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Dems, Enviros Upset over Solo FERC Nomination

By Rich Heidorn Jr.

President Trump's plan to fill the Republican seat on FERC while leaving a Democratic seat vacant isn't playing well with Democrats and environmental groups.

Trump *announced* on Sept. 30 his intent to nominate FERC General Counsel James Danly to fill the Republican seat opened by the death in January of Kevin McIntyre. Danly's confirmation would give the Republicans a 3-1 majority, leaving Democrat Richard Glick alone with Chairman Neil Chatterjee and his fellow Republican, Bernard McNamee. (See *FERC General Counsel Tapped for Commission*.)

Sen. Joe Manchin | © *RTO Insider*

"I am disappointed that the president has only announced his intention to nominate a Republican commissioner," Sen. Joe Manchin (D-W.Va.), ranking member of the Senate Energy and Natural Resources Committee, said in a *statement*. "FERC has a strong history of operating in a bipartisan fashion, and failing to honor the tradition of a bipartisan pairing sets a dangerous precedent moving forward. I remain hopeful the administration will quickly nominate a Democratic commissioner so we can consider both nominations together and restore a fully functioning FERC."

Attorney Allison Clements | © *RTO Insider*

Manchin and Senate Minority Leader Chuck Schumer (D-N.Y.) are reportedly backing attorney Allison Clements for the Democratic seat formerly occupied by Cheryl LaFleur. Clements, *director* of the Clean Energy Markets program at the Energy Foundation, formerly helped direct

Continued on page 7

Pennsylvania Governor Signs RGGI Executive Order

By Christen Smith

Pennsylvania Gov. Tom Wolf (D) signed an executive order Thursday directing the state's Department of Environmental Protection to join the Regional Greenhouse Gas Initiative (RGGI) — a move that left the legislature's Republican majority bewildered and outraged.

Wolf instructed the department to craft rules that "abate, control or limit carbon dioxide emissions from fossil-fuel-fired electric power generators" and establish "a carbon dioxide budget" on par with the other nine RGGI states no later than July 31, 2020. If approved by the commonwealth's Environmental Quality Board, Pennsylvania would join fellow PJM states Delaware and Maryland.

"Climate change is the most critical environmental threat confronting the world, and power generation is one of the biggest contributors to greenhouse gas emissions," Wolf *said* Thursday. "Given the urgency of the climate crisis facing Pennsylvania and the entire planet, the commonwealth must continue to take concrete, economically sound and immediate steps to reduce emissions. Joining RGGI will give us that opportunity to better protect the health and safety of our citizens."

According to RGGI, it has reduced its members' power sector CO_2 pollution by 45% over the last 14 years and provided $2.31 billion in lifetime energy bill savings. Participating states — either through regulation or legislation — cap power plant emissions and auction off credits to generators on a quarterly basis, who purchase these allowances as proof of compliance. The proceeds return to participating states for reinvestment.

"We know that we can't complete this process in a vacuum," Wolf said. "The conversation we've begun over the past year needs to

Continued on page 24

PG&E Announces Massive Shutdown to Prevent Wildfires

Warning Comes As Judge Questions Fight to Control Utility

By Hudson Sangree

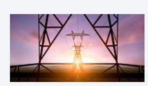
Judge Dennis Montali | *U.S. Bankruptcy Court*

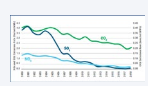
The escalating battle between bondholders and shareholders to control Pacific Gas and Electric when it exits bankruptcy played out before U.S. Bankruptcy Judge Dennis Montali on Monday, just as PG&E announced it could shut down power to much of Northern California this week to prevent wildfires.

PG&E said portions of 30 counties could be affected by the public safety power shutoff, including most of the urbanized San Francisco Bay Area with 7.75 million residents. The warning included parts of Oakland and Berkeley but not San Francisco, where PG&E

Continued on page 12

Also in this issue:





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In this week's issue

Baker Institute Energy Transition Summit

Overheard at Baker Institute's Energy Transition Summit


Baker Botts' Elizabeth Flannery moderates a panel during the Baker Institute's annual energy summit. | © *RTO Insider*

Cheap Baseload Power Important to Emerging Economies

HOUSTON — The Baker Institute Center for Energy Studies last week hosted its third annual energy summit, "The Energy Transition: Legacy, Scale and Technology." The event provided a forum for market players and decision-makers to share insights into the energy industry's future.

Speakers and panels addressed energy transitions and how economics, policy and technology are driving change across the industry.


Mark Finley, Baker Institute | © *RTO Insider*

Mark Finley, a fellow with the institute, set the table by saying that carbon dioxide emissions continue to increase globally, despite the growth of renewable energy. "Transitions take time," he said.

As an example, Finley said it took oil 40 years to gain 10% of the energy market, faster than any other fuel.

"Fossil fuels will contribute the majority of energy [production] in 2040," he said.

"I think the energy system is always in transition," said Tristan Abbey, a staffer for the U.S. Senate Energy and Natural Resources Committee. "When oil was discovered 150 years ago in Pennsylvania, coal didn't suddenly go away. When people starting driving, we were still using coal. When nuclear power was harnessed, we didn't stop using oil. I think we'll see that continue. We're always in a transition."

Finley noted that the world's largest economies, which make up the Organisation for Economic Co-operation and Development (OECD), only consume 40% of the world's energy.

"The expectation is growth will be in the rapidly growing emerging economies," he said. "The bottom line is what happens here means less and less in the global context."

Hap Ellis, a general partner with RockPort Capital Partners, said that while there is a need to bring renewable energy to the developing world, OECD countries should be cognizant of developing countries' need for cheap baseload power. He said Bangladeshi Prime Minister Sheikh Hasina stood before the World Economic Forum earlier this year and defended a "state-of-the-art" coal facility.

"We need this power," Ellis recounted Hasina saying. "We need this cheap baseload power. We need a lot of it to get our economy going."

Finley said that while the data are clear on the decreasing cost of renewable energy ("It's not a game for rich countries anymore."), the OECD countries should refrain from imposing their environmental priorities on emerging economies.

"Climate considerations are one on a list of priorities in countries around the world. We can't say, 'You can't do that.' It's an equally important consideration we have to honor as well."

Shell, Oxy Committed to Paris Agreement

Representatives from two of the world's largest petroleum companies, Royal Dutch Shell and Occidental Petroleum, flashed their green bona fides in encouraging other corporations to follow their lead and support the Paris Agreement.

Jason Klein, Shell's vice president of energy transitions, explained the company's *Sky scenario*, which provides a "challenging pathway" to reach the agreement's goals of limiting global warming to less than 2 degrees Celsius. The Dutch company's scenario relies on seven key elements, ranging from tripling the rate of electrification and increasing renewables "50 fold" to pricing carbon and capturing it on a "massive scale."

"It will take massive collaboration between societies, business and governments," among others, Klein said, "and a rewiring of the global economy in just 15 years."


William Swetra, Occidental Petroleum | © *RTO Insider*

"We're going to need every single technology at our disposal if we're going to meet [the Paris Agreement's] objectives," Occidental's William Swetra said, underscoring the sense of urgency exhibited by the world's youth. "It's time for large companies to come to the table to see how they can be a part of the solution. It will take time, but there's urgency in the matter."

Even so, natural gas will still remain a major part of Shell's business, albeit in some forms previously unimaginable.

"Clearly, there's a role for oil and gas in a net-zero-carbon world. You need some negative emissions to get to a net-zero world," Klein said, pointing to carbon capture and sequestration. He said CCS requires "government support and collaboration to get to scale," but it also needs high concentrations of CO_2 and a friendly regulatory regime that allows pipeline construction.

"If we can't find that in Houston, Texas, I don't know where we'll make that work," Klein said.

Alluding to natural gas emission rates being half those of coal, Klein said, "We see natural gas as a key transition fuel, both domestically and with LNG. We see the ability to provide natural gas and LNG to offset coal and the in-

Baker Institute Energy Transition Summit

termittency of renewables. We want to ensure the environmental story around natural gas is credible."

Asked how Shell will track progress against the Sky scenario, Klein said the company has set a net carbon-emission footprint, with the goal of cutting that in half by 2050. Executive compensation will be tied to the reduction targets, which include the customer emissions that account for 80% of Shell's total. In Europe, he said, customers who buy regular unleaded at the pump are also buying a "nature-based offset" to fund forestation activities.

"The CO_2 that comes out of your tailpipe is included in our carbon footprint," Klein said. "We have a 3% net carbon reduction target by the end of 2019. Every year, we'll set a new target on a three-year rolling basis to hold ourselves accountable."

Swetra said Oxy's *Low Carbon Ventures* subsidiary, which is developing carbon-capture projects, is helping the company support the Paris Agreement's objectives and working to "prove carbon capture is ready for primetime." The company has partnered with Canada-based Carbon Engineering to design what they say is the world's largest direct-air CCS facility in West Texas' Permian Basin.

Oxy considers CO_2 a commodity, Swetra said, alluding to its "*enhanced oil recovery*" process. The company uses the process to "flood" oil fields and bring the remaining product to the surface; it injects 2.6 Bcfd of CO_2 into the Permian Basin, making it one of the global leaders in the field.

"We've been injecting it into the ground for [40] years. Over time, the CO_2 becomes stable and permanently stored," Swetra said. "Our aim is to sequester more CO_2 in oil and gas reservoirs than we produce."

Baker: Partisanship Poisons 'Almost Every Policy'

James Baker III, the institute's honorary chair, delivers his comments. | © *RTO Insider*

The institute's namesake, James Baker III, a partner at Houston's Baker Botts law firm, made a late-afternoon appearance at the summit to warn that growing political polarization in the U.S. is making it difficult to address the nation's issues.

"I know politics is a contact sport and it's a blood sport. I have the bruises to show for it," said Baker, a former cabinet secretary and chief of staff under two Republican presidents. "But we've moved into a new, rather insidious atmosphere, where partisanship has poisoned almost every policy. This destructive cycle is going to prevent us from addressing the critical issues we face."

Sunnova CEO John Berger lays out his case as Hap Ellis, of RockPort Capital Partners, listens. | © *RTO Insider*

Central among those issues is the outsized influence of the Middle East and other energy-rich regions around the world. As Baker described the U.S.' own shift from coal-fired to renewable generation and its reduction in the growth of greenhouse gas emissions, he said, "Note I said 'reduced,' not 'ended' or 'limited.' We remain vulnerable to disruptions in the major hydrocarbon regions of the world.

"To walk away from the Middle East is the stuff of fantasy. That should be obvious by now," he said. "The Middle East is going to challenge our ability to balance ends and means for a quarter of a century. We ought to abandon any illusion of our ability to remake that region of the world."

'Balkanized, Regional' Grids Lead to a 'Mess'

Sunnova Energy CEO John Berger bemoaned the nation's regulatory structure, saying "balkanized, regional grids" have meant more power to the states than the federal government. That has helped hinder renewable developers like his company, which in July became the *first U.S. residential solar company to go public* in four years.

"We are uniquely screwed up," Berger said. "There are about 5,000 utilities with different regulatory structures … investor-owned utilities, co-ops, municipalities, federally owned entities … we don't have a consistent policy. There is no [national] grid. We're basically a bunch of balkanized, regional grids, and those are becoming more balkanized and regional in nature, not less.

"All that leads to … a mess. Everybody agrees the system is broken, and everybody has a different view on how to fix it," he said.

"It sounds like there's a cost to [a national grid]," Ellis told Berger. "What's the prize to be gained from a great, nationwide integration of the grid?"

"The idea that there's a lot of [transmission] buildout out there is not true," Berger said, noting that facilities built to accommodate nuclear energy in the 1960s and 1970s were not fully subscribed until the late 1990s.

"That's been some benefit for wind [energy]," he said. "[Building] a power line crossing someone's ranch that's been in the family for 100 years is a problem. It has a true cost to it. It's not just people not wanting development."

And while that may offer opportunities to solar power and other distributed energy forms, Berger called for a balance between centralized and decentralized regulation.

"I don't think it makes sense to build transmission lines for solar," he said. "What you've been doing for the last 100 years doesn't make sense, because technology is changing, as it is everywhere." ■

— Tom Kleckner

Coastal States Still Reign in Energy Efficiency Rankings

By Amanda Durish Cook

Coastal regions are picking up steam in implementing energy efficiency, while areas in Middle America are either stalled or backsliding, according to the latest annual ranking of states' individual measures.

Massachusetts led the American Council for an Energy-Efficient Economy's 13th annual *State Energy Efficiency Scorecard* for the ninth consecutive year. California came in a close second, while Rhode Island and Vermont followed in a tie for third place.

During a webinar Oct. 1, ahead of the report's release, ACEEE researcher and report author Weston Berg said Massachusetts' lead is the result of "groundbreaking" building codes, emissions standards and appliance programs.

To rank the states, Berg said he and other researchers examined states' utility regulations, building codes and transportation policy in 2018.

"Energy efficiency is sometimes overlooked as an invisible resource," said Berg, adding that a strong energy efficiency strategy can help states meet emissions targets, reduce air pollutants, create jobs and reduce energy burdens in areas with tight supplies.

All told, states spent $8 billion on energy efficiency in 2018 and saved 27.1 million MWh — 0.73% of total retail electricity sales in the country, enough energy to power 2.6 million homes for a year, ACEEE said. However, that figure is 0.5% less than the 27.27 million MWh saved in 2017.

ACEEE Senior Director of Policy Maggie Molina said the scorecard allows state leaders to compare against each another and "spur some friendly competition."

Molina said Maryland improved more than any other state in a year-over-year comparison, gaining ground — and three slots to a No. 7 ranking — through utility efficiency programs, stronger building energy codes, public transit funding and electric vehicle adoption.

Massachusetts Department of Energy Resources Commissioner Judith Judson said energy efficiency efforts are the single greatest factor in meeting the state's 25% reduction goal in greenhouse gas emissions from 1990 levels.

"It's not just about ranking us against each other … but to learn from each other on programs that really work," Judson said.

Chris Rice, acting chief of staff of the Maryland Energy Administration, said his state rose in the rankings because of regularly updated building codes and the *EmPOWER Maryland* initiative, which established energy savings goals on a per capita basis. Rice said the program is effective because it extends to low-income households.

"This is a very important aspect of our program: that everyone is served and able to participate in our program," Rice said.

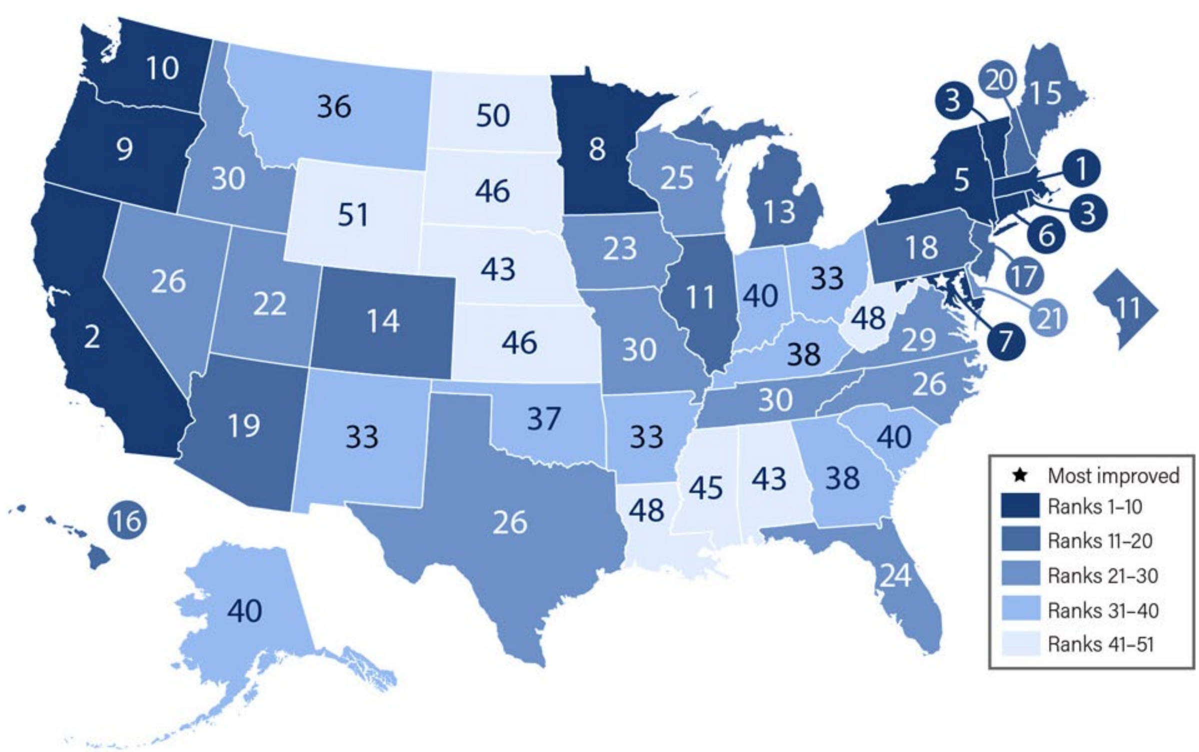
New York also maneuvered back into the top five this year thanks to adopting targets to shrink energy consumption by 185 trillion Btu by 2025 and procuring its electricity from 100% carbon-free sources by 2040.

"If states embrace robust energy-saving measures nationwide, Americans can slash greenhouse gas emissions by 50% and deliver more than $700 billion in energy savings by 2050," ACEEE Executive Director Steve Nadel said in a *release*.

Kentucky and Ohio lost significant ground this year, according to the report. The report also put North Dakota and Wyoming behind all other states.

Kentucky's downgrade is the result of regulators in 2018 "drastically cutting" most consumer-facing energy management programs by Kentucky Power and other utilities, Berg said.

Berg said Ohio is set to backslide on efficiency with the passage of its nuclear bailout bill, which also lowers the state's existing energy efficiency savings standard for utilities from 22% to 17.5% by 2020. Berg said the bill will cause lower investment in renewables and energy efficiency, and it's "very unlikely" efficiency programs will continue in the future because utilities are already on the verge of meeting the goal. While Ohio is still achieving energy savings, the state's *rank* will likely fall in the coming years because of the legislation, he said. ■



2019 state energy efficiency scorecard rankings | *ACEEE*

FERC/Federal News

Coal States Press FERC on Resilience Docket

By Michael Brooks and Rich Heidorn Jr.

Public utility commissions from coal-producing states are urging FERC to finish work on its docket opened in January 2018 to solicit information on the issue of grid resilience (AD18-7).

FERC has received letters from at least six state commissions, beginning in late August with the Public Service Commission of *West Virginia*, which urged "the FERC to move AD18-7 ... to a high priority and consider the need for mechanisms and market rules to assure not just a low-cost, but also a reliable, resilient, fuel-secure power supply mix."

The West Virginia PSC's letter was followed throughout September by similar ones from the *Alabama*, *Montana*, South Carolina, *Wyoming* and *Kentucky* commissions. Though not listed in FERC's eLibrary, Bloomberg *reported* that the Tennessee Public Utility Commission also sent a letter urging the federal commission to act.

Six of the states — excluding South Carolina — were responsible for 64% of total U.S. coal production in 2017, *according* to the Energy Information Administration. Wyoming (41%) and West Virginia (12%) ranked Nos. 1 and 2.

South Carolina, which does not produce coal, ranks third in the U.S. in nuclear power generation, getting almost 60% of its power from the source, according to EIA.

FERC opened the docket in January 2018 after it rejected the Department of Energy's Notice of Proposed Rulemaking to make cost-of-service payments to generators — such as coal and nuclear plants — that have a 90-day on-site fuel supply and are able to provide "essential reliability services." In its order rejecting the NOPR, the commission directed "the RTOs/ISOs to provide information ... that will inform us as to whether additional actions by the commission and the ISOs/RTOs are warranted with regard to resilience issues."

It received dozens of comments later in May. (See *Don't Rush on Resilience, Commenters Urge*.) Its roster of commissioners has changed a few times since then, with the death of Kevin McIntyre, the departures of Cheryl LaFleur and Robert Powelson, and the arrival of Bernard McNamee.

"The lack of a concluding report or order leads many people following this proceeding to assume that no additional steps will be taken by the commission," the Kentucky Public Service Commission wrote. "In other words, can we assume that no decision is the commission's decision? If that is the case, communication from the commission needs to occur to provide certainty to affected stakeholders."

As Avangrid is one of the commenters in the docket, Commissioner Richard Glick is prohibited from working on it until Nov. 29 under an ethics pledge he signed, meaning the commission lacks a quorum to act on the issue at least until then. (See *Glick Recusal May Mean No MOPR Ruling Before December*.)

That could change, however, if the Senate confirms FERC General Counsel James Danly, President Trump's nominee to fill McIntyre's seat.

It could also depend on McNamee. FERC ethics officials have cleared him to participate in the proceeding, but they cautioned in January that "we must exercise continued oversight to ensure that Docket No. AD18-7 does not develop in such a way as to replicate or closely resemble" the DOE NOPR, on which McNamee worked while he was with the department. McNamee received a waiver from the White House on Aug. 29 to work on dockets in which parties are represented by his former employer, McGuireWoods, but not on those in which he himself participated prior to joining the commission.

Each of the state commissions warned FERC that accelerating retirements of coal-fired and nuclear facilities could jeopardize electric reliability and increase prices.

Alabama, Montana and Wyoming used two identical paragraphs: "In the meantime, substantial baseload retirements, especially coal-fired units, and the evolution of the electric power sector, are bringing increased attention to grid resilience and fuel security. Nationwide, 40% (126,000 MW) of the nation's coal fleet has retired or announced plans to retire. By the end of 2020, some 67,000 MW of coal-fired generating capacity in ISO/RTO footprints will have retired. This total includes more than 10,000 MW that have announced intentions to retire this year and in 2020. The four ISO/RTO regions with the most coal retirements through 2020 are PJM (36,200 MW), MISO (14,800 MW), ERCOT (5,800 MW) and SPP (5,000 MW).

Dave Johnston coal-fired plant in Wyoming

"In addition, 20% of nuclear units (21 of 105) have retired or announced plans to retire by 2030, amounting to over 17,000 MW of capacity."

Most of the letters were authored by the commission chairs. The Alabama letter, sent by Commissioner Jeremy Oden, appeared to leave intact some language that was intended to be modified, ending with "I/We request…"

Kara B. Fornstrom, chair of the Wyoming Public Service Commission, said the effort was organized by the American Coalition for Clean Coal Electricity (*ACCCE*), a trade group that supports policies benefiting "coal-fueled electricity and the coal fleet."

"As part of our outreach, we regularly share information with stakeholders, including utility commissioners, about coal retirements, resilience and fuel security," ACCCE CEO Michelle Bloodworth said. "Because of the important voice that utility commissioners have, we appreciate the fact that these commissioners agree with the need for FERC action on resilience and hope that other stakeholders will also urge FERC to take action."

None of the other commissions responded to requests for comment Monday.

In a *response* on Sept. 19 to the South Carolina Public Service Commission's letter (which was also not posted in eLibrary), FERC Chairman Neil Chatterjee noted that "several regions are concurrently taking action to improve reliability and resilience, such as introducing new products and services, and developing market rule changes."

"I also note that the commission already has taken some steps that address resilience of the bulk power system such as approving procedures for utilities to share spare transformers in the event of a system emergency," Chatterjee wrote. "Further, FERC staff has begun outreach to state utility commissions to discuss how we may exchange information on these issues. The commission continues to work with all stakeholders to ensure that well-developed market rules and reliability standards are in place." ■

FERC/Federal News

Dems, Enviros Upset over Solo FERC Nomination

Continued from page 1

the Sustainable FERC Project for the Natural Resources Defense Council.

E&E News reported in August that Schumer was threatening to block ENR Committee bills if the Republicans push a GOP nominee without a Democratic pairing.

Sen. Lisa Murkowski | *© RTO Insider*

Sen. Lisa Murkowski (R-Alaska), chair of the committee, told POLITICO recently that she would not let the lack of a Democratic nominee keep her from holding a confirmation hearing for a Republican.

She issued a brief statement Oct. 1 acknowledging Trump's announcement but noting that the committee had not yet received the formal nomination and "associated paperwork" needed before scheduling a confirmation hearing.

"I welcome the president's decision to nominate a Republican commissioner and to fill a critical seat that has now been vacant for nine full months," she said.

Environmental groups reacted with indignation over Trump's announcement.

"Donald Trump's decision — and Sen. Murkowski's acquiescence — to exclude a Democratic nominee from his announcement of the Republican counterpart is a breach of precedent and another swipe at FERC's historically independent mission," said Mary Anne Hitt, senior director of Sierra Club's Beyond Coal campaign. "We strongly urge Sen. Murkowski to demand nominees be paired and considered concurrently, and that the administration quickly put forward Mr. Danly's Democratic counterpart. Not doing so will risk further denigrating this important commission."

Unqualified?

Sam Gomberg, senior energy analyst for the Union of Concerned Scientists, called Trump's decision a "marked departure from decades of precedent" and called Danly "woefully unqualified for the job."

Danly earned his J.D. at Vanderbilt University Law School in 2013 and worked in the energy regulation and litigation group at Skadden, Arps, Slate, Meagher & Flom before being appointed general counsel in September 2017.

FERC General Counsel James Danly (right) listens during a joint meeting of FERC and the Nuclear Regulatory Commission on Sept. 25. | *FERC*

"Prior to his appointment to general counsel at FERC, he had a brief stint as an associate energy attorney. I simply don't see how the American public can have any confidence in his ability to understand the complex issues facing the energy sector right now and to make forward-looking, well-informed decisions on the issues awaiting the commission," Gomberg said. "His inexperience absolutely increases the risk of a commission unable to defend consumers from biased and politically motivated attacks on our regulatory structure."

Chelsea Eakin, senior manager for energy transition for climate change activists *Climate Nexus*, said the departure of LaFleur, who served for nine years, left the commission with a lack of institutional experience. "Combined, the three current commissioners have served for less than half the time LaFleur did and only under President Trump," she said. "Danly's confirmation would stack the commission, tasked with making energy decisions that have significant impacts on U.S. emissions, with like-minded Trump appointees in advance of a busy fall agenda."

John Moore, director of the Sustainable FERC Project, said the Senate should require Danly to answer questions about his "*humble regulator*" philosophy.

"Before they vote on his nomination, senators must ask him what that means. Would Danly defer to the authority of states to set their own clean-energy policies? Would he continue FERC's flawed climate review of pipelines that he defended in court?" Moore asked. "Critically, the nomination of only one commissioner when there are two vacancies reflects a further erosion of longstanding norms and undercuts the independence and bipartisan decision making at FERC."

Nominating Rules

ClearView Energy Partners noted last week that the changes to Senate nomination rules during the 115th Congress reduced the minority's party ability to stop or slow presidential nominations.

"Although it has been customary to move bipartisan pairs of nominees for independent commissions such as FERC when two vacancies exist, we'd argue that practice had been a function of political necessity given the prior ability of either party to filibuster a nominee," they said. "Assuming Danly's paperwork has been or is expeditiously forwarded to the Senate Energy Committee for consideration, we think it is possible that his nomination could move through committee and to the Senate floor by the end of the month. Senate consideration can only begin, however, when the White House literally forwards a nominee's paperwork, and this part of the process has not always happened quickly."

With only three members, recusals by McNamee or Glick have left the commission without a quorum recently, including a recent vote on ISO-NE's capacity market results. (See *FCA 13 Results Stand Without FERC Quorum*.)

Glick also is prevented from voting on revisions to PJM's capacity market until December. (See *Glick Recusal May Mean No MOPR Ruling Before December*.) Last month, PJM announced that all deadlines for its capacity auctions will be suspended pending FERC action. (See *PJM Suspends Auction Deadlines Pending FERC Action*.)

If Danly's appointment allowed FERC to act on the PJM docket in November, the delayed 2019 auction could be held in mid-2020, before the 2020 auction, ClearView said. ■

2019 EVs and the Grid

EVs Could Soak up Solar or Exacerbate 'Duck Curve'

Conference Highlights Challenges Ahead for Electric and Autonomous Vehicles

By Hudson Sangree

Michael Kintner-Meyer, a researcher at the Pacific Northwest National Laboratory, said charging EVs at work will limit stress on the grid. | © *RTO Insider*

The EVs and the Grid forum was held at a hotel near Interestate 405, the nation's busiest freeway and a source of the smog that hangs over L.A. EVs could help, backers say. | © *RTO Insider*

LOS ANGELES — If millions of electric vehicle owners charge their cars at work in the future, it will absorb the abundant solar power produced during the day in California. But if they charge at home immediately after work, it could strain the ability of the grid to meet peak demand, according to a study commissioned by the U.S. Department of Energy.

"Early-morning charging is beneficial for [California's] duck curve, [but] coming home and plugging in for California is really detrimental," Michael Kintner-Meyer, a staff scientist with the Pacific Northwest National Laboratory (PNNL), told this year's audience at Infocast's EVs and the Grid forum. Kintner-Meyer reported the preliminary results of the study he led, which will be published in the next three months.

In addition to the effect of EVs on the grid, the conference delved into the prospect of self-driving cars eventually becoming the norm.

As General Motors CEO Mary Barra likes to say, "'The industry will see more change in the next five years than in the previous 50,'" Jamie Hall, GM's director of advanced vehicle and infrastructure policy, said in his keynote address. "Our vision of the future is zero crashes, zero emissions and zero congestion."

Self-driving Cars Face Hurdles

In a panel on autonomous vehicles, panelists said technological and regulatory hurdles mean the vehicles won't be sold to consumers for at least 20 years.

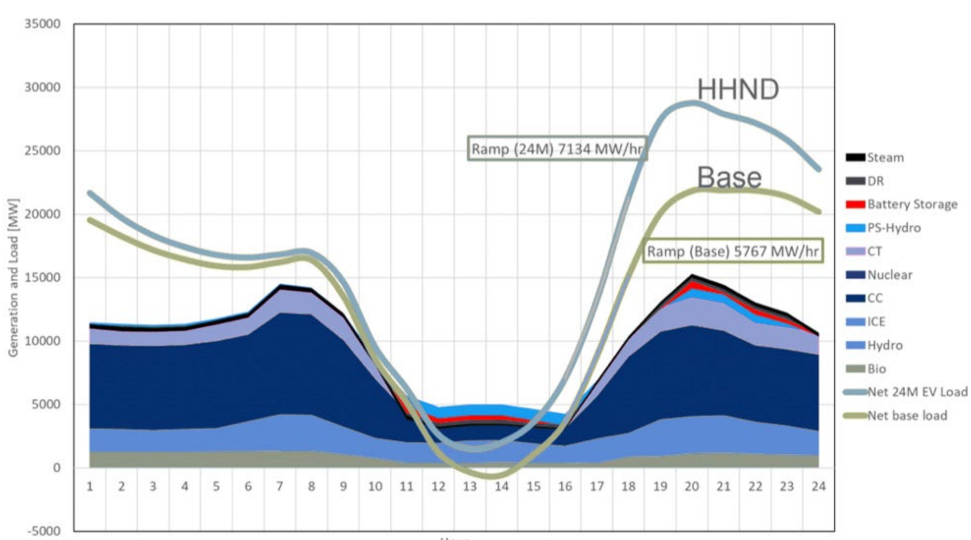
A big challenge is teaching the computerized cars to drive more like humans.

Jonathan Riehl, a transportation engineer at the University of Wisconsin-Madison, said problems occur when self-driving cars enter the mix with human drivers. An autonomous vehicle programmed to follow traffic laws will slow at a yellow light, while a human will typically speed up, leading to rear-end crashes, he said.

The solution, he said, is trying to get autonomous vehicles "to drive a little more aggressively."

Panelists also said it will be important for self-driving vehicles to be able to communicate with each other about road conditions and to be connected through communications infrastructure so that they're able to anticipate hazards.

Gregory Winfree, director of the Texas A&M Transportation Institute and former assistant secretary of the U.S. Department of Transpor-



Charging at home immediately after work (HHND) could worsen California's "duck curve" and put further strain on the grid during peak demand by 2028, a study showed. | *PNNL*

2019 EVs and the Grid

tation, said autonomous vehicles can only see so far ahead, just like human drivers. Self-driving cars wouldn't know if a boulder fell in the roadway on the other side of a blind curve, or if black ice suddenly formed, unless they were connected through infrastructure to other vehicles and information sources, he said.

Creating that infrastructure will be needed before self-driving cars can become an accepted part of the transportation mix, panelists said.

Charging at Work

When EVs charge was a major topic at the forum.

Lincoln Bleveans, assistant general manager at Burbank Water and Power, said he was driving to the conference hotel on the notoriously congested Interstate 405 and wondering what the carbon footprint of the thousands of slow-moving vehicles must be. EVs could help lessen pollution, but only if there are adequate charging stations for drivers at their workplaces, he said.

The city of Burbank sees about 100,000 commuters leave for jobs elsewhere each morning, while 200,000 workers pour in, mainly by car, he said. They park all day at the movie and animation studios of the Walt Disney Co., NBC-Universal and Nickelodeon, among others.

The city is working with those employers to install hundreds of chargers so that workers can fuel up their vehicles while electricity is cheap, because of low demand and ample solar power, from dawn to dusk. The middle of the day is the "belly of the duck" in California's so-called "duck curve," when demand is low but the supply of solar power soars. The economics of the situation should help speed the transition from fossil fuels to renewable energy, but only if employees can plug in at work, he said.

A panel on utilities and EVs included (left to ight) Natasha Contreras, SDG&E; Sara Kamins, CPUC; Eric Seilo, SCE; and Lincoln Bleveans, Burbank Water and Power. | © *RTO Insider*

Impact on the Grid

In his *presentation*, Kintner-Meyer said getting workplaces to install chargers, and encouraging workers to charge their EVs during the day, is key to ensuring resource reliability in the future.

DOE asked his team to examine if the grid was ready for a rapid expansion of EVs, especially in the West, where they already have a strong foothold. NERC reliability assessments extend 10 years in advance, so the study could only project data that far into the future, he said.

The PNNL team examined the balancing authority areas in the Western Interconnection, with the assumption that light-duty EVs would increase nationally from roughly 1.3 million today to an "optimistic" forecast of nearly 24 million a decade from now. They superimposed the forecasted load from EV growth onto the native load anticipated by the Western Electricity Coordinating Council for 2028.

The 5th annual EVs and the Grid Conference took place at the Luxe Hotel in Los Angeles. | © *RTO Insider*

Researchers ran different scenarios of charging patterns, including one in which drivers charged primarily at work during daylight hours and another in which drivers charged their cars during peak demand hours after work. Another scenario anticipated that drivers would charge at home late at night and in the early morning hours to take advantage of lower electricity costs during off-peak times.

They also considered the expected growth in solar generation, with California reaching a projected 40 GW in the next 10 years. Natural gas generation will also play a large part in charging EVs, the study suggested.

Under all the scenarios, Kintner-Meyer said, there were no expected electricity shortages, assuming normal conditions with all transmission lines in service.

"We don't anticipate major resource adequacy issues," he said.

However, if conditions change — with wildfires burning under power lines or widespread heat waves, for instance — problems could arise, he said. Congestion at transmission bottlenecks, such as the California-Oregon Intertie or the Path 15 transmission line linking Northern and Southern California, could also upset the balance, he said.

There would be insufficient resources if the number of EVs rose to between 30 million and 37 million, the study found.

The problem isn't a lack of generation, but the ability to move electricity where it's needed.

"It's the transmission system," Kitner-Meyer said. To head off shortfalls, "either you open that up [the congestion points], or you put more generation into the respective balancing areas," he said. ■

CAISO/West News

CAISO Goes 2 for 3 on EIM Hydro Rule Changes

By Robert Mullin

CAISO on Sept. 30 scored two out of three as FERC rejected one of the ISO's proposed Tariff revisions to address concerns that the Western Energy Imbalance Market's rules constrain the operations of hydroelectric producers and undercut the value of their resources (*ER19-2347*).

Canada-based Powerex called for the changes shortly after joining the EIM in spring 2018. The company, which markets surplus hydro output produced by government-owned BC Hydro, complained about the frequency with which transmission constraints at the U.S.-Canada border were triggering CAISO's local market power mitigation (LMPM) process in the EIM, which mandates use of default energy bids (DEBs) to settle transactions. (See *Troubled Waters for Powerex in EIM*.)

Powerex found that LMPM repeatedly kicked in just as its traders were seeking to buy up energy during periods of low prices. As the company filled inbound transmission with purchases, the mitigation process detected constraints in an area not actually requiring additional power — forcing the company to sell into already flush markets.

The company complained that the inflexibility of the formulas underpinning the DEBs often left its EIM operations out of the money, prompting it to avoid trading in the market altogether.

The hydro-heavy Bonneville Power Administration, which recently signed an implementation agreement to join the EIM, also called for changes. (See *Bonneville Power Signs Agreement with EIM*.)

CAISO's Board of Governors responded to the hydro producers' concerns in March by unanimously approving a set of EIM revisions, including a proposal to create a specially targeted "hydro DEB" that the ISO said "better estimates these resources' actual costs, which typically consist of opportunity costs reflecting their limited water availability." (See *CAISO Board OKs Market Power Mitigation Remedy*.)

The hydro DEB represents the minimum payment a hydro resource would receive under EIM dispatch. The change stipulates the DEB will be calculated at the maximum of one of three components:

- Long-term/geographic: representing the opportunity costs for the potential of a resource to sell output in the future, including in different bilateral markets.
- Short-term: represents opportunity costs created by short-term water use limitations.
- Gas floor: representing the cost of replacement energy in the EIM if the resource exceeds its short-term limitations. It would be calculated based on the average gas turbine heat rate multiplied by the gas price applicable to the relevant region.

Pacific Northwest hydroelectric producers sought changes to Western EIM rules that they said undercut the value of their resources. | © *RTO Insider*

The long-term and gas floor components would also include a 10% adder to account for variation between published indices and the prices of actual bilateral transactions, while the short-term component would include a 40% adder to prevent it from being dispatched too frequently on a particular day.

CAISO's changes also include a provision that alters the timing of LMPM so that the triggering of mitigation during a 15-minute interval will no longer apply to every five-minute period within that 15-minute span; it also will not apply to all subsequent intervals within the same hour. In proposing the change, the ISO expressed concern that existing rules can force EIM resources to sell energy out of their balancing authority areas at mitigated prices even during intervals when no market power has been detected.

A Question of Discretion

In its ruling last week, FERC approved both the hydro DEB and mitigation timing changes. But the commission rejected CAISO's proposal to implement a mechanism that would have allowed EIM entities to limit net exports from their BAAs under certain conditions.

In its *filing*, CAISO explained how an EIM entity must pass a resource sufficiency test at the beginning of each market interval in order for the market to dispatch energy in and out the entity's BAA during that interval. The test ensures the entity has scheduled sufficient resources and enough flexible ramping capacity to meet its own demand for the interval. There is no requirement for resources within the BAA to offer energy beyond that amount.

"Despite this, the existing market power mitigation process can mitigate a resource's bids when multiple balancing authority areas are import-constrained, and a resource can be dispatched for additional exports at mitigated bid prices for greater quantities of energy than were required to be offered. This can discourage offering energy and transmission to the EIM," CAISO noted.

To address the issue, the ISO proposed to introduce a "net export limit" feature that would allow EIM entities to limit the additional dispatch of resources when resources' bids are reduced because of their BAAs becoming subject to bid mitigation.

As FERC explained in its order, "the optional feature would allow EIM entities to limit net transfers out of the mitigated BAA to the greater of: (1) the pre-mitigation transfer quantity, or (2) the base transfer quantity, plus, for both (1) and (2), the sum of the flexible ramping up awards in the market power mitigation run in excess of the BAA's flexible ramping-up requirement."

CAISO intended to enforce the rule in both the 15-minute and real-time markets to ensure that every interval limit was determined separately.

"Each EIM entity would have the option to activate this rule so that the EIM transfer limitations are enforced after mitigation,"

Continued on page 11

CAISO/West News

FERC Denies Rehearing over RTO Adders

FERC on Sept. 30 again upheld the RTO incentives it previously approved for Southern California Edison and Pacific Gas and Electric, rejecting rehearing requests by California regulators.

Commissioner Richard Glick, who had dissented on the 50-basis-point adder to SCE's return on equity in December 2017, joined with the majority this time around. (See *FERC Sets Hearing on SCE Tx Rates; Glick Dissents*.)

The commission has repeatedly approved the adder for the two utilities' participation in CAISO since creating the incentives in Order 659 in 2007.

The California Public Utilities Commission challenged the adders, arguing that the state's three big investor-owned utilities — PG&E, SCE and San Diego Gas & Electric — were required by state law to participate in CAISO.

In 2018, the 9th U.S. Circuit Court of Appeals remanded the issue and directed FERC to conduct fact finding on whether PG&E could unilaterally leave CAISO. The commission responded with an order in July, saying that the utilities could leave CAISO without CPUC approval and thus were entitled to the incentive. (See *PG&E Deserves $30M ISO Adder, FERC Says*.)

In last week's orders (*ER17-2154-001*, *ER18-169-001, EL18-44-001*), FERC reiterated its conclusion, citing a section of the California Code that states that the IOUs "should commit control of their transmission facilities to the independent system operator."

"The language of these statutory provisions does not mandate participation in CAISO," FERC said. "Rather … these provisions speak in terms of encouragement and facilitation of participation."

Glick said that although he dissented from the 2017 SCE order, "I believe that the commission has now adequately addressed the arguments against" the RTO adder. ■

— Rich Heidorn Jr.

FERC upheld the RTO incentives it previously approved for Southern California Edison and Pacific Gas & Electric, rejecting rehearing requests by California regulators. | *© RTO Insider*

CAISO Goes 2 for 3 on EIM Hydro Rule Changes

Continued from page10

CAISO explained.

In rejecting the provision, FERC ruled that it was "inconsistent" with the EIM's market power mitigation framework and "not an appropriately calibrated solution to the concerns CAISO identifies."

"In particular, CAISO's proposal could weaken CAISO's market power mitigation process by allowing EIM entities to withhold generation through the submission of high supply bids and restricting EIM transfers out of their BAAs," the commission wrote. "Under CAISO's proposal, those bids would be mitigated when the potential to exercise market power was detected, but it is the unmitigated bids that would determine the dispatch of resources to serve load outside of the EIM entities' BAAs. As a result, CAISO's proposal would effectively allow market participants in the EIM to raise prices above competitive levels at the discretion of the EIM entity, resulting in potentially unjust and unreasonable rates."

The commission also dismissed CAISO's argument that the provision was acceptable because the EIM is a "voluntary" market, saying that the Federal Power Act requires FERC to ensure just and reasonable rates in all markets it oversees.

"Resources in the EIM do not have a must-offer obligation in the same way that many resources in CAISO do, but this distinction is not a compelling basis for weakening the protections against anticompetitive behavior in the EIM. Even if resources are not under a contractual or legal obligation to offer supply into a market, allowing the unmitigated exercise of market power by those resources may result in unjust and unreasonable rates," FERC said.

Pointing out that the proposed change could apply to any resource type, the commission additionally rejected CAISO's contention that the option was fashioned to address the "unique situation" of hydro resources with storage capability that are dispatched at DEBs that don't reflect their true opportunity costs.

"Under this proposal, EIM entities could decide whether the net export limit constraint applies to generation within their BAA and then receive congestion revenue as a result of the application of this constraint," FERC said. "We find that this discretion could potentially undermine CAISO's independent operation of the EIM because it would allow EIM entities, which are also participants in the EIM, discretion over what constraints are applied to them." ■

CAISO/West News

PG&E Announces Massive Shutdown to Prevent Wildfires

Warning Comes As Judge Questions Fight to Control Utility

Continued from page 1

is undergoing Chapter 11 reorganization as it faces billions of dollars in liability for earlier wildfires.

There was no mention of PG&E's unprecedented announcement in Monday's hearing, where Montali often sounded skeptical of the effort by bondholders to end PG&E's period of exclusivity — the time it has to file and solicit support for its own Chapter 11 plan of reorganization. The bondholders hope to wrest control of California's largest utility from its shareholders with their own plan to settle the claims of wildfire victims and others against PG&E.

In exchange for a nearly $30 billion investment, the bondholders would gain a controlling stake in PG&E while wiping out the value of current shareholders' stock.

Montali said repeatedly he didn't think the fight over PG&E's future was doing much good for the victims of wildfires started by PG&E equipment. Blazes in 2017 and 2018 blamed on PG&E included November's Camp Fire,

PG&E's case is being heard at the U.S. Bankruptcy Court in San Francisco. | © *RTO Insider*

which killed 86 people and burned down the town of Paradise. Liability for the fires drove the utility into bankruptcy in January.

"Why should we in effect have a corporate control battle when we really ought to be taking care of the victims?" Montali asked attorney Abid Qureshi, who represents the bondholders, formally called the Ad Hoc Group of Senior Unsecured Noteholders.

Qureshi, like other lawyers, said the bondholders' plan offered fire victims roughly $5 billion more than PG&E's latest proposal — $13.5 billion compared to $8.4 billion — and would settle the cases without the delay of legal proceedings to estimate damages and to determine liability in the Tubbs Fire, which killed 22 people and destroyed part of the city of Santa Rosa in October 2017. Those proceedings are underway in federal and state court.

The bondholders' plan recently won the support of the Official Committee of Tort Claimants, which represents fire victims in the bankruptcy case. Others now pushing to end PG&E's exclusivity include the main group of bankruptcy claimants, called the Official Committee of Unsecured Creditors, as well as consumer watchdog The Utility Reform Network and the International Brotherhood of Electrical workers, PG&E's largest union. (See *Creditor Group Joins Call to End PG&E 'Exclusivity'*.)

PG&E has the support of a group of insurers and investors that hold about $20 billion in subrogation claims, which the company agreed to settle in mid-September for $11 billion. (See *PG&E and Insurers Agree to Settle Wildfire Claims*.)

Montali ruled Aug. 16 against the bondholders' first bid to end exclusivity. In Monday's hearing, he asked lawyers to tell him what had changed that would make him reverse course.

Qureshi argued that the increased support to end exclusivity was a major difference.

"Every creditor constituency in this case that has taken a position on whether to terminate exclusivity with one exception [the subrogation claimant] … is in favor of terminating exclusivity," the attorney said. Because the bondholders' plan also offers the subrogation claimants $11 billion, only PG&E and its shareholders are opposed to ending exclusivity, he contended.

Later in the hearing, lawyer Cecily Dumas told Montali that the fire victims she represents are willing to accept the $13.5 billion the bondholders have offered and also urged him to allow the bondholders' plan to compete with PG&E's proposal.

In response, the judge elaborated on his concerns about admitting the bondholders' reorganization plan.

"I'm trying decide whether to listen to the pleas [from] you and everybody else ... by even letting that other plan in," he said. "To be blunt about it, my fear is that having the competing plan turns what was designed to protect the victims into a battle over corporate control … between two different money interests and has nothing to do with paying victims.

"Why do you want to be sitting there waiting to get your victims paid watching a corporate battle that has nothing to do with paying the victims?" he asked Dumas.

She replied that PG&E's plan isn't as well-funded as the bondholders' proposal, and the utility may not be able to pay more than the $8.4 million it proposed.

"There's risks associated with the debtors' plan that are made easier by the bondholder plan frankly because they have more resources to throw at it."

Montali said PG&E's opening bid was unlikely to be its final offer. He said he would take the new motion to end exclusivity under consideration and issue a ruling later.

'Strong and Dry' Winds

Meanwhile, PG&E said meteorologists in its emergency operations center "continue to monitor a potentially widespread, strong and dry wind event Wednesday morning through Thursday afternoon. The event will impact northern, central, coastal and Bay Area counties across much of PG&E's service area."

PG&E is the latest of California's three major utilities to use power shutoffs to prevent fires. San Diego Gas & Electric and Southern California Edison have used the tool for years during hot, windy conditions, though not on the scale PG&E announced Monday.

October and November are prime fire season in California, when air and vegetation are bone dry and powerful winds, including Southern California's infamous Santa Ana winds, fan infernos. ■

CAISO/West News

Creditor Group Joins Call to End PG&E 'Exclusivity'

By Robert Mullin

A notable group of claimants has added its voice to the growing chorus of parties asking a federal judge to end Pacific Gas and Electric's exclusive right to offer a plan for emerging from bankruptcy.

On Oct. 1, the Official Committee of Unsecured Creditors of PG&E filed in support of a motion urging the U.S. Bankruptcy Court in San Francisco to terminate PG&E's so-called "exclusivity period" and open the utility's Chapter 11 proceeding to alternative plans.

"Competing plans proposed by diverse stakeholders have created strong positive momentum, which is vital for a successful resolution of PG&E's bankruptcy cases," the group said in a statement accompanying its *filing*. "Ending the exclusivity period would foster competition among plans and will generate improvements in both plans."

The committee was appointed by the bankruptcy court to represent the interests of organizations with unsecured credit claims against the utility and its parent company, PG&E Corp. Its members include the International Brotherhood of Electrical Workers, Pension Benefit Guaranty Corp., NextEra Energy, Deutsche Bank and Davey Tree.

PG&E last month asked Judge Dennis Montali to extend its window of exclusivity from late November to late January, arguing it has made a good-faith effort to resolve one of the biggest bankruptcies in U.S. history.

In its current — and incomplete — form, PG&E's reorganization plan proposes using $14 billion in new equity financing to pay off wildfire claims and emerge from bankruptcy by June, in time to take advantage of a new $21 billion wildfire recovery fund established by the California State Legislature. The plan would provide a capped trust of $8.4 billion for fire victims in addition to the $11 billion for subrogation claims.

The motion to end exclusivity was submitted by an "ad hoc group" of bondholders who hold about $10 billion in unsecured PG&E debt. They've proposed a competing reorganization plan that would provide them control over the utility, injecting more than $30 billion in liquidity, including about $18.4 billion for fire victims. (See *Judge Weighs Competing PG&E Bankruptcy Plans*.) That plan has been endorsed by the Tort Claimants Committee (TCC), the court-appointed group representing victims of wildfires sparked by PG&E equipment.

While the unsecured creditor group stopped short of outright endorsement of the bondholder proposal, it did laud the plan and call it "a significant step forward."

"For the first time, a plan is being proposed that pays all unsecured claims, including wildfire claims, in full; is supported by the TCC, a fiduciary for all wildfire claimants; and is backed by evidence of substantial committed financing," the creditor committee said in its filing.

It also noted the bondholder plan is not conditioned on "a lengthy and uncertain estimation process" or a trial over claims related to the 2017 Tubbs Fire in California's wine country, which Montali in August determined should be decided in state court, likely complicating and prolonging the outcome of PG&E's bankruptcy.

PG&E headquarters in San Francisco | © *RTO Insider*

The creditors had little favorable to say about PG&E's own plan, noting its approach stands in "stark contrast" to that of the bondholders.

The court has "made crystal clear its view that resolution of the wildfire claims and payment of the individual victims is the court's paramount objective in these cases," the creditor committee wrote. "The *ad hoc* group and the TCC took that guidance to heart, got in a room and reached a fair and reasonable agreement that stands to benefit all creditors. The debtors, on the other hand, chose instead to focus their efforts on a bilateral settlement with a single group of institutional creditors." ■

CAISO/West News

Calif. Governor Signs Electricity, Wildfire Bills

By Hudson Sangree

California Gov. Gavin Newsom last week signed two dozen bills dealing with wildfire prevention and affecting the state's electricity providers. Many of the bills codify recommendations from the governor's wildfire "strike force" report released this spring.

"The report provided guidance on how the state can build a safe, reliable and affordable energy future," Newsom's office said in a news release after the signings Wednesday. (See *Calif. Must Limit Wildfire Liability, Governor Says*.)

The governor's report recommended easing the strict liability that utilities face when their equipment sparks wildfires, but none of the bills signed by Newsom dealt with that politically unpopular idea. Instead, they addressed topics such as public safety power shutoffs during hot, windy days and the safety implications of the sale of investor-owned utility assets.

"Given the realities of climate change and extreme weather events, the work is not done, but these bills represent important steps forward on prevention, community resilience and utility oversight," the governor said in his signing statement.

Among the bills that became law was SB 676, which seeks to ensure that adding millions of electric vehicles in coming years won't overtax the grid and lead to greater need for fossil-fuel generation. It instructs the Public Utilities Commission to establish strategies to integrate EVs, including time-of-use rates that encourage charging during the "belly" of the state's so-called duck curve, when there's a glut of cheap solar power in the middle of the day. (See related story, EVs Could Soak Up Solar or Exacerbate 'Duck Curve'.)

SB 676 was authored by State Sen. Steven Bradford (D), a former public affairs manager for Southern California Edison and member of the Energy, Utilities and Communication Committee. Bradford also authored SB 155, which will require the PUC to monitor the renewable portfolio standards of load-serving entities to make sure they're meeting their goals under the state's ambitious greenhouse gas reduction scheme. Last year's SB 100 requires the state to rely on zero-carbon energy sources by 2045.

Gov. Gavin Newsom signed about two dozen bills dealing with electricity and wildfires. | *© RTO Insider*

One of the bills signed by Gov. Gavin Newsom tries to ensure that millions of electric vehicles won't overtax California's energy grid. | *U.S. Marine Corps*

Another measure, SB 520, reworks the notion of the provider of last resort (POLR) in the face of the state's fast-changing electricity landscape. Traditionally, California's three big IOUs have filled that role. But with the rapid increase of community choice aggregators (CCAs), lawmakers decided the old rules needed updating. (See *Calif. Lawmakers Reveal Growing Divisions over CCAs*.) Authored by Sen. Bob Hertzberg (D), the law allows CCAs to be the POLRs in their service territory, contingent on approval by the PUC.

Under SB 550, by Sen. Jerry Hill, a San Francisco-area Democrat, the PUC must review the acquisition of an IOU's assets based on safety criteria. It specifies the commission's review would apply even if the sale is to a public entity, such as a city. (San Francisco has offered $2.5 billion for PG&E's assets there.) Under current law, the PUC must evaluate the sale or merger of utility assets based primarily on the net benefit to ratepayers.

Addressing power shutoffs, SB 167, by Sen. Bill Dodd, a Democrat from the Napa Valley, requires IOUs to improve their legally mandated wildfire mitigation plans by lessening the impact of public safety power shutoffs on residents. PG&E has turned off power to tens of thousands of customers across Northern California in recent months to prevent wildfires, including in Dodd's district. ■

NEPOOL Participants Committee Briefs

Supply Side Blocks ICR Endorsement for FCA 14

The New England Power Pool Participants Committee on Friday voted narrowly not to approve ISO-NE's recommended installed capacity requirement (ICR) values for Forward Capacity Auction 14 in February 2020.

The motion to support the ICR values including Mystic Units 8 and 9 *fell short* with 59.97% in favor, just below the 60% threshold for approval (Generation 0%; Transmission 16.79%; Supplier 3.36%; Alternative Resources 9.29%; Publicly Owned Entity 16.79%; and End User 13.74%).

The motion to support the ICR values excluding Mystic Units 8 and 9 failed with a 59.66% vote in favor (Generation 0%; Transmission 16.79%; Supplier 3.05%; Alternative Resources 9.29%; Publicly Owned Entity 16.79%; and End User 13.74%).

NEPOOL rules prohibit *RTO Insider* from quoting stakeholders' comments during the meeting. However, Margo Caley, the RTO's senior regulatory counsel, confirmed after the meeting that ISO-NE will file the ICR values with FERC on Nov. 5 without NEPOOL support.

Excluding Mystic 8 and 9, ISO-NE is proposing a net ICR of 32,495 MW for FCA 14 (2023/24), a reduction of 1,255 MW from FCA 13.

COO Vamsi Chadalavada reported that Exelon has until Jan. 20 to decide whether to retire Mystic 8 and 9 for FCA 14, which will acquire resources for delivery year 2023/24.

The Reliability Committee on Sept. 25 had also rejected the proposed ICR calculations, with unanimous opposition from the Generation and Supplier sectors. (See *Supply Side not Buying ISO-NE's ICR Numbers*.)

In related business, the PC approved by a show of hands a 941-MW value for the Hydro-Québec interconnection capability credit (HQICC) for FCA 14, including the capacity associated with Mystic, and a 943-MW HQICC excluding it.

Nautilus Power proposed amendments to recalculate the HQICC and ICR values without the RTO's gross load forecast methodology, but the proposals all failed on a show of hands.

Energy Market down for September

ISO-NE CEO Gordon van Welie had nothing to report, but Chadalavada did *report* on monthly operations results and other items.

The energy market value in September, through Sept. 25, was $182 million, down $139 million from August 2019 and down $221 million from September 2018, Chadalavada said.

September natural gas prices over the period were 2.6% higher than August average values, he said.

Average real-time hub LMPs ($20.97/MWh) over the period were 11% lower than August averages, while average natural gas prices and real-time hub LMPs for the month were down 29% and 49%, respectively, from September 2018 averages.

The average day-ahead cleared physical energy during the peak hours as percent of forecasted load was 99.6% during September, down from 101.3% during August, with the minimum value for the month of 95.4% recorded on Saturday, Sept. 7.

ISO-NE Draft 2020 Work Plan

Chadalavada presented a *memo* on the RTO's draft 2020 Work Plan, which takes account of FERC's Aug. 30 ruling granting ISO-NE another six months, until April 15, 2020, to file a long-term fuel security mechanism (*EL18-182*). (See *FERC Extends ISO-NE Fuel Security Filing Deadline*.)

The RTO plans to devote most of its planning resources to the Energy Security Improvements (ESI) project from October 2019 through April 2020, with a focus on:

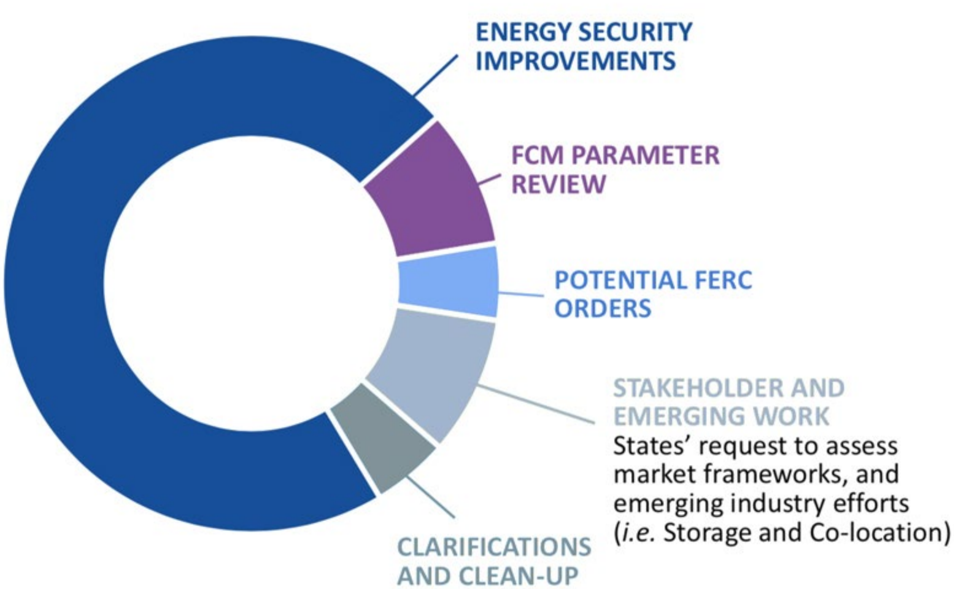
- core day-ahead ancillary services design;
- impact assessment of day-ahead ancillary services;
- conceptual framework for mitigation of day-ahead ancillary services; and
- forward market construct.

Additional work, such as changes to net commitment period compensation rules, will be needed beyond the initial filing to enhance the mechanism, he said.

Chadalavada said the RTO would work closely with stakeholders on day-ahead ancillary services design but that changes to the core design would require extra time.

The RTO is working with Analysis Group to assess the market impacts of ESI and anticipates having a draft impact analysis available for stakeholders in February.

Chadalavada said the RTO will provide stakeholders information about the prospective mitigation design approach before April 2020



Energy Security Improvements dominate the RTO's markets-related priorities for 2020. | *ISO-NE*

ISO-NE News

but that a detailed mitigation design and market rules will require a later filing.

The RTO will also explore whether a forward market construct would improve the region's energy security needs, but a detailed review will not be complete before the April filing, he said.

Consent Agenda

The Participants Committee voted to approve in a single vote three items on the consent agenda:

- A revision to Market Rule 1 section III.13.2.5.2.5A (Fuel Security Reliability Review) that limits the retention of resources needed for fuel security to a two-year maximum, removing a provision that could extend a resource's retirement beyond the two-year fuel-security retention period.
- Clean-up revisions to Market Rule 1 section 13 were identified during the price-responsive demand implementation process. They remove the requirement for the RTO to publish the quantity of demand capacity resources at the end-of-round price for each capacity zone as the FCA is being conducted. The revisions also clarify the energy market offer requirements of demand response resources that participate in the FCA.
- Changes were approved for operations manuals M-11, M-20, M-35, M-REG, M-RPA and M-36 to comply with FERC Order 841, which is intended to encourage electric storage participation in the wholesale markets. The manual changes pertaining to enhanced storage participation became effective upon PC approval. Changes related to Order 841 compliance will take effect in December, while those related to setting the maximum discharge limit of an electric storage facility when it has less than one hour of available energy would be effective in two phases in December and March 2020.

The PC also approved two items concerning FERC Order 1000 compliance and intra-regional planning that would have been on the consent agenda but for time constraints:

- The first item was revisions to the ISO-NE Tariff: Attachment K, Schedules 12 and 12C of section II, the Selected Qualified Transmission Project Sponsor Agreement, and sections I.2.2 and I.3.9, as recommended by the Transmission Committee.
- The last item approved was revisions to Market Rule 1 section III.12.6 and section I.2.2 (Definitions), as recommended by the Reliability Committee.

Chadalavada said that 21 companies have achieved qualified transmission project sponsor (QTPS) status, and that one company is currently moving through the QTPS application process.

Based on the results of the Boston Needs Assessment to date, the RTO will release its first request for proposals for a competitively developed transmission solution in late 2019 or early 2020, and anticipates a Tariff filing by Oct. 11, he said.

Draft RFP templates are being updated based on stakeholder feedback and will be reposted for Planning Advisory Committee comment in mid-October.

ISO-NE and NESCOE Budgets OK'd

The PC unanimously supported the RTO's proposed 2020 operating and capital budgets, as well as the 2020 budget of the New England States Committee on Electricity.

Kenneth Dell Orto, chair of the Budget and Finance Subcommittee, led the presentations.

ISO-NE's 2020 operating budget of $201.7 million, including depreciation and excluding the true-up, is an increase of 1.9% or $3.7 million compared to this year's operating budget. Including the true-up, the budget results in a 5.4% increase to the revenue requirement compared to 2019. The RTO's 2020 capital budget remained unchanged at $28 million.

NESCOE's 2020 budget is $2,421,056, up from $2,350,787 this year, and conforms to the five-year pro forma planning, he said.

Litigation Report

NEPOOL Secretary David Doot, an attorney with Day Pitney, highlighted three items from the monthly litigation report.

First, FERC on Sept. 19 launched a rulemaking to overhaul its regulations under the Public Utility Regulatory Policies Act, the 1978 federal law enacted to spur competition in the U.S. electricity sector (*RM19-15, AD16-16*). (See *FERC to Reshape PURPA Rules*.)

Second, the commission ruled that a New Hampshire law requiring the state's utilities to purchase power from biomass and waste generators encroaches on federal jurisdiction under the Federal Power Act and PURPA (*EL19-10*). (See *FERC: NH Bill Encroaches on Fed. Powers*.)

Finally, the results of FCA 13 became effective "by operation of law" in September because FERC was unable to muster a quorum (*ER19-1166*). (See *FCA 13 Results Stand Without FERC Quorum*.) ■

— Michael Kuser

MISO News

MISO Cracks Door on Long-term Tx Planning

By Amanda Durish Cook

MISO officials last week signaled their willingness to entertain a request by state regulators to develop a long-term transmission package to accommodate growth of policy-driven generation resources.

But they also made clear they're not ready commit to the idea.

MISO and its stakeholders late last year opened a debate on whether the RTO should launch a second regional transmission package similar to 2011's multi-value project portfolio. Clean energy supporters argued a coordinated approach to transmission development would ensure that proposed renewable projects could be built in a cost-effective manner. (See *MISO Stakeholders: New Blueprint Needed for Tx Planning*.)

The Organization of MISO States has been clear for months that it wants the RTO to begin analyzing another long-term transmission package. In June, it released a set of principles intended to advise MISO on its long-term planning. In a letter accompanying the principles, OMS President Daniel Hall said several drivers, including "many ongoing state-level activities related to investments in future generation, energy efficiency and distribution systems" precipitate the need for MISO to examine its long-term transmission needs.

"Given the timeline associated with infrastructure planning and development, and the need to cost-effectively maintain reliability in light of the rapidly evolving fuel mix, the OMS finds value in moving forward in a timely manner to assess system needs and identify potential solutions," Hall wrote to MISO CEO John Bear.

OMS' principles include fostering a transparent stakeholder process to identify cost-effective projects and heeding the changing resource mix, reliability requirements and viable non-transmission alternatives. (See *OMS Outlines Long-term Tx Planning Principles*.) However, some MISO South members said the principles were too obvious to be helpful.

MISO took a first step to address the issue when it convened a workshop Wednesday to discuss its current long-term planning processes. While RTO officials gave little indication whether they are considering mounting a second regional package, staff did touch on what has changed after eight years.

MISO Executive Director of System Planning Aubrey Johnson clarified that the workshop was not meant to discuss specific long-term project proposals.

"We don't have any lines on any maps. We don't have any projects in mind today," he said.

Currently, MISO's long-term transmission planning is not developed on a routine cycle but performed on an as-needed basis "in response to major changes in public policy or the industry," RTO adviser Joe Reddoch said.

MISO principal adviser Matt Tackett said electricity flow patterns are getting more difficult to predict year to year as central baseload generators retire and distributed resources pick up slack.

"I think we might be entering an era where dispatch and availability are more volatile," he said, noting that distributed resources and electric vehicles can become mobile supply and loads, make them challenging to pin down.

He said it's no longer necessarily the case that MISO will know "where generation is and where the energy is coming from."

"I think not doing something is not an answer because that has clear economic effects,"

– Hwikwom Ham, Minnesota PUC

Tackett also said the shifting resource mix also means that MISO shouldn't simply assume that aging transmission lines need to be rebuilt in their original locations.

Minnesota Public Utilities Commission staff member Hwikwom Ham asked MISO to begin quantifying the costs of not pursuing transmission projects that exhibit long-term benefits.

"I think not doing something is not an answer because that has clear economic effects," he said.

In response to stakeholders' questions on whether MISO's ongoing renewable impact *study* might spur long-term transmission investments, Johnson said the study shouldn't be considered a "lead-in" to a long-term transmission package. Instead, he said the study might be used to inform inputs should MISO independently decide it needs a long-term planning cycle. ■

"We don't have any lines on any maps. We don't have any projects in mind today,"

– Aubrey Johnson, MISO

| MISO

MISO News

Entergy Control Center Ownership Changes OK'd

By Tom Kleckner


| Entergy

FERC on Sept. 30 approved an Entergy request to transfer ownership interests in two transmission control centers from Entergy Services to the company's operating companies (*EC19-18*).

The commission found that the transaction would not adversely affect horizontal or vertical competition, noting that the control centers — in Jackson, Miss., and Little Rock, Ark. — have been and will continue to be operated under MISO's control. FERC also determined that the transaction would not have an adverse effect on rates, as transferring the control center's ownership will increase administrative efficiency and rate transparency.

The ownership interests will be allocated to Entergy's operating companies in Arkansas, Louisiana, Mississippi, New Orleans and Texas based on each company's 2017 coincident peak load. FERC established the peak-load allocation factors in a separate docket (*ER19-211*).

The commission also granted in part a complaint under Federal Power Act Section 206 by the Louisiana Public Service Commission, one of five regulatory bodies to intervene in the proceeding. The PSC alleged that the Entergy operating companies' current accounting and rate treatment of the control centers' costs characterize them as transmission facilities, and that all of their costs should be included in the companies' MISO formula rates (*EL18-201*).

FERC denied Entergy's request to dismiss the PSC's complaint, saying the Uniform System of Accounts for public utilities requires that "transactions with associated companies … be recorded in the appropriate accounts for transactions of the same nature."

"Affiliate transactions that are in the nature of transmission expenses must be recorded by the public utility in transmission expense accounts," the commission wrote. Based upon the requirement, it disagreed with Entergy's contention that its operating companies "comply with the commission's accounting rules."

The commission ordered the operating companies to make a compliance filing within 30 days showing that they have made the required accounting changes and formula rate recalculations. They also must explain how the recalculations will be reflected in the annual formula rate true-up.

The control centers went into service in 2016 and 2017. They replaced five transmission operations centers and a single system operations center previously owned by the operating companies and operated by Entergy Services. ■

MISO News

Renewable Proponents Outline MISO Planning Wish List

Sector Calls for Futures, Timeline, Cost Allocation Changes

By Amanda Durish Cook

| © *RTO Insider*

Clean energy advocates are asking MISO to make comprehensive changes to its transmission planning to help ensure the region can continue an uninterrupted shift toward renewable resources.

Among the requests from the Environmental and Other Stakeholder Groups sector: that the RTO revise its future scenarios, synchronize interconnection and planning studies, and re-evaluate interconnection upgrade cost allocation.

Renewable projections under current ***futures*** used in MISO's Transmission Expansion Plan (MTEP) are "far too conservative," Clean Grid Alliance (CGA) consultant Natalie McIntire said in an interview with *RTO Insider*.

CGA's Beth Soholt in June | © *RTO Insider*

"If you look at the four futures, only the most aggressive future is an accurate depiction of what's happening today," CGA Executive Director Beth Soholt said. "In other words, we've blown past those futures. So, MISO isn't planning for the future, much less planning for today."

The four futures estimate that MISO's resource mix will consist of a 15 to 35% share of renewables by 2033. But stakeholders for months have been criticizing those estimates as seriously underestimating the widespread adoption of renewables. Several have said the RTO's predictions are resulting in inadequate new transmission projects and leaving renewable developers with prohibitively expensive interconnection upgrades as system patches. (See ***More MISO Members Join Call for Tx Planning Change***.) MISO has ***said*** its large interconnection queue means that the "scope and costs of network upgrades are expanding."

MISO is now developing a straw proposal on new futures development for stakeholder review at an Oct. 17 workshop. The new futures will be in place for MTEP 2021, and the RTO will use a slightly updated version of its MTEP 19 futures for its 2020 cycle of transmission planning.

The Union of Concerned Scientists' Sam Gomberg said he generally thinks the four scenarios have been thoughtfully constructed.

"In terms of structure, I think the futures don't need to look radically different. The structure is sound," he said.

It's the content that concerns him.

"The futures are not living up to this 'bookend' framing," Gomberg said, using an oft repeated word among MISO planners. "They're not planning in the futures for what is coming." He said the RTO needs to consider both widespread renewable participation and a "carbon constraint umbrella."

Members of the Environmental sector have also called for one or more futures to model carbon regulations.

"Maybe I'm living in my own environmental echo chamber, but if the political winds shift, what we're talking about is getting to 0% carbon emissions by 2050. Decarbonizing the electricity sector by 2050 is a real possibility," Gomberg said.

The growing grassroots momentum to address climate change also can't be ignored, Gomberg said, with or without a federal government willing to draft a carbon cap policy.

"These [policy] conversations slowed down, and MISO staff for a couple of years maybe felt like they had a justification to slow down and wait for some kind of carbon cap," Gomberg said. "We can't be sure what shape it's going to take ... but we can be very sure that's there going to be some type of limit. I don't want MISO to be caught off-guard on the pivot."

Increasing Complexity

"MISO likes to plan around certainty," Soholt noted, adding that the RTO accounts for state statutes and orders from state commissions but could be overlooking municipal and corporate renewable commitments and carbon targets, as well as utilities' request for proposals.

"There's all this mismatch of things that MISO isn't taking into account. We're always going to be in a chicken-and-egg situation if MISO doesn't expand their bookends and reflect reality," she said.

It's not simply a matter of waiting for the expiration of the investment and production tax credits to expire so transmission planners can get back to business as usual, Gomberg said.

"The numbers that I'm seeing say wind and solar are still going to be the cheapest resources out there. There's going to be other developers ready to fill that void," he said.

MISO might be underestimating in its future how electrification might stimulate the currently flat demand for energy, McIntire added. "If not right now, we see that demand might grow in the next five to 10 years."

Gomberg also said MISO should more closely evaluate the effects of nuclear plant retirements in the 2030-2035 time frame as plant owners are faced with choosing between a license extension or retirement.

Soholt expressed concern that MISO's renewable estimates could lead to a system "funded on the backs of interconnection customers,

MISO News

which naturally raises questions of who can reap the benefits of such projects."

McIntire said interconnection customers don't receive financial benefits from transmission investments comparable to the rate of return that the RTO's transmission owners receive.

"They're not getting benefits commensurate with the costly transmission upgrades interconnection customers are having to construct," she said. "And if load ultimately pays, we want the transmission planning and interconnection process to consider what's most cost efficient for ratepayers. We would suggest that constructing a transmission grid with a whole lot of lines paid for by interconnection customers is not fair or efficient. Comprehensive transmission planning with much more realistic future scenarios is a more cost-effective way to build out the MISO grid."

"It's not just a little tie-line; it's not just a substation upgrade," Gomberg said, stressing that interconnections have now become regionally beneficial to the system.

McIntire pointed out that MISO also separates interconnection upgrades from other transmission project types in such a way that cost allocation is the burden of interconnection customers only.

That existing process is blind to the fact that many others in MISO benefit from interconnection upgrades, she said.

"We all know transmission will bring a variety of benefits to a variety of beneficiaries," McIntire said, calling for a "more holistic" cost-benefit analysis on interconnection upgrades.

Synched

McIntire also said MISO's interconnection upgrade studies and transmission planning studies should move on the same schedule and draw on the same study assumptions.

"There's a bit of a timing disconnect in that we have generator interconnection studies on one track and MTEP planning studies on a different track," she said.

McIntire said MISO is in a position where it could reject a congestion-relieving transmission project, believing the congestion will be taken care of through an interconnection upgrade attached to a proposed generation project. However, interconnection upgrades can disappear as developers withdraw project proposals from the queue. McIntire said it's not fair to assign the costs for an interconnection upgrade simply based on which of these study processes finishes first.

"Because those processes are done in silos, they're cutting some projects off at the knees," Gomberg said. "The left hand isn't talking to the right hand to some degree."

McIntire also said transmission planners should be looking to the queue as an indicator of where developers will site new resources.

"The queue is a good indicator of what will occur," CGA Regional Policy Manager Sean Brady agreed.

"It's always been that not all the projects in the queue get built. That's a fair thing to say," Gomberg said.

Though not perfect, the queue is a "strong indicator" of where resources will get built because often another developer comes in with plans in the same area, Gomberg said. The fact that all of the projects in the queue don't get built shouldn't be used as an excuse to say there's too much uncertainty to move forward in the planning process, he added. ■

MISO News

Group Says Renewables, Storage Could Save RTOs Billions

By Amanda Durish Cook

Consumers in MISO and PJM could save about $7 billion a year if they adopt several market changes that the Wind Solar Alliance recommended last year, the group said last week.

According to a new *report* prepared for WSA by Grid Strategies and Milligan Grid Solutions, with more wind, solar and storage on their grids, average residential customers in the PJM and MISO region could save up to $48 each year.

The findings are a follow-up on last year's WSA report that concluded MISO and PJM could keep electricity reliable and affordable through more than 30 market changes aimed at incorporating renewable generation. (See *Report: MISO, PJM Must Change Markets for Renewables*.) WSA advised MISO and PJM to create multiday forecasts, compensate reactive power, create primary frequency response markets, price the "inflexibility" of conventional generation, incentivize more accurate renewable forecasting and stock contingency reserves to offset drops in renewable output, among other suggestions.

The new report quantifies only some of those market changes, including limiting the self-scheduling of conventional generation, removing PJM's minimum price offer rule, incentivizing consumers to adjust their demand based on real-time market prices and allowing renewables and storage to provide reliability services.

WSA's interim director, Kevin O'Rouke, said the findings should be particularly interesting for consumer advocates and that he hoped regulators and market participants would use the new report to "advocate for more consumer-focused market structures going forward."

"Here we're focused on what this means for your pocketbook. … We're talking about large amounts of money here, billions of dollars for MISO and PJM," Grid Strategies Vice President Michael Goggin said during a webinar Wednesday to discuss the findings.

Goggin said the savings are dependent on renewable penetration increasing in both RTOs. "The unfortunate reality is that across the country in RTOs, wind and solar are kept from being able to offer reliability services. … I think it's because these rules were written a decade ago. I think technology is moving so quickly that the rules haven't kept up," Goggin said, adding that wind and solar generation and battery storage can provide ancillary services "as well or better" than traditional generators.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, said more wind and solar integration could be beneficial to the RTOs.

"When we're looking at hot weather alerts … it's an extremely small sliver of solar that's being used," Poulos said.

"From where I stand, capacity markets, energy markets [and] ancillary services should be moving in the same direction, supporting innovation and capturing new technology to effectively meet customer demand," Illinois Citizens Utility Board Deputy Director Kristin Munsch said. ■

Harding Street Energy Storage in MISO | *AES*

NYISO News

NYISO Study: Carbon Charge to Help NY Climate Goals

By Michael Kuser

RENSSELAER, N.Y. — A NYISO *study released last week finds that pricing carbon into the ISO's* wholesale markets will help New York achieve its clean energy goals — the most ambitious in the country.

"Carbon pricing advances the value of New York's leadership role," said Sue Tierney of Analysis Group, co-author of the final carbon pricing *report*. "Assuming New York endorses this idea, NYISO will adopt it and make a filing with FERC."

Tierney summarized the carbon pricing report to the Installed Capacity and Market Issues Working Group (ICAP/MIWG) after its release was delayed a couple months to perform additional analysis on the impacts of the Climate Leadership and Community Protection Act (*CLCPA*), as requested by the NYISO Board of Directors. (See *NYISO Management Committee Briefs: July 31, 2019*.)

Signed into law in July by Gov. Andrew Cuomo, the CLCPA requires 70% of the state's electricity to be generated by renewable resources by 2030, raises its offshore wind energy goal to 9 GW by 2035 and requires the whole economy to be carbon-neutral by 2040. The law also doubles the distributed solar generation goal to 6 GW by 2025 and targets deploying 3 GW of energy storage by 2030.

A newly created Climate Action Council will implement the measures needed to meet the environmental targets.

The report's authors contend that in order for the electric sector to help decarbonize New York's other economic sectors, which are responsible for 83% of carbon emissions, on the "aggressive" time frames set out in the CLCPA, the "power system will need to adjust to vastly different levels and shapes of electricity demand while simultaneously adding clean energy resources on a scale and pace unseen in recent years in the state (and perhaps not since the mid-20th century)."

The effort will require "every effective means possible" to achieve reductions at the lowest possible cost, the report says.

The report notes that renewable resources covered about 20% of load-serving entities' demand for electricity in 2018, with 80% coming from hydroelectric plants. The CLCPA will require renewables to cover 70% of LSE demand by 2030.

"A price on carbon in wholesale markets can provide a signpost to low-cost compliance pathways and preserve the fundamental wholesale electricity market structure that encourages operational efficiency and minimizes consumers' investment risks," according to the report.

No Heresy

Tierney also discussed the report with NYISO CEO Rich Dewey during a Thursday teleconference with reporters.

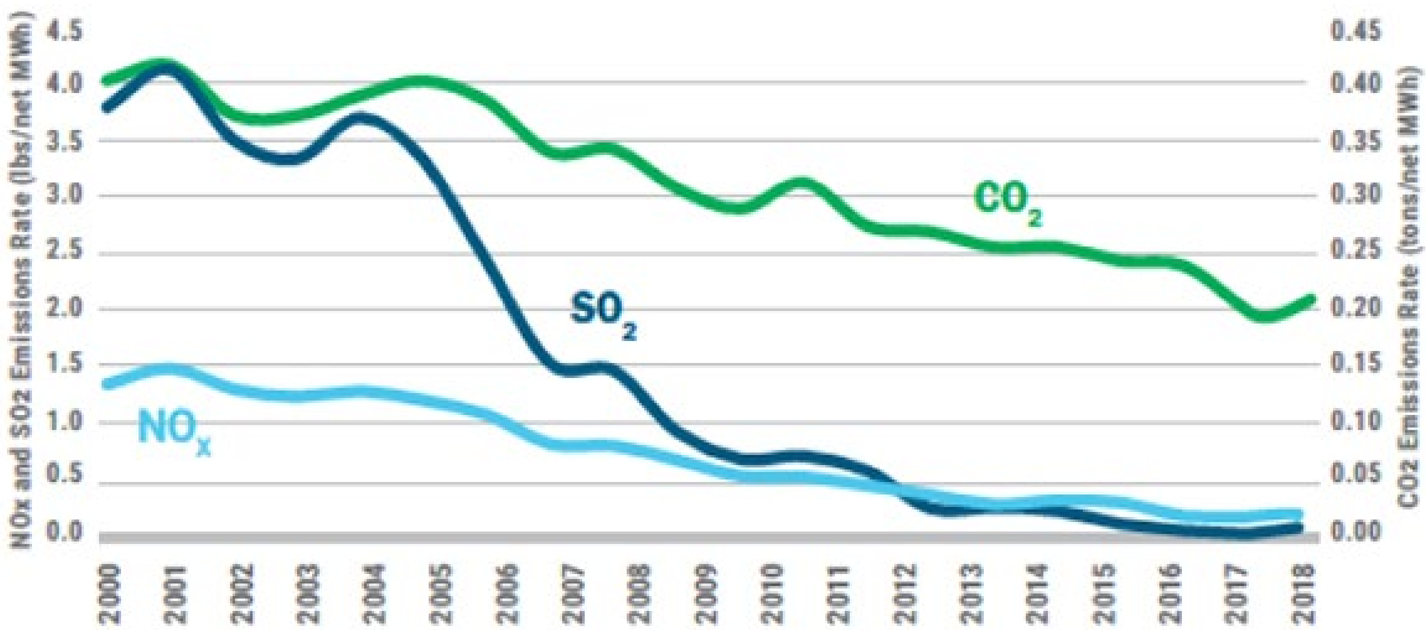
"Competitive electric markets are a strong and proven platform from which to leverage innovation, and we look forward to collaborating with the state on the exciting and important work ahead," Dewey said in a press release ahead of the event.

"You can't really leave any tools in the toolbox if we are going to achieve these goals," he said during the conference, the Times Union *reported*.

But hours before that feel-good event, Tierney faced NYISO stakeholders in what seemed at first to be a session of the Spanish Inquisition, formed to sniff out any sign of unorthodox methodology or belief.

Twenty minutes into her presentation, she was still practically on the first page of a 35-page summary.

"You guys are ridiculous," Tierney said in jest,



Emission rates for electricity generation in New York (2000–2018) | *NYISO*

NYISO News

to which one of the stakeholders replied that, on the contrary, they were behaving moderately compared to their usual ways.

Couch White attorney Michael Mager, who represents Multiple Intervenors, a coalition of large industrial, commercial and institutional energy customers, objected to the process of skipping the stakeholder feedback sessions promised by NYISO and jumping straight to a final report.

Mager also raised concerns about the scope of the study being changed without notice to stakeholders or an opportunity for them to provide feedback on the revised study scope.

Tierney deferred to Rana Mukerji, NYISO's senior vice president for market structures, who assured Mager and other stakeholders that the ISO still welcomed their feedback and would consider if additional work on the study was necessary. And because the stakeholders did not have time to read the report — as it was issued only that morning — Tierney would be back to answer more questions during the week of Oct. 21, he said.

Assuming enormous public health and ratepayer benefits, there will be out-of-pocket costs that can be attributed to the cost of complying with CLCPA, Tierney said. "The study looks at net benefits of carbon pricing. The implication is that there would be near-term costs for long-term savings and benefits."

Representing New York City, Couch White attorney Kevin Lang expressed concern about the effect of those near-term cost increases in the city, where the closest renewable energy option is offshore wind, which requires state subsidies, at least for now.

"Initial wholesale costs are going to be higher in New York City, so the state may have to enact other policies to mitigate those effects," Tierney said.

Mark Younger of Hudson Energy Economics said, "If you don't act [to implement carbon pricing], there will be other costs associated with that inaction," referring to various harmful effects of climate change.

Asked how much a carbon charge would help incent new renewable energy projects, Tierney said that financing projects based on renewable energy credits (RECs) and zero-emission credits (ZECs) "is hard to come by, as banks prefer to look at market energy prices," and that when the market price reflects the social cost of carbon, the market will be more efficient.

Guessing Game

"We don't know what the Climate Council will do, what the Public Service Commission will do [and/or] what the Department of Environmental Conservation will do in terms of adopting a social cost of carbon," Tierney said. "We imagined a robust policy toolkit, assuming the kinds of things that already exist, such as long-term REC contracts, performance standards and the like."

Tierney said it might help for policymakers and stakeholders to look at the study as a cost-effectiveness analysis rather than a benefit/cost analysis, and that pricing carbon is a cost-effective way for the state to meet its environmental goals.

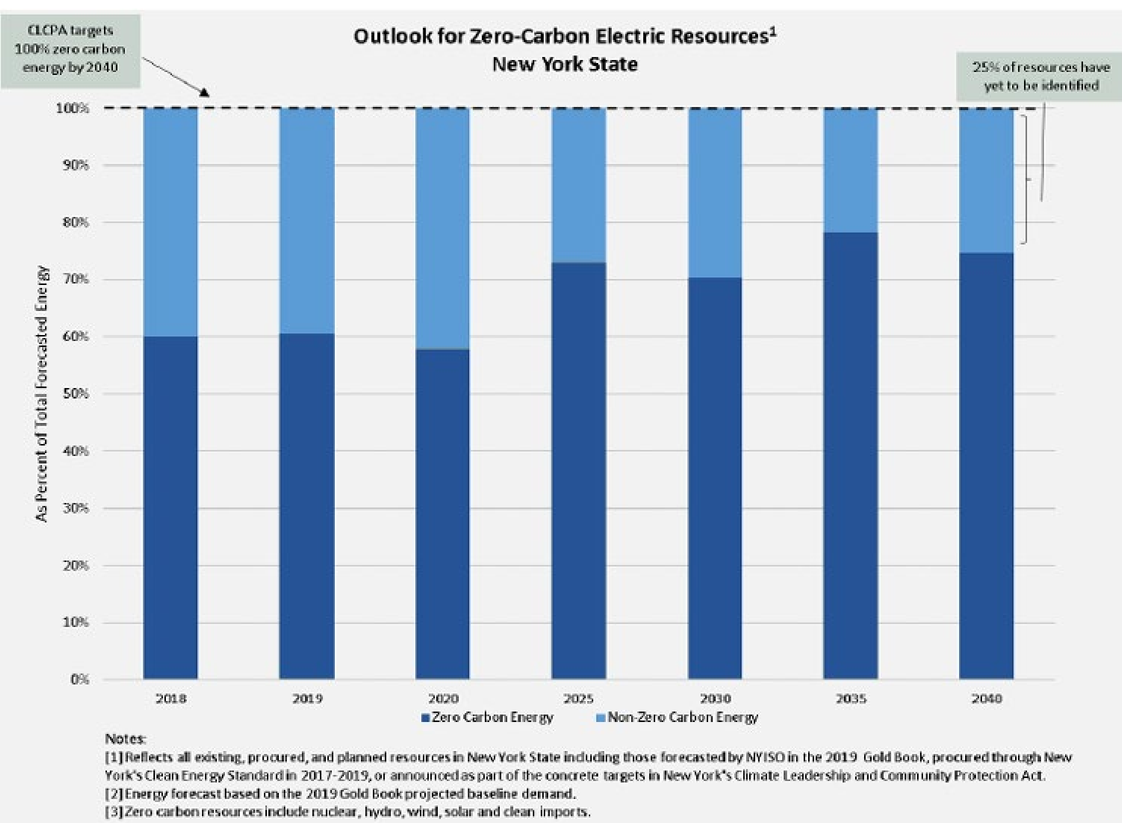
"If the New York wholesale market does not align its price signals with the new law, it will not be efficient," she said. "This is not a modeling report. We describe the modeling results of others, and we calculate a present market value of some of those results."

The study stuck to the electricity sector, but there's "going to be a lot of work" for New York to get to 70% renewable energy by 2030, she said.

"One of the features of the current construct is that RECs and ZECs are paid on a load-ratio share," said David Clarke, director of wholesale market policy for Power Supply Long Island. "So rather than those zones whose carbon emissions would be increased most by nuclear closures paying for the ZECs, there is an implied acknowledgement that keeping nuclear plants open to reduce carbon is a statewide goal with statewide sharing of costs. We are paying a load-ratio share downstate."

He asked whether the study considered how carbon pricing will change the zonal allocation of ZEC and REC costs.

"Qualitatively but not quantitatively," Tierney said. "We looked at it in terms of increased risk to consumers and felt that rather than relying on long-term contracts for RECs and ZECs, carbon pricing would reduce risk by shifting it away from consumers. ... And carbon pricing also would help consumers avoid the costs of buyer-side mitigation." ■



Outlook for zero-carbon electric resources | *Analysis Group*

Pennsylvania Governor Signs RGGI Executive Order

Continued from page 1

continue if we are going to craft regulations that fit Pennsylvania's unique energy mix, while making sure that the transition to a cleaner energy mix doesn't leave behind workers and communities our state has relied on for decades to produce its power. And it will take buy-in from the legislature to ensure we're protecting Pennsylvanians from the increasing effects of the climate crisis."

Firm Opposition

But many of the state's lawmakers want nothing to do with RGGI.

Republicans in both the House of Representatives and Senate challenged Wolf's unilateral move as an overreach and argued that the program is nothing more than a tax increase that harms the state's thriving fossil fuel industry and — ultimately — ratepayers. Pennsylvania is second only to Texas in natural gas production and provides nearly 20% of national demand — a figure expected to double by 2040.

"We strongly disagree with Gov. Wolf's continued practice of go-it-alone approaches that are unhelpful in working cooperatively to move our commonwealth forward in a way that best represents the interests of all Pennsylvanians," House Republican leadership said in a joint *statement* published Thursday. "Our state is not an autocracy, and one-sided decisions as significant as this leave out the important voices of Pennsylvania workers, communities and families whose livelihood is built upon important sectors of our energy economy."

The Republican leaders went on to tout the natural gas industry's impact on electricity bills and greenhouse gases "without burdensome regulations" and cited federal *data* that show a 14% decline in carbon emissions from the proliferation of gas across the country and 30% in Pennsylvania alone.

"We believe the executive branch cannot bind the state into multistate agreements without the approval of the General Assembly, and we plan to execute the fullest extent of our legislative power on behalf of the people of Pennsylvania," the letter concludes.

Republican leaders in the Senate said they would only consider policies that further reduce greenhouse gases in a manner consistent with their caucus's own energy principles — including preserving the state's energy portfolio, protecting the existing workforce, keeping

Pennsylvania Gov. Tom Wolf | *PA.gov*

electricity rates low and implementing any carbon-reduction plan through "an appropriate legal manner."

"Throughout the last 10 years, we have supported many initiatives that have resulted in Pennsylvania's greenhouse gas reductions that eclipse the CO_2 reductions in RGGI states," Senate President Pro Tempore Joe Scarnati and Majority Leader Jake Corman said in a joint *statement*. "As a net-exporter of electricity, we know that energy production is a vital part of our state's economy.

"We expect that the legislature will have the opportunity to engage in this process, to make sure that any change in energy policy ensures a balance between safeguarding the environment, preserving energy jobs and protecting ratepayers."

Republican Sen. Gene Yaw, chairman of the Environmental Resources and Energy Committee, chimed in on *Twitter*, where he expanded upon another one of his caucus's energy tenets: requiring current RGGI members to "utilize all aspects of the state's robust energy portfolio."

"It's clear to me we have very little in common with [New York], [New Jersey] and the New England states," he said. "How can we have a common interest with them when they prohibit the importation of our gas? They thumb their nose at Pennsylvania gas and embrace and purchase gas from Russia!"

'Display of Leadership'

Democrats, however, celebrated the governor's decision, including Senate Minority Leader Jay Costa, who proposed his own cap-and-invest program over the summer to address carbon emissions. (See *Pa. Dem Leader Pushes Cap-and-Invest Energy Plan*.)

"Today's executive order is a strong display of leadership from the governor on one of the most serious issues facing Pennsylvania, this nation and the world," he *said*. "Leadership from the federal government is not coming on climate change, and we can't afford to wait."

DEP Secretary Patrick McDonnell said RGGI "represents a unique opportunity for Pennsylvania to become a leader in combating climate change and grow our economy by partnering with neighboring states."

"As a major electricity producer, Pennsylvania has a significant opportunity to reduce emissions and demonstrate its commitment to addressing climate change through a program with a proven track record," he said. ■

PJM News

South Carolina Power Cooperative Joins PJM

By Christen Smith

As South Carolina lawmakers field offers for state-run utility Santee Cooper, its largest customer quietly joined PJM last month.

Central Electric Power Cooperative became a voting member of PJM on Sept. 5 as part of the Other Supplier sector. PJM spokesperson Jeff Shields last week said the new addition doesn't include transmission system integration and doesn't expand the RTO's 13-state footprint — a somewhat common occurrence among its 1,000-plus members.

"Just like Central Electric Cooperative, [other individual companies] find benefit from membership without integration of service territory," he said.

The Columbia-based co-op owns 800 miles of transmission lines across all 46 counties, making it the largest customer of Santee Cooper, the state-run utility company that provides electricity and water to more than 2 million residents statewide.

Central Electric provides wholesale electric service to all 20 of the state's cooperatives and has a peak demand of about 4,500 MW. The co-op owns community solar and peaking generation but obtains most of its energy through long-term power purchase agreements with Santee Cooper, Duke Energy Carolinas and the Southeastern Power Administration.

The PJM membership will become official once the company receives approval from the U.S. Department of Agriculture's Rural Utilities Service, expected in November.

"Our relationship with PJM is new, but there's nothing new about our long-term planning," CEO Robert Hochstetler said. "As we plan, we consider least-cost, reliability and diversification of our portfolio, and their geographic footprint and generating capacity offer benefits other than power supply for Central."

The cooperative said PJM membership will allow it to request feasibility studies of importing electricity generating capacity and energy from the RTO's power pool. In its market participant category of membership, however, "Central's interest will be purely contractual, not operational, in nature."

"We don't intend to commit resources into PJM, meaning we won't be integrating our transmission system with theirs," Hochstetler said. "We only intend to determine whether purchasing from PJM represents low-cost, risk-adjusted power supply."

Central said it's currently in discussions with Duke about its contract, set to expire in 2030. Its Santee Cooper agreement could last until 2058, though the company expects more conversations with other suppliers as it diversifies its portfolio.

Santee Cooper has been under increasing scrutiny after a $10 billion plan to expand the V.C. Summer nuclear plant near Jenkinsville unexpectedly fell apart in July 2017, leaving ratepayers on the hook for $4 billion racked up in construction costs before the utility and its privately run partner, SCANA, pulled the plug. Federal investigators are now trying to determine how soon the utilities knew of the impending doom and whether key information was hidden from lawmakers and regulators who could have intervened.

| Central Electric Power Cooperative

In March, the state legislature — long pressured by Gov. Henry McMaster — announced a plan to sell Santee Cooper in 2020 to erase the construction debt and spare customers from four decades of rate hikes. Lawmakers have also expressed support for studying RTOs and whether such a system could work well in South Carolina.

As for SCANA, Dominion Energy *finalized* a merger with the troubled company in January that included a $2 billion plan to freeze customer rates after mounting hikes in the wake of the abandoned nuclear project.

"Putting into effect bills below the temporary rates and keeping residential, commercial and industrial electric bills lower and competitive with neighboring states will aid South Carolina in its economic development efforts and ensure the state has a reliable energy supply to fuel growth and power the state's homes and businesses," Dominion CEO Tom Farrell said at the time. ■

SPP News

SPP's LSE Definitions OK'd as FERC Lacks Quorum

By Tom Kleckner

FERC last week said that SPP's proposal to add the defined terms "load-serving entity" and "non-load-serving entity" to its membership agreement became automatically effective (*ER19-2524*).

The commission said that because it lacked a quorum and did not act on SPP's request within a 60-day period, the revisions are effective by "operation of law," under Section 205 of the Federal Power Act.

Chairman Neil Chatterjee and Commissioner Bernard McNamee filed a *joint statement* Friday saying they would have accepted SPP's proposed revisions, effective Oct. 1, as requested.

FERC is currently down to three commissioners while it waits for two seats to be filled. However, Commissioner Richard Glick is precluded from acting on proceedings involving his former employer, Avangrid, until Nov. 29. (See *Glick Recusal May Mean No MOPR Ruling Before December*.)

In a *statement*, Glick said that while Avangrid was not a intervenor in the docket, "The substantive issues presented relate directly to a contested issue in another pending proceeding" (*EL19-11*).

SPP's revisions are related to a complaint filed last year by the American Wind Energy Association and the Advanced Power Alliance over the RTO's membership exit fee. FERC in April agreed with AWEA and APA and ordered the grid operator to lower its exit fee to $100,000, a 67% reduction from current levels. Avangrid Renewables is among the many intervenors in that docket. (See *FERC Tells SPP to End Exit Fee for Non-TOs*.)

Chatterjee and McNamee said they agree with SPP that defining the LSE and non-LSE terms "provides clarity to members as to which level of withdrawal deposit will apply in the event that a member submits a notice of intent to withdraw." LSEs would also be subject to an additional fee based on their net energy-for-load share of the RTO's financial obligations and future interest.

SPP has *requested* a rehearing of FERC's April decision, although it made a compliance filing reducing the fee as ordered in August. (See "Directors Lower Exit Fee to $100K," *SPP Board of Directors/MC Briefs: July 30, 2019*.) The RTO said the commission's conclusion that SPP's exit fee was a "barrier to membership" was incorrect. "All that the exit fee does is require that members have 'skin in the game,' thereby serving as the *quid pro quo* for the privilege of obtaining voting rights," SPP said.

Several LSEs — including American Electric Power, Evergy, Golden Spread Electric Cooperative, the Nebraska Public Power District and Xcel Energy — also requested rehearing. "While the commission is wrong that the existing exit fee formula is unjust and unreasonable, it is arbitrary and capricious to conclude that the complete elimination of any exit fee for non-transmission owners would be just and reasonable," they *said*.

The commission issued a tolling *order* on June 17 giving it more time to consider the rehearing requests.

President Trump last week nominated FERC General Counsel James Danly to fill one of the two vacant seats. There has been no nominee for the other vacancy. (See related story, *Dems, Enviros Upset Over Solo FERC Nomination*.) ■

Invenergy is among the many intervenors in SPP's membership exit fee docket. | *Invenergy*

Company Briefs

PacifiCorp Embraces Renewables Build-out, Early Coal Retirements

PacifiCorp is planning to rely on massive amounts of solar PV and batteries, as well as wind power, for a large share of its long-term energy needs. The company also wants to shut down economically struggling coal plants years earlier than scheduled.

PacifiCorp's draft integrated resource plan, filed Thursday, would close five coal plants in Wyoming by 2028, instead of keeping most of them open through 2037 or later. It also calls for more than 3,500 MW of new wind generation by 2025, and more than 4,600 MW by 2038. Almost all of that is to be built in Wyoming.

The utility also proposes to add 3 GW of solar to its portfolio by 2025 and an additional 3.3 GW by 2038. Almost half of that would be built in Utah.

More: *Greentech Media*; *PV Magazine*

NextEra Ranks as Largest Solar Owner Outside China

NextEra Energy is the largest owner of solar PV capacity outside China, in a "highly fragmented" global market, according to a new ranking from Wood Mackenzie.

NextEra has long dominated the U.S. wind market, where its 15-GW base of installed capacity is nearly twice the size of No. 2 Berkshire Hathaway Energy's wind fleet. But unlike some of the other big U.S. wind developers, NextEra has pivoted aggressively toward solar in recent years, taking advantage of the falling cost of PV and the solar industry's favorable incentive treatment compared to wind.

WoodMac ranks Atlanta-based Southern Co. as the second-largest owner of solar capacity outside China, with 2.6 GW to its name. India's Acme Group, at 2.3 GW, comes in at No. 3, followed closely by the 2.2 GW owned by Italy's Enel Green Power — the only Europe-based company in the top 10.

More: *Greentech Media*

New Leadership for AMP Board of Trustees

Jeff Brediger, the director of utilities for the city of Orrville, Ohio, was elected chair of American Municipal Power's 21-member board of trustees at the organization's annual conference in Columbus.

Brediger has served as a member of the AMP board since 2009. He succeeds Chair Steve Dupee, who will remain as a member of the board representing Wellington, Ohio. Chairs serve five-year terms.

Robert Patrick, public service director for Wadsworth, Ohio, was elected vice chair.

More: *AMP*

Tesla's Q3 Car Sales Accelerate, but Miss Analysts' Target

Tesla's electric car sales accelerated again during the summer, but the company is still lagging behind the pace it needs to reach CEO Elon Musk's goal for the entire year.

The company delivered 97,000 vehicles from July through September, more than in any other three-month period in its history. The performance increased Tesla's sales for the first nine months of the year to nearly 255,000 cars. That means it will need to deliver about 105,000 vehicles during the final three months of the year to hit the low end of Musk's sales target of 360,000 to 400,000 cars for all of 2019.

The third-quarter sales numbers announced Wednesday fell below average estimate of 99,000 vehicles among analysts polled by FactSet.

More: *The Associated Press*

Federal Briefs

Perry Denies Pressing Ukraine on Naftogaz, Reports of Resignation

Energy Secretary **Rick Perry** on Monday denied that he pressed the Ukrainian government to put two U.S. businessmen on the board of the state energy company or that he was planning to leave the Trump administration.

Perry acknowledged making the recommendations to Ukraine's state-owned natural gas company Naftogaz, as *reported* by the Associated Press on Sunday, but he said he did so only at the request of that country's government. He also said it was "true" that he had pressed President Trump to make the July call to Ukrainian President Volodymyr Zelensky that is at the center of the House of Representatives' impeachment inquiry. Axios *reported* Saturday that Trump told House Republicans in a closed-door meeting that "The only reason I made the call was because Rick asked me to. Something about an LNG plant."

Citing sources familiar with his plans, POLITICO, *The New York Times* and *The Washington Post* had *reported* last week that Perry was expected to announce his resignation by the end of November, but the secretary disputed those reports. "I'm here. I'm serving. They've been writing the story that I was leaving the Department of Energy for at least nine months now. One of these days they'll probably get it right. But it's not today. It's not tomorrow. It's not next month," he said.

More: *POLITICO*

TVA Experiences Record Energy Usage for October

An early fall heat wave led the Tennessee Valley Authority to set records for energy use in October within the first two days of this month.

Oct. 1 and 2 are the second and third all-time records for energy usage in any October in TVA's 86-year history. It hit an energy consumption peak on Oct. 2 of more than 28,000 MW, which is 8,000 MW more than the monthly average.

The federally owned utility also reported that last month saw the highest average peak load for a September, at 26,258 MW.

More: *WHNT*; *WRCB-TV*

SCOTUS to Hear Atlantic Coast Pipeline Case

The Supreme Court has agreed to consider whether a lower court was correct to block a major natural gas pipeline from crossing underneath the Appalachian Trail in the mountains of Virginia.

The high court's intervention could remove a barrier for construction of the $7.5 billion, 600-mile Atlantic Coast Pipeline, which has been halted for nearly a year because of various permitting woes.

Builders of the pipeline, led by primary stakeholder Dominion Energy, and the Trump administration appealed a decision by the 4th Circuit Court of Appeals that said the Forest Service lacked authority to grant a permit to tunnel under the popular hiking trail. Dominion said it anticipates a ruling by June, and that it hopes to resolve its other permitting delays in a similar time frame; construction could then resume by next summer and wrap up by late 2021.

More: *The Washington Post*

Chatterjee Responds to Senators on PJM MOPR Docket

FERC Chairman **Neil Chatterjee** last month responded to a letter signed by 10 Democratic senators from Illinois, New Jersey, Maryland, Delaware, New York and Rhode

Island urging the commission to reject PJM's proposed capacity market revisions (*EL16-49, EL18-178*).

Citing the commission's rules on ex parte communications, Chatterjee said he could not comment on the content of their letter. "Please rest assured that I, and the rest of the commission, recognize the importance of these issues and are carefully considering the testimony and comments received in the paper hearing," he said in a blanket statement filed Sept. 27.

The senators had cited a report published in August by Grid Strategies that said PJM's proposal — which would expand its minimum offer price rule to include all new and existing capacity receiving out-of-market payments — could increase capacity market prices $5.7 billion annually.

More: *MOPR Impact Study Ruffles Feathers Ahead of FERC Ruling*

State Briefs

ARIZONA

Regulators Take Utility Disconnection Rules Under Consideration

A draft plan reviewed by the Corporation Commission last week would keep utilities from shutting off power if temperatures are forecasted to rise above 105 degrees Fahrenheit for the next five days.

The original proposal set the bar at just 95 F, but Elijah Abinah, the commission's utilities director, cited documents from Tucson Electric Power showing that that threshold would effectively preclude disconnects from April into October.

The commission imposed a temporary emergency moratorium on disconnections earlier this year in the wake of the death of a woman who died of heat-related injuries after Arizona Public Service cut her power when the outside temperature was 107 F. Diane Brown, executive director of the Arizona Public Interest Research Group, said APS is owed $30 million since the moratorium was put in place. She said if people believe they don't have to pay their bills for five months of the year, then more people will take advantage of that window, leaving it to the remaining customers to make up the difference.

More: *Arizona Capitol Times*

INDIANA

NIPSCO Begins Next Round of RFP to Replace Coal Plants

Northern Indiana Public Service Co. last week announced it is beginning its next round of request for proposals for resources to replace its retiring coal-fired generating plants.

The latest RFP will "satisfy a 2023 capacity need following the release of NIPSCO's 2018 integrated resource plan, where the company announced its plans to retire all of its remaining coal-fired generation by 2028, and replace it with lower-cost, cleaner options," company President Violet Sistovaris said.

NIPSCO is targeting 300 MW of wind and 2,300 MW of solar, including those resources paired with storage. The latest RFP will close Nov. 20.

More: *The Michigan City News-Dispatch*

KANSAS

GridLiance Receives Approval to Acquire Majority Stake in Winfield Tx Assets

GridLiance, the Kansas Power Pool and the city of Winfield have received approval from the Corporation Commission for a long-term partnership agreement to jointly own and improve the city's transmission facilities within SPP, GridLiance announced last week.

Winfield owns 256 miles of distribution lines, 38 MW of generation and 29 miles of transmission. Under the terms of the agreement, GridLiance High Plains will acquire a 65% ownership stake in the 29 miles of Winfield's 69-kV transmission system and invest in needed reliability upgrades.

The transaction marks GridLiance's first joint-ownership agreement with a municipal electric utility, the company said.

More: *GridLiance*

MAINE

Regulators Decide to Consider Revised Route for CMP Tx Line

In a procedural order filed last week, the state's Department of Environmental Protection and the Land Use Planning Commission agreed to reopen the case record to consider Central Maine Power's plan to reroute a mile of the 145-mile New England Clean Energy Connect to avoid a protected pond near the Canadian border.

CMP said the amended route is a preferred alternative because it bypasses a specially protected zone around Beattie Pond in northern Franklin County. The transmission corridor would mostly run along existing power lines but would require clearing a corridor through 54 miles of woodland.

The company proposed the transmission line almost two years ago. The case record has been closed since May while regulators decide whether the project meets land use and environmental standards.

More: *Portland Press Herald*

MASSACHUSETTS

Public-private Partnership Opens Door to EV Sharing

A collaboration between a transportation startup, a utility company and two local municipalities is testing a model the participants hope can help accelerate electric vehicle adoption in the state.

New Jersey-based Greenspot is installing public charging stations in Newton and Brookline, the company's first municipal partnerships in the state. The partners in the project aim to make electric transportation more accessible, feasible and visible — helping normalize emissions-free options as part of the transportation mix.

"This is a way to help [cities] really enhance their transportation ecosystem," said Rosie Lenoff, business development manager for Greenspot.

More: *Energy News Network*

NEBRASKA

City Council OKs Solar Project that Would be State's Largest

The Lincoln City Council voted 6-0 last week to grant a special permit to Ranger Power to build a 230-MW solar farm on 1,100 acres.

The Lincoln-Lancaster County Planning Commission voted unanimously in favor of the permit at its Sept. 4 meeting, but neighbors opposed to the project appealed the decision to the council. Ranger Power officials said they chose the area because it is close to the state's two largest cities and because it has existing infrastructure.

Ranger Power still must negotiate contracts to sell the power, and it will likely be 2021 before any construction begins.

More: *Lincoln Journal Star*

NORTH CAROLINA

Duke Outlines Early Retirement of 5 Coal-fired Units

Duke Energy Carolinas has identified early retirement plans for five coal units in an annual depreciation study filed with state regulators as part of its new rate case.

Units at the G.G. Allen, James E. Rogers Energy Complex and Marshall coal plants "have life spans that are planned to be shorter than currently approved," the company wrote in testimony filed Sept. 30 with the Utilities Commission.

Duke highlighted the probable retirement of Allen Units 4 and 5 in 2024, which is four years earlier than previously planned. The utility's 2018 integrated resource plan called for retiring all five units at the 1,130-MW Allen plant in Gaston County by December 2028, beginning with Units 1-3 in December 2024.

More: *S&P Global Platts*

Duke Energy Carolinas Seeks Rate Increase

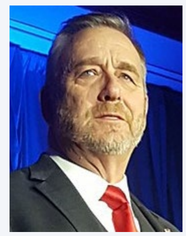
Duke's Energy Carolinas subsidiary has requested the Utilities Commission approve 6.7% and 5% rate increase for residential and business customers, respectively, amounting to $291 million a year in new revenues to help pay for a range of expenses. Those include building new gas and solar generating plants, converting existing coal plants to gas, cleaning up toxic coal ash, and investing in new technologies to improve reliability and efficiency, said Stephen De May, Duke's North Carolina president.

Duke said that under the plan, a typical residential customer would pay about $8/month extra. It plans to file a similar request within a month for Duke Energy Progress.

More: *WFAE*

OHIO

AG Investigating Allegations of Petition Buying



Attorney General **Dave Yost** is investigating new allegations that people circulating petitions for a statewide referendum on House Bill 6 are being offered cash to quit the campaign and to sell signed petitions to the opposing side.

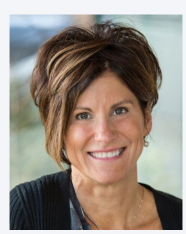
Ohioans Against Corporate Bailouts, which faces an Oct. 21 deadline to collect 265,744 valid voter signatures, alleges that opponents of their campaign have offered their circulators as much as $10,000 to quit and one of their petition circulating vendors was offered $100,000 to pull out. The group said opponents of the referendum went door to door at a Columbus hotel where petition circulators were staying and offered to buy petitions that had already been signed.

HB6 mandates ratepayers pay monthly fees to bailout aging nuclear power plants owned by FirstEnergy Solutions and two coal-fired plants owned by Ohio Valley Electric Corp.

More: *Dayton Daily News*

VERMONT

GMP President Mary Powell Announces Plans to Step Down



Green Mountain Power President and CEO **Mary Powell** said she will be leaving the electric utility at the end of this year.

Powell has been CEO and president for the past 12 years and led the utility through its 2012 merger with Central Vermont Public Service, when it became the state's largest electricity company. She also presided over the company's 2014 benefit corporation certification, making GMP the first utility in the world to obtain that status. Earlier this year, GMP also announced it would be going 100% renewable by 2030.

Powell has not announced any future plans. Mari McClure, the senior vice president, will be GMP's new head.

More: *VT Digger*

VIRGINIA

DEQ Issues Permits for 192 MW of New Solar

Gov. Ralph Northam last week announced that the state Department of Environmental Quality has issued permits for the construction and operation of four new solar projects across the state. These four projects are expected to generate 192 MW of electricity. The permitted projects are: Danville Farm, a 12-MW installation in Pittsylvania County; Dragonfly Solar, an 80-MW installation in Campbell County; Grasshopper Solar Project, an 80-MW installation in Mecklenburg County; and Turner Solar, a 20-MW installation in Henrico County.

"Virginia is adopting solar technology at record rates, and we are building an economy that is cleaner and greener as a result," Northam said. "These four projects will strengthen our solar energy infrastructure and help to sustainably power thousands of homes and businesses across Virginia."

More: *Virginia Department of Environmental Quality*

Dominion Takes a 2nd Swing at Costly Plan to Upgrade Grid

Dominion Energy last week filed a plan with the State Corporation Commission to spend $594 million over the next three years modernizing the grid, which would cost customers an average of a little more than $1/month.

Dominion has spent months refining the plan, which the SCC denied earlier this year, creating cost-benefit estimates and interviewing stakeholders.

The plan details the first three years of a 10-year roadmap for modernizing the state's power grid. A major component is installing smart meters for all utility customers, a process that would take six years and involve 2.1 million new meters across the state. The plan would also create an online platform for customers to interact with the utility, as well as "hardening" the grid to help it survive storms.

More: *The Washington Post*