groups Wisconsin Wildlife Federation and Driftless Area Land Conservancy continue to fight Cardinal Hickory Creek’s construction in court, [alleging](#) Wisconsin Public Service Commission Chair Rebecca Valcq and former Commissioner Mike Huebsch had perceived conflicts of interest when they voted to permit the line.

The Conservancy argued that Valcq should have recused herself because she previously worked for WEC Energy Group, the parent company of line developer American Transmission Co., and that Huebsch, as a member of the Organization of MISO States, should have recused himself because he had communications with MISO. The group argued Huebsch also improperly applied to be CEO of Dairyland Power Cooperative, a minority owner of the line, after he left the commission in February.

MISO expects Cardinal Hickory Creek to be in service by 2023.

The 17-project MVP portfolio’s cost has grown from its originally estimated \$5.6 billion to \$6.6 billion.

“That just struck me as a really big number,” MISO Director Todd Raba said of the increase.

Johnson said inflation alone brings the original planning-level estimate to \$5.8 billion. The remaining increases were caused by regulatory decisions, route changes, engineering and design changes, and the climbing price of materials.

“There is increased focus on making sure estimates are better,” Johnson added. ■

MISO News

FERC Audit Finds ALLETE Overcharged Customers

By Amanda Durish Cook

FERC's Office of Enforcement found that ALLETE overbilled its wholesale transmission customers through improper accounting practices.

ALLETE, which owns Minnesota Power, inappropriately billed its customers for environmental mitigation costs imposed on it after it violated the Clean Air Act, FERC said in an audit report Dec. 4. The audit covered Jan. 1, 2016 through Sept. 3, 2020 (FA20-2).

The commission gave the Duluth, Minn.-based utility 60 days to submit a refund analysis identifying the improperly recovered expenses. ALLETE wrote that it accepted FERC's audit findings and recommendations Nov. 19. But it said FERC's finding on accounting for environmental costs "overlooks important policy considerations that should inform the proper accounting of related expenses."

FERC investigators found that the utility used an account earmarked for its labor and general management to record environmental mitigation projects after a failure to comply

with the Clean Air Act. The commission said the ensuing solar projects should have been accounted for in an account reserved for projects donated after their completion and not included in its wholesale annual transmission revenue requirement (ATRR).

The Environmental Protection Agency struck a settlement with the company in 2014 over emissions at three coal-fired power plants in Minnesota. The settlement required ALLETE to pay a \$1.4 million civil penalty, install pollution-control technology and spend \$4.2 million on projects benefitting the environment and local communities.

FERC enforcement staff found several other accounting irregularities at the utility. They said it also:

- applied state-approved depreciation rates to assets included in its transmission formula, though it had not filed those depreciation rates with FERC;
- overstated transmission plant balances in its ATRR by miscalculating the pre-funded allowance for construction funds;
- inappropriately recorded proceeds from

long-term debt in accounts reserved for miscellaneous deferred debt;

- misclassified distribution assets in transmission plant accounts and transmission assets in distribution plant accounts;
- improperly recorded \$26,000 worth of lobbying expenses in 2016 and 2017 in an account for office supplies when they should have gone into an account reserved for civic, political and related expenses. Audit staff said some lobbying costs were incorrectly recovered as part of ALLETE's ATRR;
- wrongly recorded various administrative and general expenses "in a manner contrary to the commission's accounting regulations;" and
- didn't report all the required information in FERC filings.

In addition to calculating customer refunds with interest, the commission prescribed that the company update its policies within a month and provide more employee training on accounting procedures. FERC also asked for progress updates on the corrective actions in quarterly reports. ■



ALLETE's Duluth, Minn., headquarters | ALLETE

MISO News

MISO Monitor Reviews Blustery Fall

By Amanda Durish Cook

Fall in the MISO footprint was a study in record wind production — in more ways than one.

The quarter was defined by unprecedented hurricane activity and peak wind generation. MISO set an all-time wind output record of nearly 19 GW on Nov. 15, when wind accounted for nearly a third of all generation.

MISO Independent Market Monitor David Patton said during the RTO's Markets Committee meeting Dec. 8 that installed wind capacity and output expanded by 33% and 30%, respectively, compared to last fall. But he said the record production came with a price, as more than half of the quarter's real-time congestion was related to wind generation.

"As our wind output grows, the transmission congestion it's causing is significant," Patton said.

MISO acknowledged that though wind is taking an increasing portion of the resource mix, it continues to be curtailed during high production.

Patton said "dramatic" changes in wind output occurred several times during the fall, making MISO's forecasting vital. He said that on Oct. 18, wind generation fell from 15.5 GW to 1 GW during the day. On Oct. 16, it dropped nearly 6 GW right before the evening peak.

"If MISO doesn't see this coming, it's like losing six nuclear units at once," he said.

Patton said average load was down about 7% compared to normal because of a combination of the COVID-19 pandemic and moderate fall temperatures. MISO estimated that the pandemic was tied to a 4% reduction in load this fall.

A blend of lower load, lower natural gas prices and high wind output contributed to a 14% decrease in energy prices from last fall, he said.

Pandemic-muted loads are also creeping back into the seasonal picture as infections soar and local officials again limit gatherings.

"We are moving back into COVID-19 load levels, where we are about 5% below load from a normal, non-COVID world," MISO Director of Operations Planning J.T. Smith said.

Laura Pricing in Question

Pricing issues after Hurricane Laura made landfall in Louisiana on Aug. 27 continues to be a source of debate among staff, the Monitor and stakeholders.

Patton said the storm caused \$90 million in congestion costs and "effectively created a dead zone in the Lake Charles area, destroying a significant amount of distribution system lines and transmission." He said about \$10 million of the congestion costs was from MISO pricing dead buses in the area at the \$3,500/MWh value of lost load (VOLL).

He questioned the logic of pricing widespread, disconnected buses at VOLL. (See [Laura Pricing Has MISO Stakeholders Scratching Heads](#).)



| MISO

"It wasn't an area where we were resource-inadequate. ... In theory, this is not a situation that warrants VOLL pricing," he said. "We lost a lot of key transmission lines into the area, and we lost a lot of generation."

Patton said he is working with MISO to more appropriately price the area.

"I'm sure I'll have more to report," he told the Board of Directors.

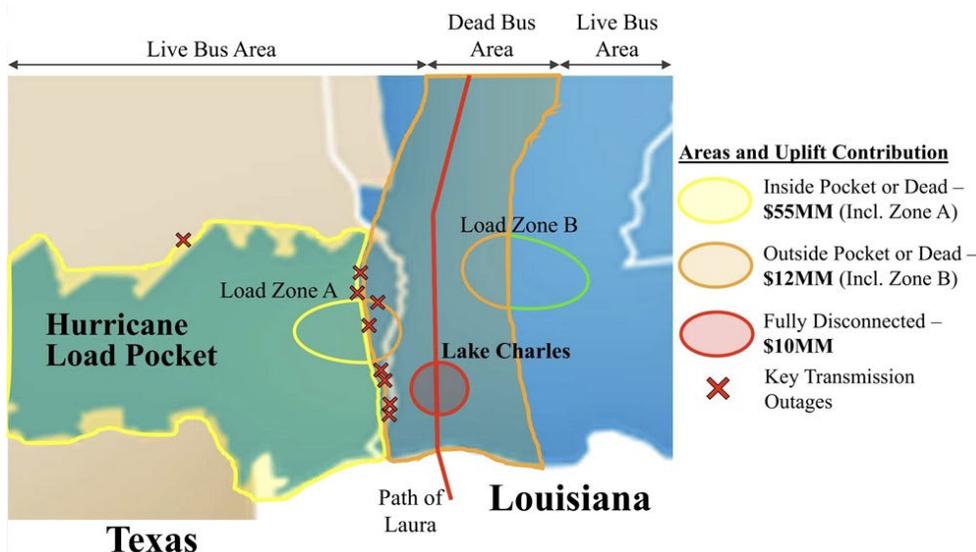
MISO declared local conservative operations for a month after Laura's landfall to support restoration efforts.

Patton said that by mid-September, three generating units in the area were again able to serve load, but total restoration was not complete until mid-October.

MISO encountered "modeling challenges" in the load pocket created by the storm, Patton said, noting the grid operator could not price conditions consistent with the aftermath until early September. During that time, prices during peak conditions only averaged about \$20/MWh, even though industrial load was still going unserved, he said.

"For about a week after Hurricane Laura, the prices in the area should have been fairly high but they were inefficiently low," Patton said. The RTO eventually established a reserve procurement constraint Sept. 8, but Patton said that by then, the tightest conditions had already passed.

MISO President Clair Moeller said it took about two to three days for the RTO's operators to manually readjust reserve zones to get more accurate pricing following the storm. He said MISO's pricing must be more automated and dynamic in the future. ■



Hurricane Laura impact | Potomac Economics

MISO News

MISO Board of Director Briefs

Technology Committee's Dail Bids Farewell After 12 Years

MISO executives last week commended outgoing director Baljit "Bal" Dail for his decade-plus influence on the RTO's technology decisions.

CEO John Bear joked that he was "in denial" about Dail's departure. He noted that Dail was the founder and sole chair of the Board of Directors' Technology Committee.

"Bal, you're the godfather of change to MISO. You challenged us and made us better," he said. "Every time I needed you, you were available. From the center of my heart, thank you."

"It's amazing to think that when I joined the board, there was no technology committee," said Dail, who presided over his final committee meeting last week.

"He's been a wonderful influence to this organization, and he'll be hard to replace," Board Chair Phyllis Currie said.

MISO selected former PepsiCo Chief Information Officer Jody Davids to replace the term-limited Dail on the board. (See [PepsiCo ex-CIO Makes 1st Woman Majority on MISO Board](#).) Dail served 12 years, three more than technically allowed through a special waiver that allowed the board to retain his technological know-how.

The outgoing director commended MISO on its work so far to gradually swap out its legacy market system for a new, modular platform. The grid operator set up a private cloud this year with non-critical infrastructure protection data and began testing its new market user interface with members.

"He certainly helped and influenced the [market platform replacement] program when

we initiated it in 2017," MISO Vice President of Market System Enhancements Todd Ramey said of Dail.

"Having been someone who has run large IT projects ... As the project size increases, the likelihood of staying on-time and on-budget decreases dramatically," Dail said during the committee's Dec. 8 teleconference. "This is my last Technology Committee [meeting], so I will not be here when this thing lands, but I feel very comfortable with where we're at. And anyone who knows me knows I don't say that lightly. I've never seen a project of this size and this complexity land this well."

However, he said his "passing counsel" would be for staff to look for any efficiencies that could accelerate the completion deadline, even if it does increase costs. He said "project fatigue" could set in among employees on a project with such a protracted timeline.

Virtual Environment Bleeds into 2021

Preparing for a prolonged pandemic recovery, MISO has planned a virtual format for both its March and June quarterly Board Weeks. The grid operator doesn't anticipate a return to in-person stakeholder meetings until the beginning of July.

"We're also showing a little bit of optimism by planning our September and December meetings in different locations," Currie said. "But as you know, things can change, and a lot depends on what we can do as a country to control the pandemic."

"It's been a challenging year with external factors," MISO General Counsel Andre Porter observed.

Currie said MISO's virtual meeting format for 2020 wasn't easy to manage.

"But clearly, the MISO community has risen to the challenge," she said.

"I think anyone would say it's been an extraordinary year ... a year marked by both tragedy and gratitude," Bear said.

He said nobody could have predicted the popularity of dress-shirts-and-sweatpants combinations, healthy sales of home gym equipment and priceless toilet paper. More seriously, Bear said MISO was rocked by "back-to-back-to-back storms, social unrest, the pandemic and working remotely."

However, he said MISO has accomplished much throughout the year to address the seismic change in its resources and their times of availability.

MISO Budget Rises in 2021

CFO Melissa Brown said MISO will finish 2020 under budget because of reductions in travel and training expenses and a higher-than-normal employee vacancy rate, all driven by COVID-19.

MISO estimated it will spend \$257.1 million in base operating expenses by year-end, almost \$8 million lower than the \$264.7 million it was allocated.

On the other hand, staff said they would finish 2020 slightly over its \$50.2 million project investment budget, at \$50.8 million. Brown said the market platform replacement and building renovations drove the overage.

In 2021, the grid operator is planning a nearly \$380 million total budget, a 3.2% increase over 2020. Base operating expenses will take a \$270.7 million share of the budget. The budget also calls for \$50.1 million in project investments and \$59 million in other operating expenses.

Brown said MISO will engage in more IT spending and will have more computer maintenance costs as its systems are upgraded. She also expects to spend more in 2022 and beyond as travel, training and in-person meetings return to pre-COVID levels and as MISO enacts more measures to maintain reliability in a renewable-rich portfolio.

Bear said it's going to become more expensive to manage an increasingly more complex system in the coming years; however, he predicted that MISO will continue to deliver value for members. ■



Director Baljit Dail in December 2019 | © RTO Insider

— Amanda Durish Cook

MISO News

Members Counsel MISO on Order 2222 Prep

By Amanda Durish Cook

MISO members say the grid operator needs both hard work and new faces to comply with FERC's sweeping distributed energy directive, Order 2222.

Referencing what staff have nicknamed the "two-by-four" order, MISO's Todd Hillman, senior vice president and chief customer officer joked last week during an Advisory Committee call that he'd like to use the lumber to "hit myself in the head with when I read the order."

The Organization of MISO States' president-elect and North Dakota regulator Julie Fedorchak said complying with the order will require different people than the usual stakeholder suspects. She said MISO will need ideas from utility operators, many of whom will be new to the stakeholder process.

As an example, Fedorchak said she didn't think any distributed energy resource aggregators were participating in the teleconference Dec. 9.

"I think that's a noteworthy absence," she said.

FERC in September ordered RTOs and ISOs to open their markets to DER aggregations, now largely limited to providing demand response (*Order 2222, RM18-9*). (See *FERC Opens RTO Markets to DER Aggregation*.)

MISO stakeholders last month created a DER

task force to navigate compliance with Order 2222. MISO hopes to have a plan drafted by March. (See *MISO Says Communication Key to DER Order*.)

"[A] compliance filing at the end of June is a pretty tight sprint," Hillman said.

Sustainable FERC Project Director John Moore called Order 2222 the commission's "most significant" order to date and one that "reflects the dynamically changing nature of the power grid." He said the order recognizes increasing two-way flows on the distribution system as well as the jurisdictional relationships between states, RTOs and FERC.

"This whole order seems to be a brave new world in jurisdictional questions," MISO Director Nancy Lange said.

Moore said if compliance is well-executed, the new market participants could help MISO access more resources and assuage concern over recent maximum generation events.

He said the RTO even has a role to play in helping distribution companies develop or improve interconnection standards and get interconnection costs right.

"Interconnection costs are a huge barrier" to generation projects, Moore said.

DTE Energy's Nick Griffin, representing the transmission-dependent utilities sector, said the order could supplant the need for some

transmission investment as it could maximize the distribution system's use and efficiency.

"It might also put pressure on the MISO interconnection queue," he said.

"We have to make sure the distribution utility has the information necessary to plan and manage their system," Otter Tail Power's Stacy Hebert said.

Several members asked staff to ensure DER electrons aren't double counted at the retail and wholesale levels.

Griffin said MISO should provide its wholesale DER transaction data to distribution companies, making the output easier to track.

"We will need a lot of input and interaction with our stakeholders," said MISO Executive Vice President of Market and Grid Strategy Richard Doying.

MISO has about 11 GW worth of demand response resources currently participating in the capacity market, mostly through "decade-old utility programs," Doying said. An OMS survey of DER resources last year indicated an additional 4 GW worth of capacity on distribution systems, much of it rooftop solar.

"We don't have a good handle on the amount or types we're going to see," Doying said. He said that MISO is working diligently to determine how many and what kinds of DER will participate at the wholesale level. ■



NIPSCO solar array | Inovateus Solar

MISO News



MISO, SPP Stakeholders Applaud New Joint Study

Targeted Study to Focus on Upper Midwest Seam

By Tom Kleckner

MISO and SPP staff last week began putting meat on the bones of their joint transmission study, much to the satisfaction of stakeholders disappointed by years of fruitless combined studies between the two RTOs.

The Joint Targeted Interconnection Queue Study attempts a different approach to identifying — and funding — interregional transmission projects that could solve congestion issues along the MISO-SPP seam. (See *MISO, SPP to Conduct Targeted Transmission Study*.)

The year-long study will focus on the seam between Nebraska and Kansas in the west and Iowa and Missouri in the east. Staff said the grid is at its capacity for new generator interconnections in that region, making the next iteration of network upgrades too costly for interconnection projects to proceed.

The RTOs hope to find more comprehensive, cost-effective and efficient upgrades than would otherwise be identified in the current interconnection queue process, where upgrades are identified in time sequence by one or the other RTO.

"We see the system in that specific area as getting saturated," SPP's Juliano Freitas said during a Dec. 11 teleconference with stakeholders from both RTOs. "We see a lot of problems in our studies related to congestion, voltage and terminal problems. More and more we see the costs going up when we try to interconnect new generation.

"We want solutions where both sides can see the benefits and agree to build," he said. "We want solutions out of this study that can provide multiple values and eliminate the friction we sometimes have in these processes."

That suits many stakeholders just fine.

"It's an understatement to say we're excited about this," Omaha Public Power District's Dan Lenihan said. "We've had persistent operational issues on the east area of the Nebraska-Iowa seam. You'd see four or five issues consistently on this seam consistently and persistently showing up as congestion issues. The seam's planning models haven't been able to accurately capture those, but this is maybe another avenue to tackle this."

Clean Grid Alliance's Natalie McIntire, a ubiquitous presence during MISO transmission discussions, said the joint study is "important

work for both regions to do together."

"We feel the way MISO and SPP has framed this study, to look at all the drivers, is a great way to look at this," she said. "We're really hoping that in considering the benefit analysis, you're not just looking at the economic analysis, but the benefit to reliability and customers."

Reducing Friction

By trying to resolve congestion issues in just one region, the RTOs' staff is hopeful of identifying opportunities to eliminate "unnecessary friction" between processes and affected parties in the study and on an ongoing basis. The goal is to find solutions that provide multiple values capable of meeting both the needs of interconnection customers and providing benefits to load in both SPP and MISO.

The RTOs have conducted four coordinated system planning studies since 2014, but have been unable to agree on any projects, generally because of cost-allocation issues.

"We're approaching this as a way to inform future planning efforts," said SPP Vice President of Engineering Antoine Lucas. "We're starting a little bit smaller. We'll have some takeaways from this that we'll be able to apply to other processes in the future, either along the seam or in our respective regions."

"At the end of the day, if all we get out of this is couple of projects, it would be a success," said Aubrey Johnson, MISO's executive director of system planning and competitive transmission. "This shouldn't be a one-time thing. We've got more problems out there, not just one area. We will see what we can learn and, in consultation with our stakeholders, improve our processes."

Lucas and Johnson both said cost allocations will not be a part of this study.

"We want the focus to be on transmission needs without the distraction of what the cost allocation might be at some later point. If we're able to do that, we can develop some solutions that generate value for y'all," Lucas said, addressing those listening to the call.

"The main thing is, let's see where the planning takes us," Johnson said. "[Benefits] have to be other things than adjusted production costs. [They have] to be things we've consistently agreed upon in both RTOs ... and bring them in for discussions with stakeholders."

The RTOs' engineering staffs will begin working on transmission solutions that enable generator interconnections, then vet those solutions with the stakeholder community, Johnson said. They will use separate 5- and 10-year models under the same principal and process, deploying economic metrics in the benefits analysis.

Executive Agreement

In aligning their interconnection processes, the RTOs hope to reduce or eliminate costly restudies, creating more certainty for transmission customers. Mitigation projects will be tested in a reliability study and "ideally suited" projects will be sent to economic studies staff for cost-benefit analysis. Projects that don't pass the cost-benefit test will be re-evaluated or replaced in the reliability study.

Staff promised stakeholders will be frequently updated on the process and be given a chance to provide input. A draft report will be developed in October.

Both RTOs' CEOs made it clear they stand behind the study by opening the meeting with mutual statements of support.

"We're committed to making progress," SPP CEO Barbara Sugg said. "There's so much opportunity here to leverage the MISO-SPP seam and benefit customers on both sides. We're encouraging innovation and flexibility to address some of the problems and challenges we've seen in the past. We need to think about things differently and not be constrained by history."

MISO CEO John Bear momentarily dropped off the call when it came time for him to speak.

"We're trying to find John," Johnson said.

"I'm frantically trying to find him," SPP's Clint Savoy said.

With order restored and Bear properly unmuted, he thanked Sugg for her leadership and for quickly reaching out to him when she was named SPP's CEO earlier this year. Bear said he discussed the study with his board of directors during MISO's Board Week.

"We're committed to improving the work as it is conducted on the seams," he said. "We know the work on the seams can be critical as we manage electricity in an affordable and efficient manner." ■

NYISO News

NY Panel Examines Vehicle Electrification, Cleaner Fuels

By Michael Kuser

Full electrification of transportation carries a heavy price tag and long timelines, prompting New York officials to look for bridge technologies, new strategies and alternative fuels that can achieve emissions reductions right away.

“Developing complementary electrification and transportation policies are essential to achieving the state’s clean energy goals,” Julie Tighe, president of the New York League of Conservation Voters, said last week while moderating a roundtable discussion on electrification and fuels hosted by the New York Climate Action Council.

Tighe pointed out that cars and heavy-duty vehicles like trucks and buses account for about 80% of the carbon emissions from the state’s transportation sector, “which is in fact the largest sector of carbon emissions in our state.”

The Climate Leadership and Community Protection Act (CLCPA) mandates that New York reduce emissions 85% from 1990 levels by mid-century, as well as consume 70% renewable electricity by 2030 and 100% carbon-free electricity by 2040.

EV Kindergarten

“We want fleets and consumers to be adopting electric vehicles, and that’s because the average car on the road today is 12 years old, and 25% of cars go beyond 16 years of life,” said Britta Gross, director of mobility at the Rocky Mountain Institute. “Take 16 years from 2050 and you get the 2035 number [target EV penetration rate], which is consistent with what California’s done and what the U.K. is doing even more aggressively.”

New York aims to have 850,000 EVs on the road by 2025 and 2 million by 2030. The state’s \$35 million in rebates since 2017 resulted in over 25,000 EV purchases as of June.

Dale Hall of the *International Council on Clean Transportation* said New York already has comprehensive support for the EV market with its rebates, strict emissions standards and various infrastructure programs, but there are a couple of gaps.

“One gap is an idea that has really taken off in a couple jurisdictions this year, which is extending EV rebates or subsidies to the used car market,” Hall said. “Oregon has rebates like that, California in a few specific air districts, Quebec, just north of us, and the Netherlands

just implemented the first used EV rebate in Europe.”

Ryan Wheeler, who works with fleet electrification at National Grid, said the company is transitioning its light-duty fleet to 100% electric by 2030 and has other aggressive goals on the medium and heavy categories for its own internal operations fleet.

“In terms of getting more EVs on the road ... a lot of our customers are still at the first learning stage, so a big focus of our efforts is ramping up outreach to customers about the vehicles that are available, the charging options and potentially different rate structures,” Wheeler said. “Charging access is another priority, so at National Grid we support a holistic approach that includes public access chargers, DC fast-charging options, and the multi-family dwellings are crucial when you think about equitable access.”

Fuel Standards, Alternatives

Ben Mandel, Northeast regional director at CALSTART, a national nonprofit focused on clean transportation technologies, framed the regulatory choices that could help sunset sales of internal combustion engine vehicles.

“Now with the enactment of [California’s] advanced clean trucks rule that does sunset internal combustion sales even on the medium- and heavy-duty side between 2024 and 2045, I strongly encourage New York to assume a leadership position by being the first state beyond California to really come out with a proactive signal that it will adopt those regulations in particular,” Mandel said.

The next critical element is putting in place the right operating conditions to make buyers prefer advanced high-efficiency vehicle technologies in terms of total cost of ownership, for which rate design is key, he said.

“Other measures include a low carbon fuel standard or adopting and really leaning in on the Transportation and Climate Initiative to make sure that the economics of operating charging stations ... really do shift in favor of the technologies we want to promote,” Mandel said.

Floyd Vergara of the National Biodiesel Board said that electrification is fine for light-duty vehicles, but that medium-, heavy-duty and non-road sectors such as aviation have unique challenges.

“For these medium- and heavy-duty sectors



Jamaica Center-bound New York J train in New York City

I think alternative fuels have been shown to be very effective in California and Oregon, so they can and should play a crucial role in decarbonizing the transportation system while the states use that time to ramp up their electrification efforts,” Vergara said. “We’re not talking about an either/or, but really an ‘and’ scenario.”

Biodiesel and renewable diesel provide immediate reductions in carbon, up to and above 80% greenhouse gas reductions, 50% in particulate matter, 40% in carbon monoxide and up to 100% reduction in toxics such as benzene, toluene, xylene, and polycyclic aromatic hydrocarbons, which are particularly impactful for the disadvantaged communities that are generally located around facilities that use a lot of petroleum, he said.

“No substantial changes in infrastructure or operational change is required. ... Alternative fuels all get significant reductions in air pollutants and GHGs,” Vergara said.

Mike Scarpino of the U.S. Department of Transportation’s Volpe Center in Cambridge, Mass., agreed that renewable natural gas (RNG) is an opportunity to get immediate reductions, especially in medium- and heavy-duty vehicles such as garbage trucks and city buses.

“If you flip the fuel source from regular compressed natural gas to RNG you can get pretty significant reductions, particularly if your RNG pathways are landfills, wastewater or dairy,” Scarpino said. “Once again, you’d be leveraging assets that you already have in place, dollars that have already been spent.”

RNG can help disadvantaged communities via cleaner refuse haulers, and “since total electrification will be very expensive, finding some of these bridge technologies is very important,” he said. ■

NYISO News



NYISO Monitor Highlights Out-of-market Dispatch

By Michael Kuser

NYISO energy markets performed competitively in the third quarter of 2020, but the use of out-of-market actions to meet local and statewide reliability needs was a significant concern, the Market Monitoring Unit said Dec. 7.

“One of the big themes in this quarter, partly because of relatively low load levels and low natural gas prices, was the frequent use of out-of-market [OOM] actions to maintain reliability and transmission security,” Pallas LeeVanSchaick of Potomac Economics said in presenting the Market Monitoring Unit’s State of the Market report for the third quarter to the Installed Capacity/Market Issues Working Group. “To the extent that you’re meeting reliability needs through out-of-market actions, you’re not providing efficient market signals for investment to meet those needs.”

For the second consecutive quarter, capacity costs constituted the majority of New York City’s all-in prices (62%), because of an increased locational minimum installed capacity requirement (LCR) and very low energy prices, he said. (See “Pandemic Reduced NYC Load by 11%,” NYISO Q2 Energy Prices, Load at 10-Year+ Lows.)

All-in prices ranged from \$22/MWh in the North (Zone D) to \$69/MWh in the city (Zone J). Prices were up in Zones A-F (1 to 11%) and in the city (21%), but down 18% in the Hudson Valley (Zone G) and 6% in Long Island (Zone K).

Average natural gas prices fell 15 to 24% from

a year ago, resulting in the lowest quarterly average price for a third quarter since at least 2009.

Average load fell slightly, but peak load also rose slightly. The COVID-19 pandemic may have reduced average load by about 3% for the quarter, the MMU said. Load reductions were largest in the city (6%), while many other regions saw increased load for the quarter, such as 2% in Long Island.

Nonetheless, load levels were comparable to levels in the same period a year ago as warmer summer weather largely offset the effects of the pandemic, the MMU said.

OOM a High Priority

“In New York City we saw out-of-market commitments daily to maintain adequate reserves to satisfy N-1-1-0 criteria for some of the 138-kV load pockets as well as for the 345-kV system,” LeeVanSchaick said. “Again, that’s important because those are some of the same areas where reliability needs are being identified by [NYISO], as well as where you have byway deliverability bottlenecks that could make it harder for generation to interconnect in certain areas.”

NYISO has greatly reduced the use of OOM actions to manage congestion in upstate New York over the last two years by modeling most 115-kV transmission constraints in the day-ahead and real-time market models, he said.

In New York City, some local reliability needs are met by Consolidated Edison making manual commitments. In other cases there are constraints in NYISO software that cause a

resource to be committed OOM but do not result in prices reflecting local grid needs. So, “it’s not that the NYISO doesn’t see the constraint; it’s that there is no local reserve requirement that sets a clearing price that can be paid to all resources for providing local reserves, so you have to commit something out of market,” LeeVanSchaick said.

Bid production cost guarantee (BPCG), or uplift, payments totaled \$20.6 million, up 16%; 26% of BPCG payments were to New York City units, and 63% were to Long Island units, for local reliability needs, the MMU said.

The report lists modeling reserves dynamically and having local reserve requirements to reflect N-1-1-0 criteria as high-priority recommendations.

“Without meeting these requirements through the market, as opposed to out-of-market actions, it’s going to be really difficult to get people to invest in resources that have flexible characteristics and are located in the right areas where they’re needed most,” LeeVanSchaick said.

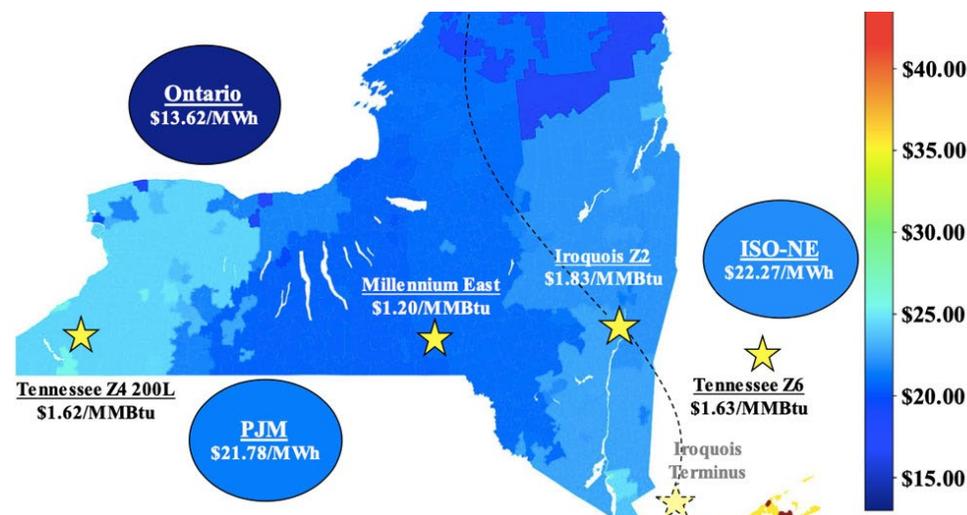
Mapping Congestion

Day-ahead congestion revenues totaled \$84 million, down 34% from a year ago, primarily because of lower gas prices, the report said. Congestion fell by nearly 42% in New York City from the prior year.

But Long Island accounted for the largest share of congestion (33%) this quarter, up 69% in the day-ahead market (\$11.4 million) and 11% in real-time (\$2.2 million) from a year ago. Load increased on Long Island, with higher residential cooling needs from the pandemic and the hotter-than-normal summer weather.

“The system congestion map indicates that eastern Long Island has a lot of areas that don’t have natural gas service,” LeeVanSchaick said. “The generation in the eastern half of Long Island is in large part higher-cost than in other areas.”

Looking ahead is challenging, he said, because lower NO_x limits will take out some generators in the Astoria and LaGuardia areas of Queens, which support areas to the east where there aren’t many generators. That will lead to some reliability needs starting in 2023 that could be met through some other generation or transmission. A similar situation in the Greenwood Heights area in Brooklyn will lead to reliability issues beginning in 2025, he said. ■



NYISO system price diagram for the third quarter | Potomac Economics

NYISO News

NYISO Business Issues Committee Briefs

Economic Planning Changes

NYISO's Business Issues Committee voted Wednesday to recommend approval of Tariff [revisions](#) to streamline the ISO's transmission planning and expand its scope to capture the grid's ability to deliver energy from the future generation resource mix to the forecasted load.

The changes rename the Congestion Analysis and Resource Integration Study (CARIS) as the draft System & Resource Outlook and double the assessment periods to 20 years, consistent with the study period for proposed economic or public policy transmission projects. They also remove language requiring time-intensive staff work of little value, such as the evaluation of generic solutions to the same "top three" congested paths each cycle.

The new rules also will affect the ISO's consideration of non-bulk power transmission facilities by incorporating transmission owners' local transmission plans into the economic planning process.

"We wanted to make this clarification because we are planning on working with transmission owners a bit closer in our model development just to make sure that we're capturing all the information necessary and have the coordination we find necessary to produce the best study possible," Manager of Economic Planning Jason L. Frasier said. If the Management Committee and Board of Directors approve the Attachment Y Tariff revisions, the ISO will make a Section 205 filing with FERC in January.

Clarification: Landfill Gas Covered Under Tailored Availability Metric

The BIC also voted to recommend MC approval of a clarification to apply the ISO's new Tailored Availability Metric (TAM) [rules](#) to landfill gas resources, as well as wind and solar. (See "Tailored Availability Metric OK'd," [NYISO Management Committee Briefs: April 29, 2020](#).)

FERC accepted the TAM rules in September for intermittent resources for implementation with the day-ahead market run for May 1,

2021 (ER20-2337).

The clarification will replace the terms "wind and solar resources" with "intermittent power resources," which includes landfill gas, in section 5.12.14.3 of the Market Administration and Control Area Services Tariff.

The TAM rules change how the ISO measures the amount of unforced capacity (UCAP) intermittent resources can sell — calculated as installed capacity less the resource's derating factor. While thermal resources' derating is based on forced outages, intermittent resources' derating is based on their historic performance during certain peak load hours.

The BIC also approved modifications to the Control Center Requirements Manual to incorporate tariff modifications made in November related to utilization of meter services entities (MSEs) for demand-side resources. (See "Other Approvals," [NYISO OKs Changes on Hybrid, Fast Start Resources, TCCs](#).) ■

— Michael Kuser



| Fré Sonneveld/Unsplash

NYISO News

NY Decarbonization Workshop Focuses on Current Tech No Time to Wait for New Tech to Advance Electrification, Replace Peakers, Speakers Say

By Michael Kuser

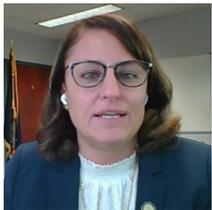


Jesse Jenkins, Princeton University | NYDPS

It will take time to develop new technologies to help New York reach its ambitious clean energy goals, but that “is no excuse for delay in deploying solutions that are already available and ready for prime time,” Jesse Jenkins of Princeton University

said last week at a state-sponsored decarbonization workshop.

More than 300 people tuned in to the workshop, held on Dec. 8 by the New York State Energy Research and Development Authority (NYSERDA) and the New York Department of Environmental Conservation (DEC).



NYSERDA CEO Doreen Harris | NYDPS

The immediate task is to figure out what different solutions might get New York to carbon neutrality as quickly and affordably as possible, interim NY-SERDA CEO Doreen Harris said.

“We cannot know what will work and so must support a diverse set of

technologies that can enable multiple pathways to success,” Harris said. “The issues and the needs are just too important. ... To put it simply, we are running out of time to avoid the most damaging and costly impacts of global warming.”



NYSDEC Commissioner Basil Seggos | NYDPS

DEC Commissioner Basil Seggos said that such workshops will help educate the general public about what is possible and how the state can discover new ways of doing business.

“We are where we hope the federal government will be a year from now, which is in the trenches and working with stakeholders across all industries looking for the best and most effective ways to hit those all-important climate targets,” Seggos said.

Focus on Finance

The most efficient way to decarbonize the U.S. economy is through electrification, and the biggest impact comes in homes and apartment buildings, said Saul Griffith, founder and chief scientist at San Francisco-based incubator *Otherlab* and a co-founder of *Rewiring America*, an advocacy organization.

But it costs about \$80,000/household to



Saul Griffith, Otherlab | NYDPS

retrofit for the future, he said. It also takes about a generation for new hardware to win universal adoption, but the world doesn't have that kind of time in the fight to reduce global warming. That's why state action is needed to make low-cost

financing available, as home electrification cannot fulfill its potential if left only to those who can afford it, he said.

Together with Rewiring America partner Sam Calisch, Griffith in October published a *paper* on residential electrification. He reported the “big conclusions” to the workshop audience.

If the country does a “good job,” it can decarbonize more than 40% of the economy through household energy consumption, while saving more than \$1,000 per year per household. In a “great job” scenario of optimal regulatory environment, low-cost financing and steady technology improvements, the U.S. can save more than \$2,500 per year per household. Applying the same technologies and approaches to the commercial sector would eliminate about 65% of its emissions.

“We don't need any miracle technologies to completely decarbonize American households,” Griffith said.

Emerging Tech

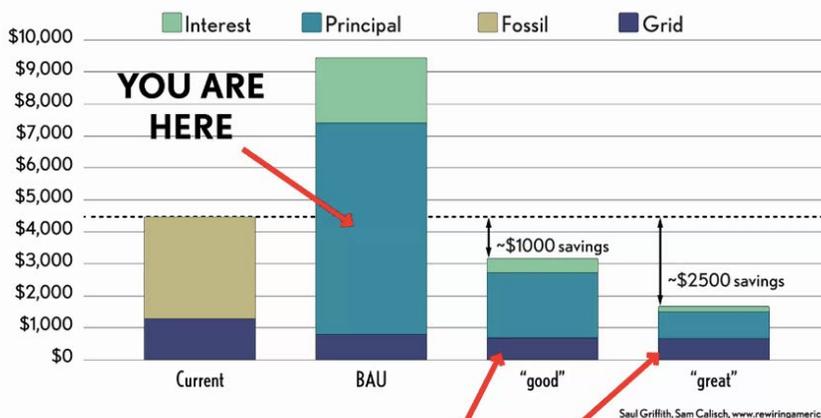


Scott Litzelman, ARPA-E | NYDPS

Scott Litzelman, program director at the U.S. Department of Energy's Advanced Research Projects Agency - Energy (ARPA-E), said that long-duration energy storage (LDES) is going to become more important as the economy decarbonizes.

“The duty cycle and markets for LDES will be different, and the cost and performance are going to have to look different from the lithium-ion batteries that dominate today,” Litzelman said. “Energy arbitrage and ancillary services can be satisfied now with current technologies, as you don't need more than four hours of duration to do storage applications today.”

Total household energy costs before and after electrification



WE NEED TO MAKE THE POLICY AND PROGRAMS THAT GET US HERE

Saul Griffith of Otherlab and Rewiring America outlined the best electrification scenarios at New York's decarbonization workshop Dec. 8. | *Rewiring America*

NYISO News



The future is about adding new renewables to the grid, he said, and ARPA-E's interest is in how storage complements the increasing amount. LDES can help mitigate various risks, such as intermittency, demand uncertainty and price volatility.



Sunita Satyapal, DOE | NYDPS

Sunita Satyapal, director of DOE's Hydrogen and Fuel Cell Technologies Office, said the fuel cell industry just passed 1 GW in terms of global shipments, "so it's really starting to be commercially viable," with a 25-fold increase in electrolysis and a doubling in sales of fuel-cell vehicles.

Julio Friedmann, senior research scholar at the Center for Global Energy Policy at Columbia University, stressed the importance of carbon capture and storage (CCS), noting the roughly 500 GT of anthropogenic carbon dioxide emissions in the environment.



Julio Friedmann, Columbia University | NYDPS

"There is only one way to stabilize the environment, and that is net-zero emissions everywhere. ... In order to balance the global residual emissions, we're probably going to need an industry twice the size of the oil and gas industry working in reverse," Friedmann said.

Anchors of a net-zero economy include hydrogen, zero-carbon electricity and CCS. "I often think of these anchors in the context of four 'Rs' to get to zero: reduce, reuse, recycle and remove," Friedmann said. "These carbon-management technologies are meant to be a complement to everything else ... and CCS is the Swiss Army knife of deep decarbonization."

For example, roasting coffee produces two bags of CO₂ for every bag of beans processed, "but today you can take that CO₂, put it in a 3D printer and make it into a cup to drink your coffee," he said.

Environmental Justice Roundtable

New York's Climate Leadership and Community Protection Act (CLCPA) mandates that the state consume 70% renewable electricity by 2030 and 100% carbon-free electricity by 2040. It also requires that 40% of the benefits of state investments in clean energy reaches disadvantaged communities, which suffer disproportionate health risks by being located near the dirtiest of oil- and gas-fired peaker plants. (See *New York Holds Final CLCPA Emissions Hearings.*)



Annel Hernandez, NYC Environmental Justice Alliance | NYDPS

The decarbonization workshop closed with an environmental justice panel that included Annel Hernandez, associate director of the New York City Environmental Justice Alliance and a member of the state's Climate Action Council.

"One of the specific campaigns we have going right now that is most relevant to this conversation is our fight to displace the peaker plants in New York City that are disproportionately sited in the communities that we represent," Hernandez said.

"In Astoria, Queens, right now, NRG [Energy] is in the process of trying to repower one of their peaker plants," Hernandez said. The company says it is "in compliance with the CLCPA because of the off chance that they can convert to green hydrogen by 2040."

But green hydrogen technology is still rooted in fossil fuels, she said, "so we are very concerned about what the emissions profile of that is, what the energy intensity of that is and what the impact on the local community is, and what other infrastructure would have to be put in place," Hernandez said. "There are a lot of outstanding questions that have yet to be answered, and we cannot let them to build brand new fossil fuels in New York City after we passed the most aggressive climate policy in the country."

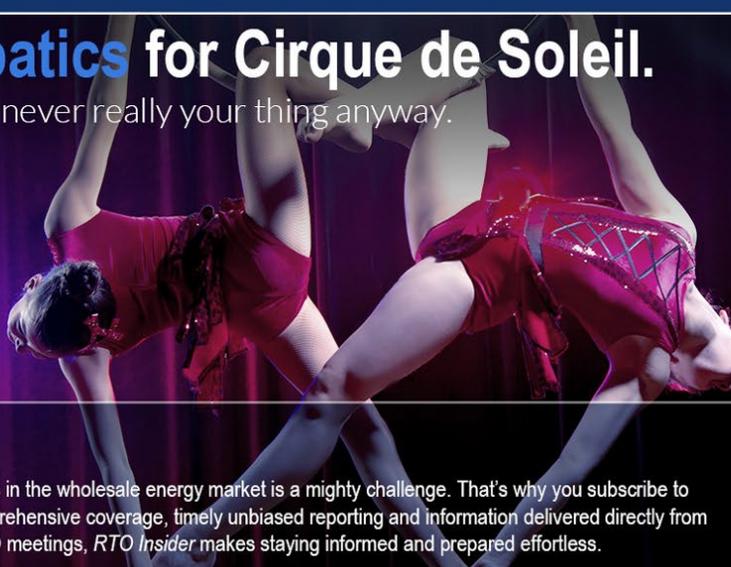


Gopal Dayaneni, Movement Generation | NYDPS

Gopal Dayaneni of environmental advocacy group Movement Generation said that "understanding the climate crisis and its consequences ... has everything to do with how we frame the problem. If we look only at CO₂, not only do you misunderstand the problem, you don't come up with the right solutions." ■

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PJM News



Overheard at the Mid-Atlantic Renewable Energy Summit

Infocast's three-day virtual Mid-Atlantic Renewable Energy Summit featured discussions on state clean energy procurements, the development of offshore wind (OSW), energy efficiency and the decarbonization of the transportation and generation sectors. Recent debates in PJM and FERC were also at the forefront of panel discussions.

Here are some highlights of discussions we heard.

DC's Decarbonization Plan

Tommy Wells, director of the District of Columbia Department of Energy & Environment gave a presentation on the city's efforts to comply with the D.C. Public Service Commission's January *order* calling for 50% renewable resources by 2032 and carbon neutrality by 2050.

Clean energy advocates have warned the order didn't adequately create a path to achieve the goals, while city officials said the groundwork is there to carry out a successful plan.

Wells said comprehensive energy plans typically quantify how much energy is being used, where the energy comes from and how much capacity is necessary to retain reliability of the grid.

Wells said D.C.'s plan, *Clean Energy DC*, is different because it starts with the goals and leaves the path to reach the goals up to interpretation. He said quantifying the goals remains the challenge.

"For a lot of us, the future is somewhat uncertain," Wells said. "But there are some basic



Tommy Wells, DC Department of Energy and Environment | Infocast

things we do know. We know we've made the commitment to do it. We know that there are new technologies that are adding renewable energy. The comprehensive energy plan is the roadmap, and along that roadmap there's going to be some new routes and changes along the way."

Wells said the milestones along the way include cutting energy usage in the city by 50% and using 100% renewable electricity by 2032.

D.C. officials are working in partnership with the city's distribution utility, Potomac Electric Power Co. (Pepco), to add new technologies like battery storage to modernize the grid and give it the flexibility to incorporate intermittent generation, he said.

Although the grid was one of the greatest engineering feats of the 20th century, Wells said, it needs updating. "Now we need the grid for the 21st century. And the 21st century grid is going to have to do a lot more and be a lot smarter," he said.

D.C. is looking to wind power to help achieve its renewable goals. Wells said D.C. government facilities get a third of their power from a wind farm in Pennsylvania.

It signed a 20-year agreement with the wind farm, Wells said, which helped pay for the capital costs of construction. He said the deal was a way to use D.C.'s position as a large consumer to put additional renewable resources on the grid.

Wells said one of D.C.'s mandates is to generate 10% of its power needs from solar power contained within the city limits. He said the mandate will be very difficult and expensive to achieve, but it was a requirement laid down by city officials.

Because the city is largely developed and has expensive real estate, Wells said D.C. has had to incentivize the construction of solar projects. He said whenever an electricity purchase is made in the city, there is a "carve out" for a portion of that electricity that is required to be generated from solar. If the carve out can't be met, the generator must provide an alternative compliance payment to D.C. as a penalty.

Wells said one of the biggest disadvantages against D.C. achieving its renewable goals right now is that electricity is inexpensive throughout the Mid-Atlantic region.

"When power is cheap, it is difficult to get people to really pay attention to the things we



Thomas Noyes, Delaware Division of Climate | Infocast

want them to do, which is use less power and use more renewables," Wells said. "But we're going to get there."

Delaware's Renewable Future

Thomas Noyes, principal planner for utility policy at the Delaware Division of Climate, Coastal and Energy, gave a presentation on the First State's energy landscape.

The state's *Climate Action Plan*, which is set to be finalized by early 2021, is expected to propose reducing greenhouse gas emissions through renewables, energy efficiency and electrifying the transportation and building sectors. Gov. John Carney earlier this year proposed updating the state's renewable portfolio standard (RPS) to 40% by 2035.

Noyes said Delaware's energy landscape is shaped by its geography of being located on a peninsula, with most of the power flowing north to south and the heaviest concentration of industrial and residential customers located in the northern section of the state.

Delaware does not generate all the electricity it uses, Noyes said, leading to a large portion of its energy imported from out of state. Noyes said most of the power generated in state comes from natural gas plants.

"It's not an exaggeration to say most of the energy we use is imported through power lines and pipelines," Noyes said.

The *Renewable Energy Portfolio Standards Act*, the state law passed in 2005, set Delaware's RPS at 25% renewables with 3.5% of the renewables coming from solar by 2025. Noyes said the current resource mix stands at 20%

PJM News



renewables and 2.25% from solar.

Noyes said Delmarva Power, which provides power to a large portion of the state, meets its RPS requirements through long- and medium-term contracts and the spot market. Noyes said long-term contracts of at least 20 years are a key part of the state's strategy of reaching the renewable goals by allowing solar projects of all scales to compete for the right to sell SRECs through 20-year contracts.

Long-term contracts help promote investment in the small- and medium-size solar projects by making it more appealing to investors who know they will have a sure 20-year revenue stream, Noyes said.

"These contracts help us reduce the boom-and-bust cycles that we've seen in some other states," he said. "In a short period, a state may see several large projects built that crowd out the market for small- and medium-size solar installations. We've worked very hard to avoid that."

Most of Delaware's renewable energy credits (RECs) come from out-of-state wind generation, Noyes said, while most of the solar renewable energy credits (SRECs) come from inside the state. Delaware has more than 6,000 solar PV installations, mostly distributed rooftop sources. Its 130 MW of solar capacity has grown 15-fold in the last decade, he added.

The next big step for renewable energy in Delaware is offshore wind, Noyes said. Gov. Carney formed a working group in 2017 to study opportunities for the development of OSW off the state's coast. Noyes said Delaware must take into account the transmission of OSW projects slated for development off the Maryland coast, with lines expected to bring power



Mary Beth Tung, Maryland Energy Administration | Infocast

ashore at the Indian River Substation. (See *Md. PSC Ok's 368 MW in Offshore Wind Projects.*)

Noyes said Delaware officials are engaged in discussions with FERC and PJM on how the grid is going to handle the transmission impacts. He said with more connection points along East Coast shorelines, other states are going to have to make adjustments to how they do grid planning because most transmission infrastructure is not found along the coastlines.

As more power comes ashore from OSW, it could partly reverse the geography of the grid in Delaware with electricity primarily flowing from the south to the north, Noyes said.

"If we have more power coming ashore in southern Delaware, we're going to have to see what we have to do to make adjustments to the grid," he said.

Maryland Renewables

Maryland officials discussed their efforts to comply with the 2019 Clean Energy Jobs Act (*SB 516*), which raised the state's RPS to 50% by 2030, from 25% by 2020. Gov. Larry Hogan's *proposed* Clean and Renewable Energy Standard (CARES) would require 100% renewables by 2040.

Ben Grumbles, secretary of the Maryland Department of the Environment, said Hogan created the Governor's *Task Force* on Renewable Energy Development and Siting by executive order in 2019 because "good ideas" weren't making their way through the general assembly, and there was an immediate need to find ways bring stakeholders together.

The task force looked for ways to reduce unacceptable tradeoffs of having to choose between the environment and the economy, Grumbles said, and officials helped to streamline permitting and come up with innovative ideas for promoting renewable resources.

Maryland is one of 30 states with a renewable portfolio standard to increase electricity production from renewable sources. The state currently requires that 50% of electricity sold by utilities come from renewable sources by 2030, including 14.5% from solar as mandated by the Clean Energy Jobs Act.

Grumbles cited an October *report*, released by Chesapeake Conservancy's Conservation Innovation Center (CIC), which lays out large-scale opportunities for solar placement on degraded land and underutilized industrial sites; the rooftops of commercial, industrial and residential buildings; and parking lots. (See *Report: Urban Land Use Key for Md. Solar Goals.*)

The task force estimated that meeting the



Ben Grumbles, Maryland Department of the Environment | Infocast

state's RPS will require between 7,000 and 35,000 acres of land across the state, Grumbles said. Solar siting is just one of the strategies Maryland is using to ensure that it meets its GHG reduction goals through a push for "homegrown" renewable energy.

"This relentless march towards clean and renewable energy to meet our very ambitious environmental and climate goals is a priority," Grumbles said. "The need is even greater to couple those ambitious environmental goals with common sense solutions and partnerships for innovation and real collaboration."

Mary Beth Tung, director of the Maryland Energy Administration, was asked about her agency's efforts to spur battery storage development.

Tung said battery storage is an interesting subject on the policy side and through its practical attributes and is becoming a more significant part of the grid. Aside from their obvious uses, she said batteries can be used in transmission and stabilizing power supplies in substations.

Maryland has been developing its *Solar Canopy Grant Program* for installing solar PV over parking lots with electric vehicle charging stations, Tung said, and some of those projects include battery storage.

Tung said her agency is currently working with the state Public Service Commission to determine what storage regulations should be developed to promote their use in the state.

"Storage is one way we'll be able to even out the renewable curve," she said. "Renewable resources are intermittent for the most part, and it is a way to get over that hurdle." ■

— Michael Yoder

PJM News



Pa. Eyes EE, Renewables for RGGI Funding

State Expects up to \$320M Annually



Clockwise from top left: Kathleen Robertson, Exelon; Flora Cardoni, PennEnvironment; Allen Landis, Pennsylvania DEP; and Pennsylvania Rep. Chris Rabb (D). | Infocast

By Michael Yoder

Pennsylvania is considering spending some of its carbon credit proceeds on energy efficiency and renewable energy development, a state official told Infocast's Mid-Atlantic Renewable Energy *Summit* last week.

The state Department of Environmental Protection (DEP) estimates that carbon credit auctions under the Regional Greenhouse Gas Initiative (RGGI) will yield annual revenues of between \$179 million and \$320 million through 2030 once Pennsylvania joins the 10-state compact. (Virginia will *become* the 11th state to join in January.)



Allen Landis, Pennsylvania DEP | Infocast

Allen Landis, executive director of DEP's *Pennsylvania Energy Development Authority*, said state officials intend to spend RGGI auction funds on eliminating air pollution because they are relying on the state Air Pollution Control Act as the legal basis

for joining the compact.

He said the state expects energy efficiency to be a "major piece" in the spending plans, adding that efficiency would provide "tremendous dividends" for grid reliability, energy rates and job creation.

Renewable energy development in the state is also likely to receive funding, Landis said, because increasing Pennsylvania's renewable capacity is essential to meeting Gov. Tom Wolf's goal of a 26% reduction in statewide greenhouse gas emissions by 2025 while ensuring its electricity sector stays competitive in the long term. (See *Pennsylvania Joins US Climate Alliance*.)

Wolf, a Democrat, has been battling with the Republican majority legislature over the state's entrance into RGGI since he signed an executive order in 2019 directing DEP to draft a rulemaking for joining the compact. (See *Pennsylvania Governor Signs RGGI Executive Order*.)

In September, the General Assembly passed a bill barring the state from joining RGGI or taking any action to control carbon dioxide emissions without legislative approval, but Wolf *vetoed* it. (See *Pa. House Passes Bill Limiting RGGI Entry*.)

Landis said the "greenhouse gas abatement" piece of the proposed RGGI regulations include programs ranging from electric vehicle charging stations to curtailing leaking emissions at abandoned oil and gas wells.

"The first and most important thing for us right now is to put the process out there, get input, draft out the plan and let people weigh in on it and make sure their voice is heard so everyone can contribute as to how those funds are spent," Landis said in response to a question from moderator Flora Cardoni, field director at PennEnvironment.

The state Environmental Quality Board is accepting comments until Jan. 14 on the proposed *regulations*, which were published last month. Comments may be submitted through the *eComment system*. The board also held a series of virtual public hearings on the regulations.

Protecting Communities

State Rep. Chris Rabb (D) told the conference that regulators and the legislature needs to have a "laser focus on the hot spots" of environmental damage in Pennsylvania and use RGGI funds to correct "egregious" negative

PJM News



Pennsylvania Rep. Chris Rabb (D) | *Infocast*

impacts on the environment in vulnerable communities. There is not much precedent for doing the type of work laid out in RGGI, he said, which makes it difficult for politicians and regulators to find the right mix for the program to succeed.

Rabb said politicians focus too much effort on “symptom chasing,” especially when they deal with environmental issues: They’re willing to address the symptoms of problems but don’t have the courage to go to the heart of systemic issues that create the problems.

RGGI is not the “universal solution” for all the environmental problems in Pennsylvania, Rabb said, but its goals are a step in the right direction. He said it is important right now for regulators to make sure the direction of the program is “sound” while addressing the needs of communities that will be impacted by the new regulations.

The state has to look at creating opportunities for “regenerative effects” by creating new green jobs and entrepreneurial opportunities for fossil fuel industry workers whose livelihoods are at risk, he said.

“These are frontline communities that we have to take care of,” Rabb said during the Dec. 8 session, which also featured discussion on how

the state can further its renewable policies by increasing the goals in the 2004 Alternative Energy Portfolio Standards *law*. “This is about how we can transition them into a new reality where there are business opportunities and other community-centered efforts that will help make us whole.”

Industry Perspective



Kathleen Robertson, Exelon | *Infocast*

Kathleen Robertson, director of strategic initiatives and environmental policy at Exelon, said she appreciated the idea of job training being included in possible uses for RGGI funds. She said she believes an argument can be made that job

training can be linked to improving air quality by focusing on careers like oil and gas well abatement, weatherization of buildings and the installation of energy efficiency projects. Weatherization provides opportunities for local workers because the jobs cannot be outsourced to cheaper foreign labor, she said.

Community support will be important as some of the existing generation plants transition or close, Robertson said, pointing to the shuttering of Three Mile Island nuclear plant in central Pennsylvania in 2019. (See *Exelon to Close Three Mile Island*.) She said the closure of generation plants can be devastating to communities’ tax

revenues and employment base.

“Given the amount of money RGGI can raise, I think one of the really good opportunity areas is transitioning both the workers and the communities into the clean energy economy and making sure everyone has a leg up in that,” Robertson said.

Legislative Action

Cardoni asked Rabb how likely Pennsylvania’s legislature is to approve RGGI given the Republican resistance. (See *GOP Continues Opposition to Pa. RGGI Plans*.)

Rabb said Republican legislators will fight RGGI “tooth and nail” because they don’t want to lose fossil fuel jobs or the industry’s campaign contributions. The lack of limits on campaign donations in Pennsylvania makes it even more difficult to get controversial legislation passed, he said.

The oil and gas industry in Pennsylvania has more lobbyists than there are state legislators, Rabb said, which is an enormous number considering the state has the largest full-time legislative body in the country, with 253 members in the General Assembly. Rabb said the money in campaigns goes beyond partisan politics and is a problem of both Republicans and Democrats.

“The largest industries with the deepest pockets win,” Rabb said. “They win in a very cynical way. They win by influencing incumbents and candidates by cutting very big checks.” ■

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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 Thursday. 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. The MRC will be asked to endorse *proposed* revisions to *Manual 14C: Generation and Transmission Interconnection Facility Construction* as part of the biennial cover-to-cover review. (See "Manual 14C Endorsed," *PJM PC/TEAC Briefs: Nov. 4, 2020*.)

C. The committee will be asked to endorse proposed revisions to *Manual 28: Operating Agree-*

ment Accounting to comply with FERC directives and address the allocation of real-time and day-ahead uplift to up-to-congestion (UTC) transactions. (See "UTC Uplift Changes," *PJM MIC Briefs: Dec. 2, 2020*.) In its order issued in July, FERC determined that PJM's current uplift allocation rules are unjust because they do not allocate uplift to UTCs (*EL14-37*). (See *FERC Orders Uplift Charges on PJM UTCs*.)

Members Committee

Endorsements/Approvals (1:25-1:55)

1. Elections (1:25-1:45)

A. The MC will *elect* members of the Finance Committee, the sector whips and its vice chair for 2021.

The Finance Committee members to be voted on include: Adrien Ford of Old Dominion Electric Cooperative (Electric Distributors); Greg Poulos of the Consumer Advocates of the PJM States (End-Use Customers); George Kogut of the New York Power Authority (Other Suppliers); and Jim Benchek of FirstEnergy

(Transmission Owners).

The sector whips include: Steve Lieberman of American Municipal Power (Electric Distributors); Susan Bruce of the PJM Industrial Customer Coalition (End-Use Customers); Michael Borgatti of Gabel Associates (Generation Owners); Brian Kauffman of Enel North America (Other Suppliers); and Sharon Midgley of Exelon (Transmission Owners).

Erik Heinle of the D.C. Office of the People's Counsel is the nominee for vice chair.

2. Risk Management Committee Charter (1:45-1:55)

The committee will be *asked* to endorse the *charter* establishing the Risk Management Committee (RMC) as a new standing committee. Stakeholders unanimously endorsed the charter at the MRC meeting in August, but PJM later determined the charter also needed the MC's approval. (See "Risk Management Committee Charter," *PJM MRC Briefs: Aug. 20, 2020*.) ■

— Michael Yoder

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SPP News

SPP Stakeholders Dig into WEIS Market Study

By Tom Kleckner

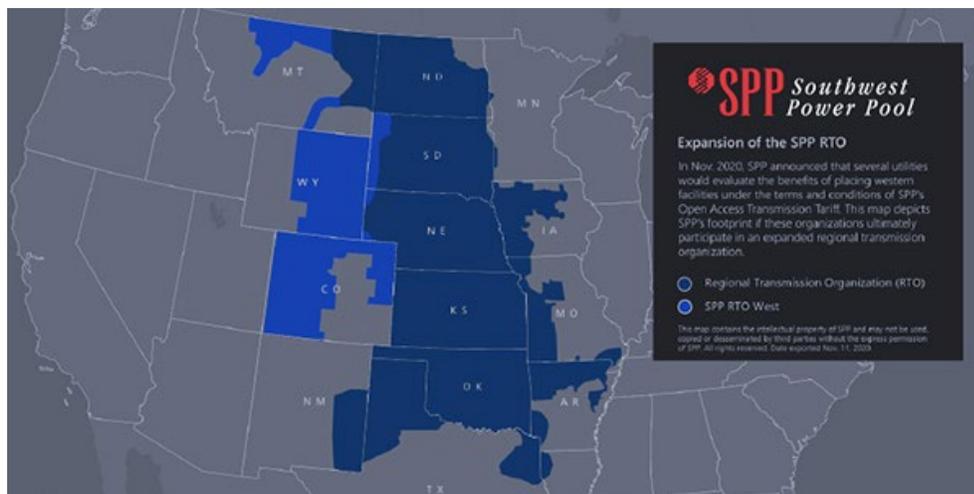
SPP last week offered stakeholders a deep dive into a Brattle Group analysis of the RTO's Western regional market that projects \$49 million in annual savings for current and new members.

According to the [study](#), utilities participating in SPP's Western Energy Imbalance Service (WEIS) market, scheduled to launch in February, will receive \$25 million a year in adjusted production cost (APC) savings and revenue from off-system sales. Members in the RTO's Eastern Interconnection footprint will benefit from \$24 million in savings because of the market's expansion, transmission network and generation fleet.

Brattle said SPP's expanded RTO footprint will allow market participants to sell power into Arizona, New Mexico, Utah and elsewhere in the Western Interconnection while only paying a single wheeling fee, "which creates opportunity for increased market sales."

The study analyzed the benefits of WEIS market utilities and the SPP RTO interacting across the DC ties in two future scenarios: an expanded RTO and the WEIS market. It looked far enough in the future to assume recently announced renewable energy projects would be energized, staff said during the Dec. 9 call.

The expanded RTO study integrated WEIS utilities into SPP RTO over the DC ties, with a unified Tariff for the entire footprint and optimized day-ahead and real-time DC ties. Brattle found extending SPP RTO to the WEIS footprint would reduce APC by \$33 million/



SPP's expanded RTO footprint | SPP

year and generate over \$16 million/year of additional wheeling revenues. WEIS members would experience an APC reduction of \$8.5 million/year and receive the \$16 million/year of additional wheeling revenues; current SPP members would receive an APC reduction of \$24.2 million/year.

An increase in market sales, mostly sold off-system to neighboring entities in the WECC, would account for much of the APC reduction, the consulting firm said.

Under the WEIS scenario, Brattle staff allowed coordinated real-time trading over the four DC ties in the WEIS footprint. Increased flows of low-cost power from SPP into the WEIS footprint would reduce APC by \$16.1 million/year in the combined footprint; \$9 million/year would accrue to WEIS members and \$7.1

million/year to current SPP members.

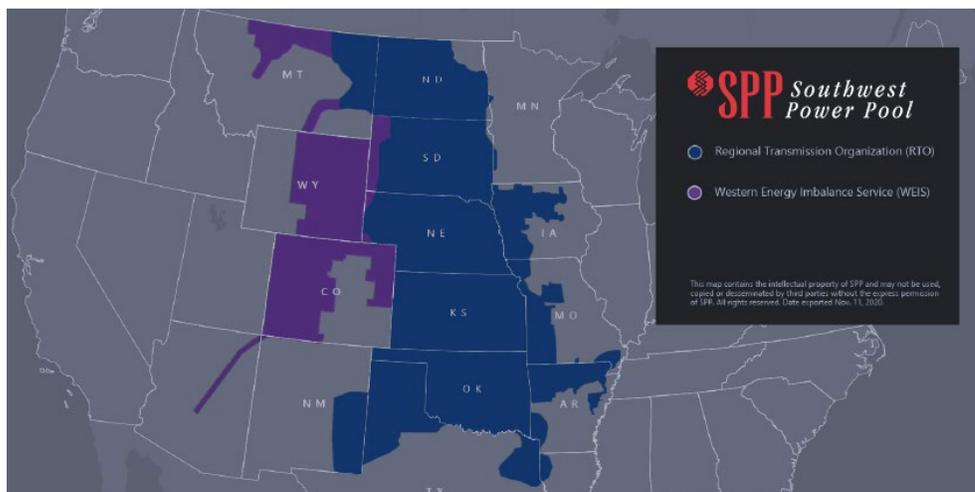
The cheaper power would allow WEIS members to reduce production from higher-cost resources. SPP members would benefit from making more sales across the DC ties, and WEIS members would be able to substitute high-cost production for lower-cost purchases from SPP.

Basin Electric Power Cooperative, Deseret Power Electric Cooperative, the Municipal Energy Agency of Nebraska, Tri-State Generation and Transmission Association, the Western Area Power Administration and the Wyoming Municipal Power Agency (WMPA) will participate in the WEIS contract. With the exception of the WMPA, the utilities have said they are interested in placing their Western Interconnection facilities under the terms and conditions of SPP's Tariff and becoming RTO members. (See [Western Utilities Eye RTO Membership in SPP.](#))

Also last week, WEIS market participants briefly discussed a list of service flow constraints (SFCs) that raised concerns with SPP's Market Monitoring Unit.

Staff told the Western Market Working Group (WMWG) during its meeting Dec. 10 that a list of SFCs, to be posted online, will only include the constraint's name, its rating limit and the shadow price. The data will be a direct output from the economic dispatch engine.

The Western Market Executive Committee remanded a revision request back to the WMWG when the MMU said it would be difficult to post "on-the-fly" SFCs in real time. (See ["WMEC Approves 6 WRRs," SPP WEIS Stakeholders OK Final Test.](#))



The SPP WEIS market | SPP

SPP News

High Marks for SPP's Performance in 2020

Directors, Members Review Organizational Effectiveness Metrics

By Tom Kleckner

SPP staff said last week that stakeholders' overall satisfaction with the RTO's services and staff's performance in three specific areas all rose during 2020, even as survey responses dropped.

Staff shared the results of SPP's annual stakeholder satisfaction survey and other assessments during the Board of Directors' meeting Dec. 7.

Scored on a 5-point scale, stakeholders gave SPP an overall 3.87 rating for 2020, a 0.25 increase from 2019. A year ago, overall satisfaction was only up 0.03 points. Stakeholders gave staff similar boosts of between 0.24 and 0.27 points when asked their satisfaction with responsiveness, accuracy of information and problem resolution.

However, the survey's response rate fell from 18.6% a year ago to 13.6% this year. SPP sent out 1,283 invitations to the survey, with 174 stakeholders responding.

"Sometimes, people's response rate is related to whether they feel anyone is responding to them," board Chair Larry Altenbaumer said. "We want people to understand this is an important part of the process. We need to demonstrate that more effectively than we have in the past ... to increase those numbers in the future."

Staff reminded the board during its yearly metrics review of organizational effectiveness that they take all the comments received from the surveys and assign them to managers for action. SPP also makes periodic progress reports to the Markets and Operations Policy Committee.

"I know there is an ongoing activity, but we haven't done as good a job as sharing with members the activities we do," Altenbaumer said. "Too often, it comes across as a one-shot deal in December."

Directors and members also reviewed evaluations of the board and the organizational groups' self-assessments. The directors' and Members Committee's average rating of the board (4.25 out of 5) was identical to 2019. SPP extended the survey to the MOPC for the first time this year; the committee gave the board an average rating of 3.79.

Members Committee representatives rated

the board's performance lower than the directors did in all 23 assessed categories, ranging from 0.09 to 1.13 points lower.

"It's important for those of us on the board to understand what would drive [the Members Committee] to say this," SPP CEO Barbara Sugg said. She said staff would bring back thoughts on the gaps to the January board meeting.

COO Lanny Nickell will bring a proposed set of key performance indicators (KPIs) based on actual data to the same meeting. He shared a strawman that would reduce the number of KPIs to four: working together, responsibility and economics, keeping the lights on today, and keeping the lights on in the future.



Lanny Nickell, SPP | SPP

Wolf Creek-Blackberry Timeline Tweaked

The board approved a consent agenda that added another year for regulatory approval to the 345-kV Wolf Creek-Blackberry competitive project. Staff determined that the current Jan. 1, 2022, deadline gave Kansas regulators only 66 days instead of the normal 180 to verify whether the potential transmission owner has gained utility status and, with it, the right of eminent domain. Staff recommended the deadline be extended to Jan. 1, 2023.

In September, the board lifted a suspension of the project and authorized the Oversight Committee to create an industry expert panel to evaluate responses to a request for proposals, which staff have since issued. (See "Board Lifts Suspension on Competitive Upgrade," *SPP Board of Directors/MC Briefs: Sept. 22, 2020*.)

SPP expects to award the project a notification to construct next October. It is expected to cost \$152 million, which members will fund according to load-ratio share.

With its sign-off of the consent agenda, the board approved the Corporate Governance Committee's nomination of ITC Holdings' Alan Myers as the MOPC's vice chair. Myers will serve alongside acting MOPC Chair Denise Buffington, of Evergy.

Myers has chaired the Economic Studies Working Group since 2008 and will commence another two-year term in January following

the board's approval of his CGC nomination.

Also approved as stakeholder group chairs were: American Electric Power's Richard Ross (Market Working Group); AEP's Brian Johnson (Project Cost Working Group); Evergy's John Anderson (System Protection and Control Working Group); Oklahoma Gas & Electric's Jerad Ethridge (Model Development Working Group); and City Utilities of Springfield (Mo.)'s Russell Moore (Operations Training Users Forum).

Ross, Ethridge and Moore are all incumbents.

OG&E's McAuley Says Goodbye

The meeting was the last as a Members Committee representative for Greg McAuley, OG&E's director of RTO policy and development and one of the more vocal proponents of more equitable cost allocations for transmission upgrades. McAuley is returning to his native Florida to spend more time with his elderly mother.

"He has been one of the truly great contributors to SPP," Altenbaumer said. "Please note there were many times we didn't agree on things, but he always approached those discussions constructively."

McAuley thanked staff and stakeholders for welcoming him into the SPP community when "I was new to the role."

"The professionalism of this group is incredible. Your leadership, and Barbara's now, is really doing some good work," McAuley said in response to Altenbaumer. "Hopefully, our paths will cross in the not-too-distant future."

"I'm saddened to see you leave the SPP family," Sugg told McAuley.

April Board Meeting to be Virtual

Altenbaumer concluded the year's final virtual board meeting by telling directors and members to expect more of the same in the first half of 2021. SPP had hoped to return to in-person meetings by April, but Altenbaumer said that after conferring with Sugg, they concluded it was too soon to end virtual meetings.

"While we were hopeful of getting through this surge and benefiting from a widespread vaccine, we just aren't that confident that it'll be the scenario we'll face in April," he said.

SPP's current schedule lists the July and October board meetings as being held in-person at its Little Rock, Ark., headquarters. ■

Company Briefs

American Clean Power Association Names CEO



The American Clean Power Association last week announced it had named **Heather Zichal** as the organization's first CEO, effective yesterday.

Zichal recently served as the executive director of the Blue Prosperity Coalition.

The renewable energy industry trade group, which formally launches on Jan. 1, will represent solar, storage, wind and transmission companies; manufacturers and construction companies; developers and owners/operators; utilities; financial firms; and corporate purchasers in the clean energy value chain.

More: [AWEA](#)

Amazon Backs 26 Green Projects



Amazon last week said it was backing 26 new wind and solar projects around the

globe totaling 3.4 GW.

The company has said it hopes to power its operations with renewable energy sources by 2025, five years ahead of an earlier target, and become carbon neutral by 2040. Including the new deals, Amazon has now

backed 127 wind and solar projects worth 6.5 GW.

More: [Bloomberg Green](#)

Ameren Names Chief Renewable Officer



Ameren last week created a new position entitled "chief renewable development officer" and selected Ajay Arora to fill the role.

Arora, who will start on Wednesday, will be tasked with implementing Ameren's plan to invest nearly \$8 billion in renewable energy over the next 20 years. It is part of the utility's strategy to operate with net-zero carbon emissions by 2050.

Arora has worked with Ameren for 22 years, serving as vice president of power operations and energy management since 2018.

More: [St. Louis Business Journal](#)

Vistra Names New President, CFO



Vistra last week announced the appointment of **Jim Burke** as the company's new president and chief financial officer, effective immediately. Burke, who has been with Vistra since

2004, had been serving as chief operating officer since 2016.

In his new role, Burke will assume responsibility of the company's accounting, risk, internal audit, treasury, tax, planning, mergers and acquisitions, and investor activities, along with overseeing the critical technology services function.

More: [Vistra](#)

WIRES Announces 2021 Leadership Team

Transmission trade association WIRES last week announced its 2021 leadership team, with former Exelon Vice President of Transmission Strategy David Weaver being elected as the new president.

Other WIRES officers for the 2021 term include: Vice President William Sauer, federal regulatory affairs director for Duke Energy; Secretary Jodi Moskowitz, deputy general counsel and RTO strategy officer for Public Service Enterprise Group; and Treasurer Kelly Pearce, managing director of transmission asset strategy and policy for American Electric Power.

Additionally, current President Tom Hestermann will join the board of directors, while Directors Priti Patel and Nina Plaushinill each serve for a second, two-year term.

More: [WIRES](#)

Federal Briefs

Clements Sworn in at FERC



Democrat **Allison Clements** was sworn in as FERC's fourth commissioner on Dec. 8, briefly giving the commission a 2-2 Republican-Democrat tie.

In two decades of public and private sector experience in energy regulation and policy, Clements represented utilities, independent power producers, developers and lenders,

nonprofits and philanthropies on grid policy issues. She founded Goodgrid, an energy policy and strategy consulting firm after serving as director of the energy markets program at Energy Foundation. She also worked for a decade at the Natural Resources Defense Council, serving as corporate counsel and as director of the group's Sustainable FERC Project.

Republican Mark Christie, who was confirmed by the Senate along with Clements in November, is expected to join the commission in January.

More: [FERC](#)

Global CO₂ Emissions Drop 7% in 2020

The Global Carbon Project, a group of inter-

national scientists who track emissions, last week said the world has cut its carbon dioxide emissions by 7% this year, the biggest drop ever. The U.S. saw a 12% reduction.

The group calculated that global emissions for 2020 will total 34 billion metric tons of carbon dioxide, down from 36.4 billion metric tons in 2019. The scientists attributed the decline to COVID-19 pandemic lockdowns, as people stayed home and traveled less.

More: [The Associated Press](#)

McNamee Joins McGuireWoods Energy Team

Former FERC Commissioner **Bernard McNamee** has rejoined McGuireWoods, the



law firm said on Dec. 7. McNamee will serve as a senior adviser at the firm's Richmond, Va., and D.C. offices, and as a partner at the Richmond office. He resigned from FERC in September, citing a desire to spend more time with his family.

This is actually the second time McNamee is rejoining the firm. He was a partner in McGuireWoods' regulatory and compliance department from 2006 to 2013, before becoming an adviser to Sen. Ted Cruz (R-Texas). He then rejoined in 2016 as

senior counsel before moving on the Energy Department.

More: [Hart Energy](#)

Vineyard Wind to Face Lengthy Delay After Pulling Permit



The Interior Department last week said it now considers Vineyard Wind's permit for its \$2.8 billion, 800-MW offshore wind project formally withdrawn and that any plans to restart the process would be treated as a new application.

The news comes after Vineyard said it

was delaying efforts to line up permits and expected the process to add "several weeks" to the project when it announced the move last week. The developer said it "temporarily" withdrew its construction and operations plan from government review as it switches to General Electric turbines. Under the department's interpretation, any new project application would have to restart an environmental review process that could span an additional six to 18 months.

The ruling comes weeks before the department was set to issue a final decision on approving the wind farm and had been set to issue its verdict on Jan. 15.

More: [Bloomberg Green](#)

State Briefs

ARIZONA

Salt River Project Increases Share of Nuclear Plant

The Salt River Project (SRP) last week announced it will purchase part of the Public Service Company of New Mexico's (PNM) ownership in the Palo Verde Nuclear Generating Station.

The SRP board approved the purchase of part of PNM's ownership, along with some transmission assets, for about \$70 million plus unspecified costs of the plant's associated nuclear fuel inventory. The purchase will raise SRP's ownership share to 20%.

The purchase of most of the 114 MW is expected to be completed in January 2023, followed by the remainder in 2024.

More: [The Associated Press](#)

CALIFORNIA

PG&E Expects \$275M Charge for Deadly Fire



® Pacific Gas and Electric last week said it expects to take a \$275 million pretax charge in connection to this fall's Zogg Fire in the Sierra Nevada mountains.

The company said it is cooperating with a state probe and that it is possible the loss could be more than \$275 million. The fire killed four people in Shasta and Tehama counties.

The counties have filed a lawsuit against PG&E, alleging the fire was triggered by a falling pine tree that hit the company's equipment. PG&E had failed to remove the tree after it was identified as a potential threat, the suit alleges.

More: [Bloomberg](#)

SDG&E on Verge of Refunding \$51.6M for Botched Lightbulb Program

A settlement between San Diego Gas & Electric and a pair of consumer groups over an energy efficiency program in which the utility could not account for millions of lightbulbs that were paid for by customers could see it refund \$51.6 million to ratepayers.

Under the settlement, SDG&E would also pay a \$5.5 million fine because it "knowingly submitted inaccurate information" about the program in filings to the Public Utilities Commission. The utility also admitted to mismanaging the Upstream Lighting Program from 2017 to 2019 and conceded that an investigation revealed employees' concerns about the program went unheeded. SDG&E terminated the program on the first of this year.

The agreement will go before the PUC, which will vote on the deal. A specific date has not been set.

More: [The San Diego Union-Tribune](#)

COLORADO

Blank Appointed to PUC

Gov. Jared Polis last week appointed **Eric Blank** to the Public Utilities Commission,



effective Jan. 11.

If confirmed by the Senate, Blank would serve as chair for four years, replacing Jeffrey Ackermann. Between 2009 and 2018, Blank was president and

co-founder of Community Energy Solar. Before that, he was executive vice president of Iberdrola Renewables, where he led U.S. wind development for two years.

More: [Mountain Town News](#)

KENTUCKY

Owensboro Votes to Terminate Solar Agreement

The Owensboro Utility Commission last week unanimously voted to sever an agreement to purchase solar power from the planned Ashwood Solar farm. The agreement, which was signed in 2018 and set to begin in 2022, was terminated because of changes that would lead to excessive fees for Owensboro Municipal Utilities (OMU).

Although OMU will end its contract, there will be options to purchase power from renewable sources in the future. The contract allows OMU to terminate the agreement.

OMU General Manager Kevin Frizzell said the utility is likely to join MISO in the future because "there are limited options moving forward for power supply" within the LG&E and KU balancing area.

More: [Messenger-Inquirer](#)

MISSOURI

Glare Study Prompts Energy to Cancel Solar Array at KC Airport

 Evergy last week confirmed it has abandoned plans for a large community solar project at Kansas City's new airport after an engineering study concluded the designs would cause glare problems for air traffic controllers.

Company spokesperson Gina Penzig said the decision was made in mid-November and that the utility is seeking a new site for the project. Evergy and the city's aviation department had intended to put the 5-MW project atop a six-story parking garage that would be part of a new airport under construction. The parking structure sits between the air traffic control tower and part of the runways, putting the array partially within controllers' visual sightline.

More: [Energy News Network](#)

MONTANA

Caithness Wind Farm Wins Lawsuit Against PSC

District Judge Kathy Seeley last week threw out most of the Public Service Commission's work on the \$500 million Caithness Beaver Creek wind and storage project, ruling that the terms set by the commission underpaid Caithness for the electricity it will sell to NorthWestern Energy.

The project, which was to be the state's first renewable energy project with battery storage, was supposed to help Caithness get a better price for electricity, as its power would be available during peak demand. However, the PSC ruled that the batteries had little influence on the value of what Caithness was selling.

"The commission could only reach this conclusion if it unreasonably ignored substantial record evidence," Seeley said. She then ordered the PSC to take up the issue again, with more consideration for the batteries.

More: [Montana Standard](#)

NORTH CAROLINA

Northampton Commissioners Approve Rezoning Decision

The Northampton County Board of Commissioners last week unanimously approved a rezoning proposal that will reallocate 611 acres of land as "agricultural residential"

instead of their previous "agricultural residential watershed" designation. The change will allow for the land to be used for a solar farm.

SunEnergy1 will oversee the project, which will be its first solar facility in the county.

More: [Roanoke-Chowan News-Herald](#)

OHIO

DeWine Was Warned of Randazzo's Ties to FirstEnergy



Gov. **Mike DeWine** continues to defend his choice of Samuel Randazzo as the chair of the Public Utilities Commission, despite consumer and environmental advocate warnings in 2019.

The groups warned that Randazzo, who is now at the center of a wide-ranging bribery and corruption investigation, had deep business ties with FirstEnergy and had long been hostile to the development of wind and solar power, making him unsuitable for the role.

DeWine said last week that Randazzo did not disclose, and the governor did not know of, the FirstEnergy consulting payment until the company reported it to the U.S. Securities and Exchange Commission. He also said he has no concerns about the selection process by which Randazzo went from planning for semi-retirement to being appointed to the commission over five weeks during the transition and launch of DeWine's new administration.

More: [The Associated Press](#)

Supreme Court Orders PUCO to Reconsider Submeter Case

The state Supreme Court last week ordered the Public Utilities Commission to take another look at a billing dispute involving Nationwide Energy, a company that buys utility services at a wholesale level to resell to apartment complexes and other properties.

In 2017, a woman filed a complaint with PUCO alleging that as a condition of her apartment lease, she was required to buy water, sewer and electric services from Nationwide. The woman claimed Nationwide threatened to shut off her electricity after she fell behind on bills. She argued the company was violating state rules by making charges, including late fees, that were in excess of what she would pay to a regulated

utility. PUCO rejected the complaint, saying that Nationwide did not charge her any more than she would have paid to a regulated utility. At the same time, Nationwide argued it is not a public utility and is not subject to the commission's jurisdiction.

Regardless, the Supreme Court ruled that the test PUCO developed for the case "has no connection" to the law that determines its ability to oversee utility resellers, a type of business also called submetering.

More: [The Columbus Dispatch](#)

SOUTH CAROLINA

PSC Rejects Dominion Energy IRP

 The Public Service Commission last week unanimously rejected Dominion Energy's three-year integrated resource plan. The commission said Dominion must make significant modifications to its plan, remodel the cost of its proposed plans, and expand the availability of solar and renewable energy, among other things.

Of the eight plans the company drafted, it chose the one deemed to be the most cost-efficient. However, Dominion did not consider adding renewable energy before 2026, which may have doomed the filing before the PSC.

More: [Statehouse Report](#)

TEXAS

Urban Resigns as PUC Executive Director

The Public Utility Commission last week said J.P. Urban had resigned as the commission's executive director. It did not give a reason for Urban's departure.

Urban became the PUC's executive director in 2018. It was his second stint with the commission, having served as its legislative director from 2011 to 2014.

The PUC will discuss selecting Urban's replacement during its open meeting Thursday.

More: [Public Utility Commission of Texas](#)

UTAH

Dominion, Smithfield Complete 1st Renewable Gas Project

Dominion Energy and Smithfield Foods last week announced they have completed their

first renewable natural gas (RNG) project, the \$500 million Align Renewable Natural Gas project, in Milford.

The project will convert methane from Smithfield's 26 contracted hog farms into RNG. By 2030, Align RNG is projected to power approximately 70,000 homes, according to the companies. It will also reduce annual methane emissions by more than 100,000 metric tons, they said.

More: [Virginia Business](#)

WISCONSIN

Alliant Launches Community Solar Program with Fond du Lac Project



Alliant Energy announced last week it is offering shares in its 1-MW community solar garden project to be built next year near Fond du Lac.

Customers will be able to purchase shares

of the project for \$1,500/kW — available in 250-W blocks for up to 100% of their annual use. In return, residential customers will receive bill credits of 6.3 cents/kWh for the energy generated.

The project is part of Alliant's transition away from fossil fuels and aligns with its plan to cut half of its carbon emissions by 2030, phase out coal-fired power by 2040 and produce carbon-neutral electricity by 2050.

More: [Wisconsin State Journal](#)

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