RTO Insider

Your Eyes and Ears on the Organized Electric Markets

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EEI LEADERSHIP SUMMIT

No Turning Back on Decarbonization, Utility CEOs Say

Pizarro Defends Renewables, Calls for Increased Reserve Margins

By Tom Kleckner

Edison International CEO Pedro Pizarro | *Edison Electric Institute*

California will need more storage and higher reserve margins to prevent a recurrence of the rolling blackouts that hit the state in August, Edison International CEO Pedro Pizarro said last week, but he insisted there is no turning back on the increasing use of renewables.

It was climate change, he said, that caused the oppressive heat that stressed the grid to its breaking point. "We saw not only heat, but a heat dome over the entire Western United States that was really unprecedented," Pizarro said during a panel discussion with other utility CEOs that closed the Edison Electric Institute's Virtual Leadership Summit on Thursday. He said heat domes normally last four or five days, but this one lasted two weeks.

"It's not the renewables that did this," he said. "It's been unfortunate to see some of the press saying … California's push for addressing climate change and using renewables was the culprit here.

"We saw more coincident peaks across California, and we saw more of the other Western states needing their own resources that decreased imports into [California]," Pizarro said. "We saw gas and renewables operate as you would expect. There's variability with wind … but within the natural volatility of that. It's the same with solar. It's not the renewables that did this."

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'Future is Now' for Electric Truck Fleets, EEI Told

By Rich Heidorn Jr.

Volvo will begin producing its VNR Electric heavy-duty truck in North America this year. | *Volvo*

Executives from Volvo and FedEx told the Edison Electric Institute last week they are fully committed to transitioning to electric trucks but need utilities' help on rate structures and charging infrastructure.

For "what we do, which is last-mile delivery

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CAISO MSC Urges Scarcity Pricing for Emergencies

Committee Recommends Stakeholder Initiative to Head off Shortages

By Hudson Sangree

CAISO's Market Surveillance Committee last week said the ISO needs to consider implementing scarcity pricing as a way to obtain energy during heat waves and supply shortages such as those California saw in mid-August and over Labor Day weekend.

The MSC met Wednesday to discuss CAISO's proposal for complying with FERC Order 831. The order requires ISOs and RTOs to raise the hard caps on supply bids from $1,000 to $2,000; offers over $1,000 require suppliers to justify their costs.

FERC issued the order in 2016, two years after the polar vortex of 2014 pushed natural gas prices in the Midwest and Northeast "to levels where marginal generation costs plausibly rose over the $1,000 offer caps then in place," the MSC wrote in its *opinion*. "The spirit of the order was to allow supply resources to earn prices at least sufficient to recover their operating costs during periods of high generation costs, thereby helping to ensure reliable electricity supply during these periods."

CAISO filed Tariff changes with FERC last September to adopt the $2,000 price cap. It is now weighing additional changes in a *stakeholder initiative*, including penalty pricing during times of scarcity.

"The CAISO market uses these penalty prices … to relax constraints in the market and set

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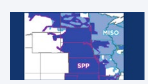

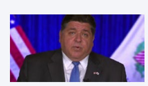

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In this week's issue

EEI Leadership Summit

Xcel's Fowke Faces Weighty Issues as EEI Chair

CEO Panel Focuses on Social Justice, Climate Change, Renewables

Speaking at EEI's virtual Leadership Summit were: (clockwise from top left) Xcel Energy CEO Ben Fowke, Ameren CEO Warner Baxter, DTE Energy Executive Chairman Gerry Anderson, Edison International CEO Pedro Pizarro and Exelon CEO Christopher Crane. | *Edison Electric Institute*

By Tom Kleckner

Ben Fowke, Xcel Energy | *Edison Electric Institute*

Xcel Energy CEO Ben Fowke, the Edison Electric Institute's incoming chairman, outlined his goals for the group during last week's CEO roundtable discussion that typically concludes EEI's annual Leadership Summit.

"COVID recovery is probably one you didn't pick at first," Exelon CEO Chris Crane, Fowke's predecessor, said as he moderated the virtual conversation Thursday.

"It's a major issue," Fowke replied. "I didn't come in with that goal, but I didn't come in with the goal of dealing with racial injustice, either. What I was really thinking about was the clean-energy transition and the innovation I feel needs to take place."

Fowke's goals changed on May 25 when George Floyd was killed in police custody and in full public view, igniting a summer of nationwide protests about racial equality. Floyd died in Minneapolis, where Xcel is headquartered.

"The killing of George Floyd happened right in our backyard. It impacted me very personally, as I'm sure it did many of our members," he said. "It was pretty hard not to be impacted by it. It gave me an opportunity to reflect and realize there's more I can do as a CEO, and there's more the industry can do.

"That's not to say that we haven't done some good work, but let's do more in our community. Let's do a better job of hiring and retaining and promoting people of color," Fowke continued. "I've said it many times: My company is only as healthy as our community, and we need to be there for our communities. There are things we can double down on. It's been a long-term problem and there are no quick fixes for this. But as with anything we've tackled as an industry, we can make a big difference."

Gerry Anderson, DTE Energy | *Edison Electric Institute*

DTE Energy Executive Chairman Gerry Anderson agreed with Fowke, saying "his emphasis on this at this time is exactly right."

"Because of the impact of COVID and the attention brought to racial injustice, it's an opportunity for all of us to share what we're learning and to dig deeper and do more," Anderson said, contrasting the coronavirus's disparate effect on low-wage earners with the 2008 Great Recession's impact on white-collar workers and industries.

"This is playing out much more heavily with small business and low-wage earners," he said. "We are all going to have a challenge in front of us to reach into those low-wage and underserved communities, because this crisis has really hit those [sectors] hard."

Anderson described DTE's "re-entry" program, in which the company goes into Parnall Correctional Facility in Jackson, Mich., to *train inmates as tree-trimmers*. DTE has also developed education programs in inner cities to help develop a viable workforce.

"Some of the most moving moments I've experienced as a leader at DTE is going inside those prisons and hearing directly from people thanking you for giving them a second chance. It took just one day of that to lock me in," Anderson said.

"What DTE is doing is really about giving people a second chance," Fowke said. "I think there are a lot of things we do that unintentionally create barriers. That's the hard look our entire industry and industries in general need to do."

Anderson, who co-chairs EEI's environmental committee, was joined on the panel by Ameren CEO Warner Baxter and Edison International CEO Pedro Pizarro. All three will serve as vice chairs to Fowke. ■

EEI Leadership Summit

No Turning Back on Decarbonization, Utility CEOs Say

Pizarro Defends Renewables, Calls for Increased Reserve Margins

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Pizarro acknowledged that renewable-dependent systems will require different parameters and "much more storage." He also called for revisions to planning reserve margins. "With a more volatile system — a system that has more intermittent resources — we need a little more safety margin," he said.

Recalling a study he commissioned when he became Edison's CEO in 2016, Pizarro said he wanted to determine how the state could meet its climate-change objectives in a way that made sense for the economy.

"That led to the conclusion that it's a clean-energy-led pathway that has clean energy, has renewables, but it importantly needs to have a lot more storage built into the system to provide that shock absorber so that we can use that clean energy to electrify a lot of society," he said. "This should not be viewed as a step away from the clean-energy transition so many of us are committed to."

DTE Energy Executive Chairman Gerry Anderson, Exelon CEO Christopher Crane, Ameren CEO Warner Baxter and Xcel Energy CEO Ben Fowke, EEI's incoming chairman, also reiterated their support for decarbonization during the panel discussion.

Fowke said renewables can't solve climate change alone.

Ameren CEO Warner Baxter | *Edison Electric Institute*

"Our industry and my company, we've done a lot to reduce carbon, and renewable energy played a big role in that," Fowke said. "But at some point … the big grid becomes saturated. You can only have so much renewables."

Xcel has set carbon-reduction goals of 80% by 2030 and 100% by 2050. Other companies represented on the panel have set similar goals.

"That last 20% of carbon [removal] is going to require technologies to be commercially and economically viable that aren't today," Fowke said. "We need to start investing today and nurturing those technologies so they can be ready for tomorrow. It's really important that we are out there continuing to lead and reduce carbon, while at the same time thinking about those long-term goals that will require different technologies."

"So much of our strategy is now defined by that clean-energy transition," Anderson said. "As an industry, we've learned that what looked so challenging a decade ago now looks like an opportunity to transition much of the economy to electricity, to grow fundamentally in the process and do something that we'll all really be proud of."

The CEOs raised the issue of investing in smarter energy infrastructure. EEI says its member companies sink an average of more than $110 billion each year into the grid.

Baxter stressed the importance of regulatory frameworks that support those investments.

"Customers have been loud and clear that they want cleaner, more reliable, more resilient [energy]," he said. "I think we've made good progress. Some of the frameworks are better than others. This is where we as an industry. These are the types of things that we know can really make some step changes. We can't let up."

Crane said the stakes will increase with vehicle electrification.

"The old CAIDI [Customer Average Interruption Duration Index] and SAIFI [System Average Interruption Frequency Index] top-quartile numbers are not going to cut it when you electrify a whole bus system and the power goes down for eight hours and the buses can't charge before they're supposed to roll in the morning," he said. "We've got new standards coming our way, and we have to be ready to

Exelon CEO Christopher Crane | *Edison Electric Institute*

invest in it and be able to get some recovery."

When Crane closed the session with the standard "what-keeps-you-up-at-night" question, Fowke had a ready answer: public policy.

"I like to say that with a stroke of the pen, our fortunes can be changed for the better or the worst," Fowke said. "Natural gas and nuclear may not be popular technologies with all of the environmental communities, but I worry perfection may get in the way of the greater good. Our industry is making a lot of progress, but if we make our product unaffordable, or worse, unreliable, I think the clean-energy transition is going to come to a slowdown or a halt."

Fowke also lamented the nation's increasing polarization.

"We don't listen to each other very well anymore," he said. "That's the challenge. The opportunity is we are in the communities. I think through this COVID-19 crisis, we've seen our customer satisfaction scores improve. People like … what we're doing in their backyards. So, I think as an industry, we can really rally and maybe bridge some of this polarization and really show that big business can also come up with big solutions."

Anderson said his company is watching the upcoming elections closely for their potential impact on the clean-energy transition. "If we get a flip of the presidency and a flip of the Senate, this will be a key near-term priority for both Congress and the president I think." ■

EEI Leadership Summit

'Future is Now' for Electric Truck Fleets, EEI Told

Continued from page 1

… electricity is the most efficient energy source for a vehicle fuel," said Russell Musgrove, managing director of global vehicles for FedEx Express, which is adding 1,000 electric trucks in California.

"I know a couple years ago there were startups and other companies that predicted that electric trucks were going to be right around the corner, and then they … didn't come through," said Keith Brandis, vice president of partnerships and strategic solutions for Volvo Group, which will begin production of electric heavy-duty trucks in North America later this year. "If I could speak to your audience of CEOs, I'd like for them to know that the future is happening now."

Patti Poppe, CEO of CMS Energy and Consumers Energy, moderated the discussion with Musgrove and Brandis during EEI's Virtual Leadership Summit on Wednesday.

Based on current battery range and charging infrastructure, Volvo's trucks will initially be used for local and regional deliveries. "We're not talking a nationwide corridor yet. But it's happening. And we're saying: Now is the time for having these real plans for grid upgrades, for charging infrastructure."

Production of Volvo's VNR Electric trucks follows the company's earlier forays into hybrid transit buses and medium-duty trucks. The company also is participating in the Low Impact Green Heavy Transport Solutions project, a collaboration among 15 public and private partners, including the ports of Long Beach and Los Angeles, to demonstrate the viability of all-electric freight hauling.

Russell Musgrove, FedEx | *Edison Electric Institute*

Brandis said the project is starting with 23 pilot trucks at four sites. "It includes everything in a complete ecosystem. So, we are able to go in and replace all of the propane forklifts with electric forklifts. We're adding electric yard tractors as well as the Volvo heavy-duty battery electric trucks and tractors. We're adding solar [generation] on some of the customer sites as well as all the charging infrastructure for these to run in daily operations. … We have two community colleges putting together technician training, because this is not the same as working on a diesel unit."

FedEx Seeking 'Scale'

Musgrove said FedEx, which has been investigating electricity as a vehicle fuel since 2010, now intends to electrify its fleet — more than 180,000 motorized vehicles — globally where it can.

In what Musgrove called its first "scaled project," FedEx is purchasing 100 electric delivery vehicles from *Chanje Energy* and leasing 900 more through Ryder System for deployment in California. Chanje says its V8100 panel van, being produced in Hangzhou, China, can carry 2,000 pounds of payload for a range of 150 miles on a single charge.

FedEx must accelerate its transition, Musgrove said. "I don't want to do 1,000 trucks a year. I can't make real inroads into potential savings from a business perspective — and the environmental, carbon-neutrality goals we have as a company — unless we can truly get to scale. And to get to scale, we're going to need everyone to build these ecosystems, aligning on what we can align on and finding workarounds on those things we can't."

After initially focusing on finding the right vehicle, Musgrove said he has shifted his attention to the charging infrastructure inside FedEx's facilities. "The majority of our facilities are built in warehousing areas. … A lot of time, there's just not enough energy [available for] putting 150 electric vehicles inside a building. So right now, we're actually scaling down the number of electric vehicles in the facility until we can get the appropriate utility upgrades, or microgrids, to allow us to have an entire facility using electricity as a vehicle fuel."

EV 'Ecosystem'

Brandis said Volvo is listening to its customers to determine what they need from electric trucks and charging infrastructure.

Keith Brandis, Volvo | *Edison Electric Institute*

"What we're finding is that it's not [enough] to put a bigger transformer on the site because you're drawing more power. It's how can you look at that entire site and optimize it based on the daily routines as trucks are ready to leave in the morning and come back in the evening; [it's] the overall energy usage, and maybe energy offsets with solar or wind in order to look at the entire eco-cycle."

Musgrove said truck manufacturers, fleet operators and utilities need to have a "true ecosystem discussion, where the stakeholders get in the room and people truly understand the customers' need. Understand … that there are going to be some locations where we're going to put in some microgrid technology, where we're using solar. We're going to have to use battery storage to … ensure we have

CMS Energy CEO Patti Poppe | *Edison Electric Institute*

EEI Leadership Summit

the necessary energy to launch those vehicles every day."

Utilities' Role

Another challenge, Musgrove said, is dealing with the "very complicated" utility industry, with its variety of regulatory schemes and rate structures.

"Working with energy management companies and utilities is going to be the key globally for us to be able to make a meaningful transition between now and 2030 — 2025 even."

While some utilities have been good partners, he said, others have a "take it or leave it" attitude that suggests they're not interested in responding to the increased power demands that vehicle electrification will produce.

Brandis said fleet operators need utilities to designate a single account manager to help them navigate the transition and upgrade the infrastructure in their properties.

"We can't have the typical, 'Well you're not talking to the right department. You've got to talk to another department.'"

Musgrove agreed, saying utilities should create dedicated fleet EV programs: "A group of people that understand our business, understand us as a customer … [and] help us get the information and do the things that you need us to do."

FedEx also wants help from utilities in developing rate structures that "stabilize" its costs.

"Maybe some out-of-the-box thinking, where we talk about a fixed, contracted kilowatt rate including some of the infrastructure we need to put in there," he said.

"I do think our willingness to work with others is essential to getting this ecosystem up and running," agreed Poppe. "And there's a huge … potential for our industry to have growth that we haven't experienced in decades. It is an exciting time if we can all figure out how to swim together."

Regulators' Role

Musgrove said Volvo is lobbying California officials to revise a rule that prohibits public charging stations for heavy-duty trucks. "So, we're going the California Public Utilities Commission to say, 'Look this is not going to take off; this is not going to go anywhere, unless we [have private and] public charging stations.'"

Poppe said utilities will need their customers' help also.

FedEx is adding 1,000 Chanje electric-powered panel vans in California in its first "scaled" EV project. | *Chanje Energy*

"There will be times when your voice in a regulatory proceeding … is very influential. Our regulators have to be objective, and they may not always do everything we say needs to be done. But when they hear a FedEx say, 'This is what we need to be done,' that can be very helpful in us advocating for the right policies." ■

CAISO/West News

CAISO MSC Urges Scarcity Pricing for Emergencies

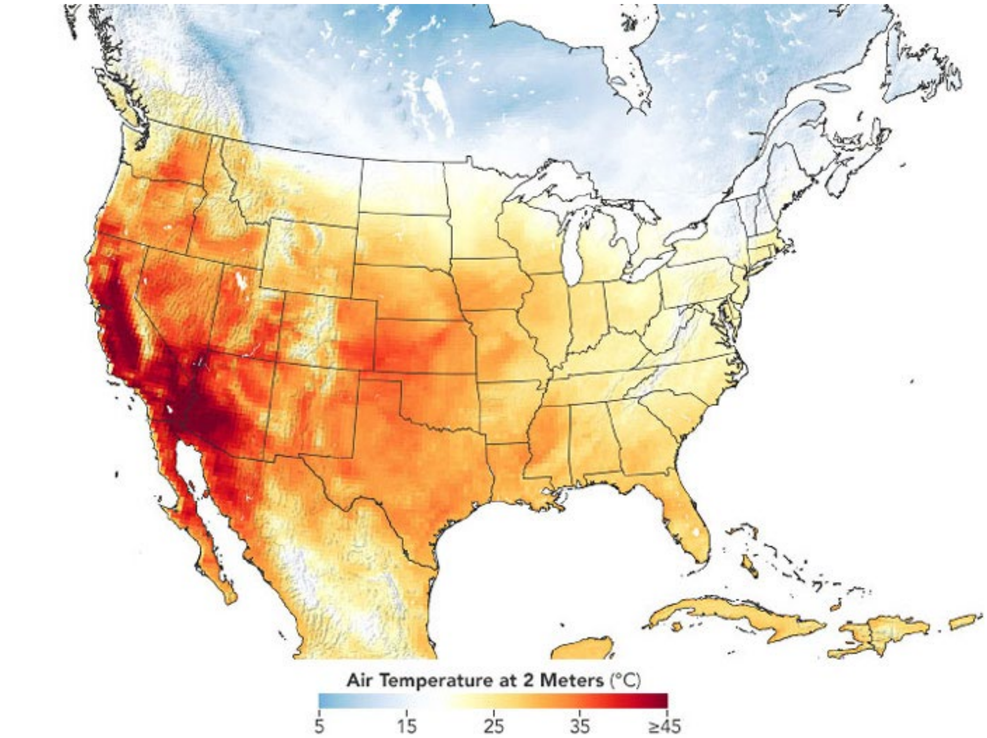
Committee Recommends Stakeholder Initiative to Head off Shortages

Continued from page 1

prices if needed to reach a solution," the ISO said in its final revised proposal. "This includes the power balance constraint that requires supply to equal demand, which sets the system marginal energy cost under such conditions."

Order 831 did not specify how an ISO or RTO should set its penalty prices but suggested it could file proposed modifications to shortage pricing.

CAISO proposed that "the market would set energy prices based on the amount of shortfall in supply to meet demand when the market must relax the power balance constraint and there are energy costs greater than $1,000/MWh. In this event, the market uses constraint penalty prices scaled to a $2,000/MWh power balance penalty price and would otherwise set prices based on the $2,000/MWh power balance penalty price."



Record temperatures on Sept. 6 drove CAISO to the brink of rolling blackouts. | *NASA*

Storms of Cold and Heat

The heat wave that strained the Western Interconnection in mid-August and forced CAISO to order rolling blackouts was similar to the "cold storm" — or polar vortex — of 2014 that spread from the Rocky Mountains to New England and south to Florida and Texas, the MSC noted.

Prices during what some called the Western "heat storm" in August rose to $1,000/MWh or more and showed the need for higher-priced import offers during times of regional scarcity, the committee said in its opinion, which its three members unanimously approved.

"The experiences of mid-August again signal the urgency of such an initiative," the committee said. "These conditions will likely grow more frequent, and the region is in need of a more coordinated approach to managing scarcity conditions."

It urged CAISO to begin a scarcity pricing stakeholder initiative.

James Bushnell | *UC Davis*

"We support the scarcity pricing or penalty value element of this proposal, but we support them as an interim measure that's an improvement over current practice," committee member James Bushnell, a professor in the Department of Economics at the University of California Davis, said Wednesday. "At the same time, we urge the CAISO to begin a more formal stakeholder process focused specifically on scarcity pricing so that a lot of the issues that were raised in this initiative could be dealt with in a more holistic way."

Scarcity pricing is triggered in markets when systems become so strained that reserve margins meant to protect the grid from collapse are threatened.

Proponents say it is a way to procure resources during extreme shortages or even an incentive to build resources to help prevent future emergencies, but critics say it holds the potential for market manipulation and excessive prices. Other organized markets have struggled with whether to adopt scarcity pricing or how best to implement it.

Advocates have contended that SPP should adopt scarcity pricing, and FERC has pointed out the RTO uses out-of-market mechanisms to ensure generators come online as a way to avoid it. (See *SPP Shortfall Leads to Scarcity Pricing Calls* and *FERC OKs SPP Scarcity Pricing Change*.)

MISO is re-evaluating the effectiveness of rules behind its scarcity pricing model, contemplating upping the value of lost load and changing the operating demand curve on which the model is based to increase emergency pricing and raise incentives. (See *MISO Revisits Scarcity Pricing Rethink*.)

CAISO's Order 831 proposal goes next to the Western Energy Imbalance Market for an advisory vote on Wednesday and to the ISO's Board of Governors for final approval on Sept. 30. ■

CAISO/West News

PG&E Blacks out 500K Residents to Prevent Fires

By Hudson Sangree

Pacific Gas and Electric turned off power starting the night of Sept. 7 to nearly half a million residents two minutes after CAISO effectively ended its four-day blackout watch.

Strained capacity during a Western heat wave and lightning-sparked wildfires caused CAISO to issue warnings of rotating outages over the long Labor Day weekend. (See *CAISO Avoids Blackouts amid Brutal Heat, Fires*.) High winds and the fear of utility-sparked wildfires drove PG&E's intentional blackouts..

"Pacific Gas and Electric Co. has begun the process of power de-energization of numerous electrical lines as part of a public safety power shutoff [PSPS] due to severe weather conditions," the utility said in a news release at 9:06 p.m.

The PSPS event would affect 172,000 customers, or about 499,000 residents, in portions of 22 counties in the Sierra Nevada foothills, the Sacramento Valley and the northern San Francisco Bay Area, the utility said

At 9:04 p.m., CAISO had relaxed its alert status, telling customers they no longer needed to conserve power because of extreme heat and insufficient resources. The ISO declared Stage 2 emergencies Sept. 5 and 6 while warning it would call for rolling blackouts.

The ISO later said it managed to avoid outages largely because of consumer conservation and help from neighboring utilities.

A heat wave that brought record temperatures to Los Angeles dissipated on Labor Day as a high-pressure ridge gave way to offshore winds along the California coast and to cooler air flowing into the Western U.S. from Canada, the National Weather Service reported.

By the morning of Sept. 8, strong northeast winds were blowing across interior Northern California — the same conditions that spread catastrophic fires ignited by utility equipment during the past three fire seasons. NWS issued a *red-flag warning* through Wednesday morning based on low humidity and winds that it said would gust from 35 to 55 mph in the mountains and foothills of Northern California.

Dry vegetation and the rush of air from the north meant a "large portion of the Western U.S. will experience another day of critical to extreme fire weather conditions — meaning any ongoing fires or new starts could experience very dangerous fire behavior and spread," the weather service said.

The forecast turned out to be correct. Dozens of wildfires in California and Oregon decimated millions of acres in the past week, killed at least 18 residents and blanketed the West Coast in dense smoke.

Earlier in the week, Southern California Edison and San Diego Gas & Electric instituted PSPS events on a far smaller scale than PG&E, and Portland General Electric declared Oregon's first PSPS.

PG&E said it has restored power to nearly all of its customers on Thursday. ■

| PG&E

CAISO/West News

CalCCA Seeks 'Objective' Review of Blackout Report

WECC Promises Own Analysis of August Events in CAISO, West

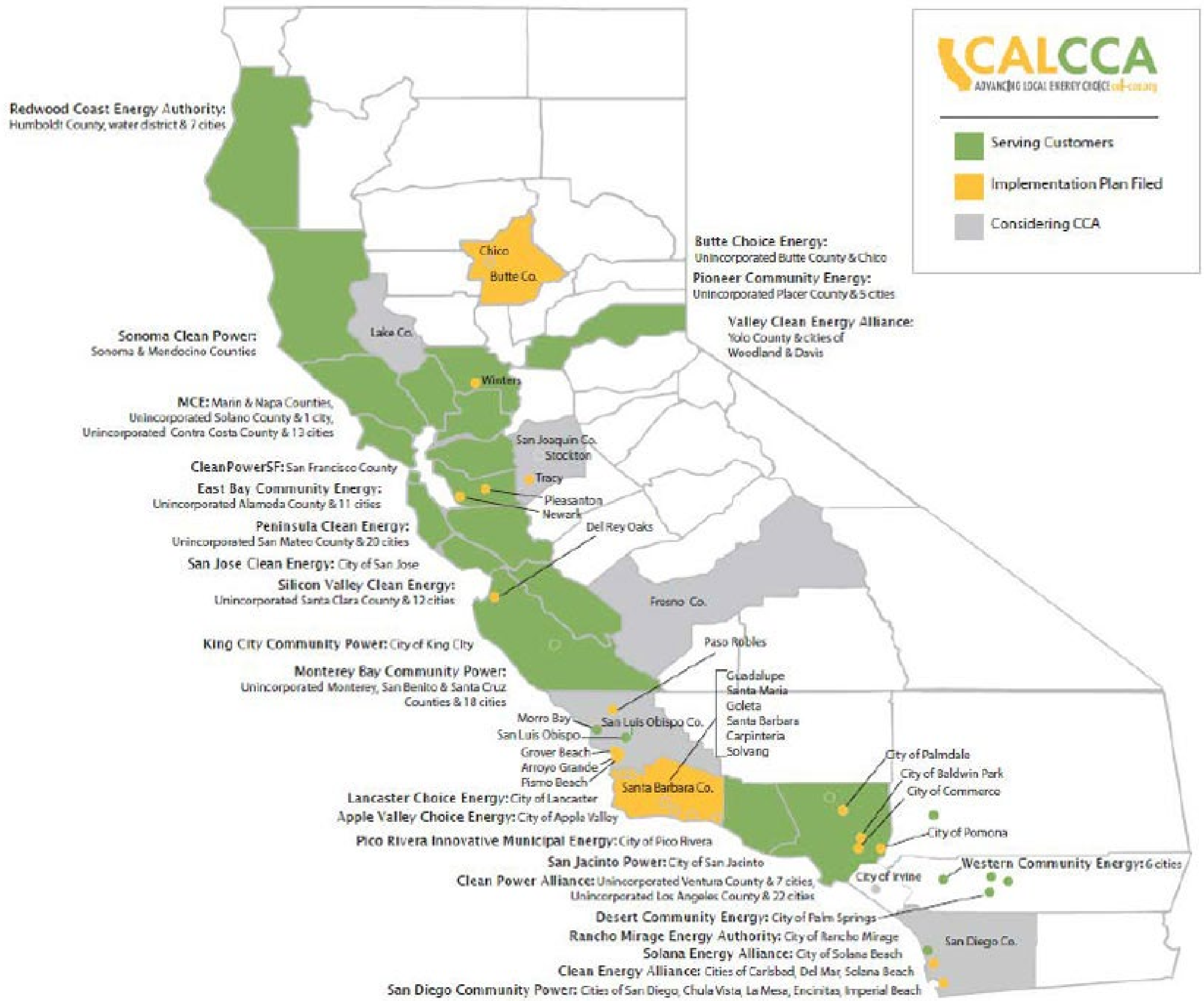
By Robert Mullin

An advocacy group representing California's community choice aggregators (CCAs) on Wednesday called on Gov. Gavin Newsom to appoint an independent panel to review a pending joint agency report on the causes of the rolling blackouts that rocked the state in mid-August, leaving millions of residents without power during a record heat wave.

The request came the same day that WECC told its stakeholders of plans to produce its own analysis of the circumstances leading to the Aug. 14-15 blackouts and subsequent emergency events occurring in the days that followed.

During a voting meeting Thursday, California Public Utilities Commission President Marybel Batjer thanked residents and businesses for their efforts in heading off additional blackouts during another heat wave the previous week and assured them that the CPUC is working with CAISO and the state's Energy Commission "on a joint investigation into the root causes of the events … that we intend to deliver to the governor later this month." (In a meeting Sept. 8, CAISO said the report could be finished as soon this week.)

But advocacy group CalCCA's *letter* to Newsom expressed implicit skepticism over the impar-



CalCCA, which has 24 members and four affiliates, called on Gov. Gavin Newsom to appoint an independent panel to review a pending joint agency report on the causes of the Aug. 14-15 rolling blackouts. | *CalCCA*

CAISO/West News

tiality of that effort.

"While the joint agencies are no doubt motivated to prevent future shortages, an objective eye will ensure that natural biases do not affect the characterization of the root cause or proposed mitigation measures," wrote Beth Vaughan, executive director of CalCCA, which has 24 members and four affiliates.

CalCCA said its proposed review panel should consist of "former agency experts," "non-market participants" selected by load-serving entities (including CCAs, investor-owned utilities and electric service providers) and "other key stakeholders."

Like other industry participants, CalCCA pointed to declining resource adequacy as being a key factor in the rolling blackouts, saying the emergencies revealed an "urgent need" to reform the existing RA rules administered by the CPUC and CAISO "and focus the CPUC's integrated resource planning process more rigorously on supply reliability."

The letter also called on state officials to consider a new set of policy initiatives:

- Use of the CPUC's procurement track of its 2021 integrated resource planning proceeding to "refine our understanding of near- and midterm reliability needs in the 2024-2026 time frame." This would entail identifying specific technical needs for requirements such as capacity, energy and evening ramp; establishing a "fair process" for allocating those needs to LSEs for procurement; and providing "appropriate market incentive and regulations" for behind-the-meter resources to act as energy and capacity resources. CalCCA also wants the commission to develop "a deeper understanding of import resource availability and institutional barriers to securing firm import resources." (See *Theories Abound over California Blackouts Cause*.)
- Legislative action to create a Central Reliability Authority responsible for coordinating the state's RA with CAISO and potentially procuring backstop RA. (See *Calif. Participants Float 'Central Buyer' RA Plan*.)
- Collaboration between the governor's office and California's congressional delegation to extend the federal investment tax credit to cover standalone storage resources.

WECC to Take Wider View

Additional analysis of the blackouts was a topic of discussion during a virtual meeting of WECC's Class 4/5 members (end users/state representatives) Wednesday, where an official said the regional entity aims to issue its own report on the emergency events by the end of the year.

Vic Howell, WECC director of reliability risk management, recounted to stakeholders that the organization followed every stage of the heat wave events and communicated developments to NERC as they unfolded. He noted that the RE tracked each CAISO energy emergency alert (EEA), all shedding of firm and non-firm interruptible load, and demand response usage.

"We also tracked transmission capacity and transmission limitations," Howell said. "Although transmission wasn't noted as being an issue during that event, the imports from outside California's footprint were difficult to find because the neighboring entities were experiencing the same heat wave."

Howell pointed out that CAISO issued 14 Level 1, six Level 2 and seven Level 3 EEAs over Aug. 14-19, equating to 62% of all EEAs issued in the Western Interconnection last year.

He said WECC's report would examine the blackouts through the framework of NERC's *event analysis* process but with a twist, "because we're forming a larger internal team that includes folks from planning and from the resource adequacy group, in addition to the typical analysis staff."

"We're going to look into those conditions more broadly as a heat wave event, not a California load-shed event, to identify any other indicators of reliability issues," Howell said. "The goal is to work really hard to produce a public report later this year with its findings, and there may be subsequent work that needs to happen after that."

Asked whether it would support — or even participate in — the kind of independent review being sought by CalCCA, WECC told *RTO Insider* that while it doesn't oppose such an independent analysis, its primary focus will be to conduct its own work through the NERC process.

"This process allows WECC to work with the entities involved to analyze what happened [and] why and identify lessons learned," the RE said. "As part of the process, WECC will seek input from NERC [subject matter experts] and industry (via WECC's Events Performance Analysis Subcommittee). WECC will look into the conditions on the system more broadly during the event to identify any additional indicators of reliability issues." ■

ERCOT News

Texas PUC Rejects Call to Reprice Error

Aspire Commodities Argued Bad Telemetry Led to 'Fictitious Price Spike'

By Tom Kleckner

The Texas Public Utility Commission last week dismissed a complaint asking that ERCOT be required to reprice a 2019 dispatch interval after a pricing error sent wholesale prices to their $9,000/MWh cap (*49673*).

Houston-based energy trader Aspire Commodities last year asked the commission to make generators repay the ERCOT market an estimated $18 million for what it called a "fictitious spike price" in May 2019. Calpine later admitted it had mistakenly notified ERCOT that it had taken about 4 GW of generation capacity offline when, in actuality, it was still operating. (See *ERCOT Asks PUC to Dismiss Trader's Complaint*.)

PUC Chair DeAnn Walker calls the commission's Sept. 10 meeting to order. | *Texas PUC*

In agreeing with an administrative law judge's *proposal for decision*, the commission said ERCOT's protocols don't mandate a price correction when an interval's pricing is affected by a market participant's "erroneous telemetry." At the same time, they suggested the grid operator work on a change request to make sure it better defines the process in the future.

"We shouldn't wait for there to be a really huge event to be having this discussion and this fight," PUC Chair DeAnn Walker said during the commission's open meeting Thursday. "ERCOT does have to rely on the input given by the market participants. There's no way to do it other than that, so when the market participant provides something that is wrong, ERCOT's left in a position not knowing what to input to get whatever is right."

"In this case, ERCOT applied the protocols correctly," said Commissioner Shelly Botkin, who joined the commission after serving as the grid operator's director of corporate communications and government relations. "I would like a conversation with ERCOT to see if there's a different way to do these things."

ERCOT staff last year said they would seek to strengthen telemetry data and work with stakeholders to evaluate alternatives.

In other action, the PUC approved adjusted energy efficiency cost recovery factors (EECRF) for Oncor (*50886*) and Texas-New Mexico Power (*50894*). The commission set Oncor's 2021 EECRF at $64.8 million and TNMP's at $5.9 million. Both companies reached unanimous settlements with all parties involved. ■

ISO-NE News

ISO-NE Challenged on Wind, Solar, Storage Revenues

Peaker Costs also Questioned

By Rich Heidorn Jr.

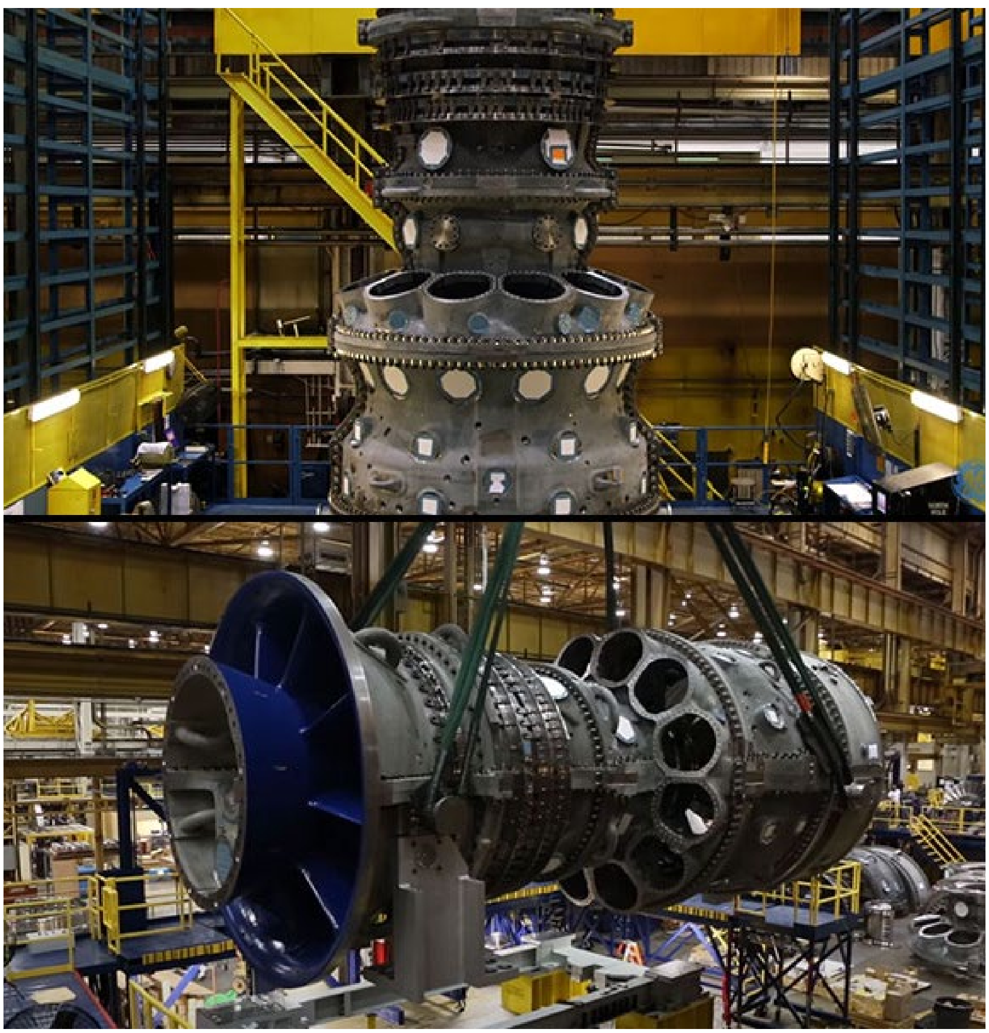
New England Power Pool stakeholders proposed changes to Forward Capacity Market (FCM) parameters and rules regarding the timing of delist bids during a marathon Markets Committee meeting Sept. 8-10.

Several of the proposed changes concerned ISO-NE consultants' estimates of the revenue potential of wind, solar and storage resources. Others concerned the inputs for the calculation of the net cost of new entry (CONE).

The committee will vote on the parameters and proposed amendments next month, but the votes are advisory under sections 8 and 11 of the NEPOOL Participants Agreement.

Abigail Krich and Alex Worsley of Boreas Renewables presented RENEW Northeast's critiques of the revenue figures proposed by *Concentric Energy Advisors* (CEA) and *Mott MacDonald*, two consulting firms hired by ISO-NE to update the FCM parameters for the 2025/26 capacity commitment period.

The key parameters — net cost of new entry (CONE) and offer review trigger prices (ORTPs) — can determine whether certain resources are competitive in the auction. Net CONE estimates the capacity revenue a new generator needs in in its first year of operation to make it economically viable; it is based on a "reference unit" — the most profitable commercially available generation technology for new entry in New England — currently General Electric's 7HA.02 gas-fired combustion turbine.



The GE 7HA.02 gas-fired combustion turbine is the "reference unit" used to calculate the cost of new entry (CONE) in New England. | *GE*

ORTPs are estimates of the low end of competitive offers for other classes of technology. New supply offers above the ORTP are presumed to be competitive and not an attempt to suppress the auction clearing price. An offer below the price is subject to a unit-specific review by the Internal Market Monitor to verify the resource's cost.

Offshore Wind

Krich *told* the committee Wednesday that the consultants' estimates of offshore wind costs are "totally outside and above the range of other estimates."

The RTO proposed using $5,876/kW (2019$) for the overnight capital cost for offshore wind, resulting in an ORTP of $32.31 to 32.51/kW-month, almost double the highest clearing prices *on record* and well above $2 to $7.03/kW-month range for the five auctions since 2016.

Krich said the assumption "is significantly higher than commercial expectations," based on RENEW's analysis of executed OSW contracts in New England and other publicly available data.

The RTO "used a bottom-up methodology for determining the capital cost assumption but has not presented cost-based benchmarking that supports any element of that analysis or the final capital cost assumption," she said.

[Note: Although NEPOOL rules prohibit quoting speakers at meetings, those quoted in this article approved their remarks afterward to clarify their presentations.]

One reason the RTO's estimates are too high is because its $70 million interconnection cost "does not align with cost estimates in completed ISO-NE interconnection studies for projects almost identical to the proposed project," Krich said.

She noted that the average interconnection cost for the 13 OSW projects studied by ISO-NE is $35.5 million, with only three of the projects having costs of $70 million or more, she said.

"Choosing the highest costs for projects studied by ISO-NE is not representative of

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what developers will typically face and should not be used in the determination of an ORTP," she said.

Krich also challenged the RTO's $4.2 billion engineering, procurement and construction cost estimate for an 800-MW OSW project, saying it should be closer to $2.1 billion.

RENEW will ask stakeholders to reduce OSW's capital cost assumption to $2,900/kW (2019$). At that cost, Krich said, OSW shows an almost $4/kW-month surplus based on its energy revenues and renewable energy credits, meaning it doesn't need capacity revenue to cover its costs and should have an effective ORTP of $0.

"Prices have been dropping really precipitously" in the last few years, she said. "We honestly don't understand where the higher numbers from ISO New England come from."

Deborah Cooke, ISO-NE's principal analyst for market development, who *presented* the RTO's proposed on net CONE and ORTP calculations, declined to comment on the discrepancies between RENEW's and the consultants' estimates.

Operating Lifetime

Krich also *challenged* the RTO's proposed 20-year asset life for all generation technologies in its ORTP model, saying lifetime expectations for wind and solar have increased beyond 20 years since the last ORTP recalculation.

"This leads to higher ORTP values, unnecessary review and potential mitigation simply because [the RTO] is not recognizing the full life expectancy of these technologies," she said.

"If certain technologies' expected revenues beyond 20 years are being neglected in the [minimum offer price rule] implementation, the capacity auction could clear at prices higher than equilibrium."

Battery EAS Revenues

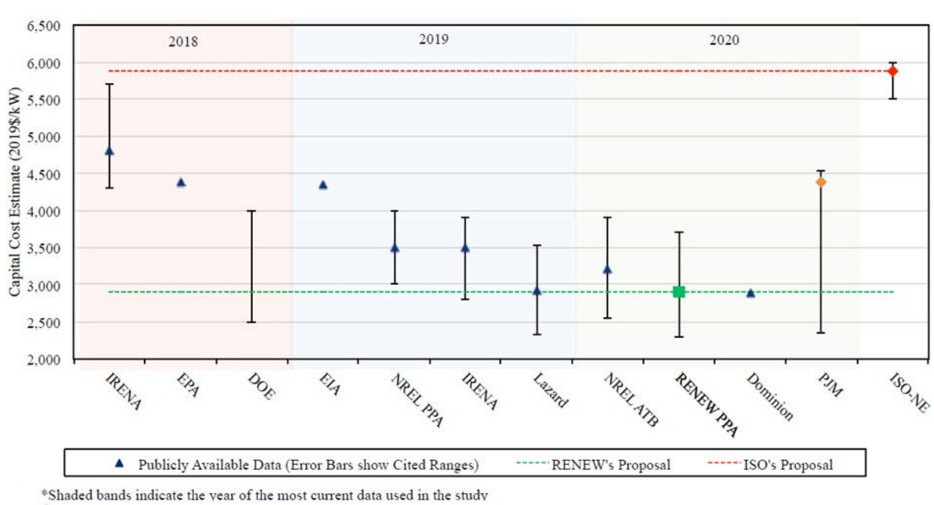
Krich and Worsley *said* CEA was overly conservative in estimating batteries' energy and ancillary service (EAS) revenues.

ISO-NE proposed using $1.87 to 2.67/kW-month (2019$) in energy and reserves revenue, which RENEW contends "underrepresents what a competent battery developer could earn in the New England markets" and fails to follow the guidelines the External Market Monitor recommended in December 2019.

RENEW proposed an ORTP value of $4.53 to 4.86/kW-month, compared to the RTO's $4.92 to 5.78/kW-month.

Worsley said the RTO's estimate shows no effort to optimize dispatch using available data at the time of dispatch, such as day-ahead market prices, and that its assumed charging timing is often suboptimal. It assumes no ability to respond to forecasted market conditions or to change strategies through the year, making it unable to capture daily, monthly or seasonal market changes, he said.

Using the EMM "continuous information" approach, Worsley said, the batteries would have 52% higher energy and reserve revenues than assumed by CEA. RENEW recommended the RTO adopt a more conservative calculation by the Massachusetts Attorney General's Office, which would result in a 41% increase.



Publicly available data on offshore wind capital costs | *RENEW Northeast*

"A competent [energy storage resource] owner should be assumed to use publicly available information known prior to dispatch," he said. "These are common and not difficult to implement, and we believe [they] should have been appropriately within CEA's scope of work."

Ben Griffiths, an energy analyst for the attorney general, said the deterministic spreadsheet model CEA used resulted in "materially lower" EAS revenues than the *basic linear optimization model* he used. "It's the wrong modeling tool for batteries," he said of CEA's choice.

The CEA model assumed the battery charges only during fixed windows, rather than when prices are expected to be lowest, Griffiths said. It also assumes it discharges when prices reach a fixed threshold — not adjusted for time-of-day or season — that often misses higher values later in the day. It also limited cycling to once-per-day, even if when it would be advantageous to cycle more than once, he added.

"EAS revenue estimates for ORTPs should not be based on the rosiest of predictions, but neither should they [be] based on the assumption of bumbling incompetence," Griffiths wrote in a *memo* summarizing his research.

Inputs for Reference Unit Net CONE Calculation

Bruce Anderson of the New England Power Generators Association (NEPGA) *identified* several changes the group wants ISO-NE to make to input variables for the reference unit net CONE calculation.

Anderson called for using a historical premium on intraday gas costs during those hours when the reference peaker unit is dispatched in real time, as well as including the costs of firm gas delivery and sellback costs and imbalance charges for gas nominated but not consumed.

He also challenged the RTO's proposal to use the lower heating value (LHV) for the nominal heat rate, saying it should use the higher heating value (HHV), on which gas prices are based. (HHV is the *total heat obtained* from combustion of a specified amount of fuel at 60 degrees Fahrenheit. The LHV is the HHV minus the latent heat of the water vapor formed by the combustion of the hydrogen in the fuel. HHV is typically about 11% higher than the LHV.)

NEPGA said the RTO's proposal that the reference unit be located in New London County, Conn. — within 2 miles of both the Algonquin interstate gas pipeline and a 345-kW transmission line — is unrealistic because there are no greenfield sites permitted for industrial use that meet the criteria. It said it should extend

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the lateral and radial lengths to 5 miles to reflect the difficulty in finding suitable parcels.

Anderson also said the RTO improperly assumed there would be no compression or lateral upgrade costs to ensure gas delivery.

NEPGA also disputed the monetization of bonus depreciation, saying the proposed net CONE value is insufficient incentive for a sale lease back financing agreement or other tax equity financing. It also asked for a lower debt/equity ratio than the 55/45 proposed by ISO-NE to reflect merchant market risk and the inclusion of "reasonable estimates of owner's cost and contingency," which were omitted by the RTO.

LS Power's Mark Spencer complained that Mott MacDonald had failed to provide information he said he had been requesting for three months regarding several of the company's inputs and assumptions.

"We're looking to have a vote next month, and the questions are still unanswered, so I don't know what else to do other than to register an objection that it doesn't seem like the information is forthcoming," Spencer said.

Calpine's Brett Kruse predicted the disputes over the assumptions will result in litigation before FERC and potentially federal court.

"They're going to have to stand on their data as opposed to hiding behind the cloak of secrecy here. … My hope is that the ISO and Concentric are really riding herd on Mott MacDonald. Quite frankly, I have not been impressed with what I've seen from them."

CEA's Danielle Powers, who led its *presentations* on CONE and ORTP calculations, declined a request to respond to the criticism. Mott McDonald referred a request for comment to ISO-NE.

Change to Delist Bid Threshold

Sigma Consultants President Bill Fowler *presented* a proposal on behalf of Calpine and Vistra Energy, and Vistra's Dynegy unit, to address the disadvantage he said is faced by resource owners having to lock in static delist bids four months before the Forward Capacity Auction.

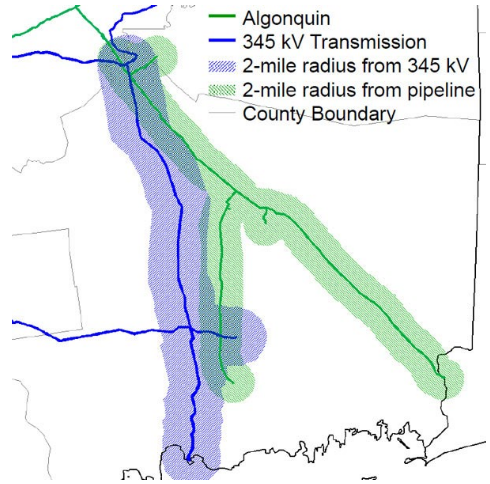
The IMM is proposing that the dynamic delist bid threshold (DDBT) be set equal to its expectation of the next auction clearing price. All delist requests above this level must become static bids.

Fowler said locking in prices for statics is much riskier and more expensive than a dynamic bid, creating a disincentive to offer at prices only slightly above the DDBT. "Failing to recognize this will bias offers and may lead to clearing prices below competitive levels," he said.

The lock-in means resource owners cannot account for market and regulatory changes that occur between October and February, including the installed capacity and local sourcing requirements, waiver requests, and state and federal regulatory actions, including FERC action on FCM questions, Fowler said.

Resources making static delist offers will add a risk premium to account for these costs and risks, Fowler said. If the resource's competitive price is greater than the DDBT but less than the DDBT plus the margin, he said, resource owners are incented to not bid the competitive price, and instead bid the DDBT minus 1 cent.

"The resource owner has to hope that his offer to exit at DDBT minus 1 cent clears. If it doesn't, the resource is stuck with a CSO [capacity supply obligation] at a price it didn't want."



The New England Power Generators Association challenged ISO-NE's proposal that the "reference unit" be located within 2 miles of both the Algonquin interstate gas pipeline and a 345-kW transmission line. NEPGA says there are no greenfield sites permitted for industrial use that meet the criteria. | *Levitan & Associates*

It also means the Monitor and market will never see the true competitive offer; the resource may take on a CSO it doesn't want; and the FCM may clear at an uncompetitive level, he added.

Fowler noted the RTO's analysis of the new DDBT method found it misses the actual clearing price by 25%. At a $2 clearing price, a 25% margin equals 50 cents; at a $4 clearing price, it is $1.

As a result, Fowler said the DDBT should be set at a "reasonable margin" — 50 cents to $1/kW-month — above the expected clearing price. "A margin of this size would help address this inaccuracy," he said. ■

ISO-NE News

Tiny RI Seeks its Share of Offshore Wind Jobs

By Michael Kuser

Rhode Island boasts the first and only offshore wind farm in the Western Hemisphere, the 5-MW Block Island facility, but the smallest state in the U.S. has seen its modest OSW procurement goals eclipsed by surrounding states like Massachusetts, Connecticut, New York and New Jersey. (See related story, *New Jersey BPU OKs 2nd Offshore Wind Solicitation*.)

Despite only being committed to buy slightly more than half the output of the 704-MW Revolution Wind, a joint project between Ørsted Wind and Eversource Energy, the Ocean State is pioneering workforce development for the new industry.

The Revolution project will create hundreds of construction jobs and include $100 million in port infrastructure improvements in Rhode Island and Connecticut, which contracted for 300 MW.

"'Thirty-five by 35' is what we like to talk about, as 35 GW by 2035 on the East Coast of the U.S. looks like a realistic aspect," attorney Michael Donegan, of Orson and Brusini, told a meeting on OSW hosted Thursday by the Environmental Business Council of New England.

Meeting that goal would mean adding 300 to 400 turbines a year, or about one a day, Donegan said.

"So, the demand for land, for port space, for vessels, workers and everything is very high," Donegan said. "If you look at the addressable market [and] you start to draw circles around different ports ... there are 115 ports that could be used for offshore wind marshalling and service up and down the East Coast ... and there's a fairly large number of potential wind farms that can be accessed from Rhode Island."

The U.S. Bureau of Ocean Energy Management has so far designated 17 lease areas with potential capacity of more than 21 GW along the coast.

Innovation Hub

The state is also moving its rust belt economy, parts of which date to the dawn of the Industrial Revolution, into the new era of renewable energy. (See *RI Seeks to Lead with 100% Renewable Goal*.)

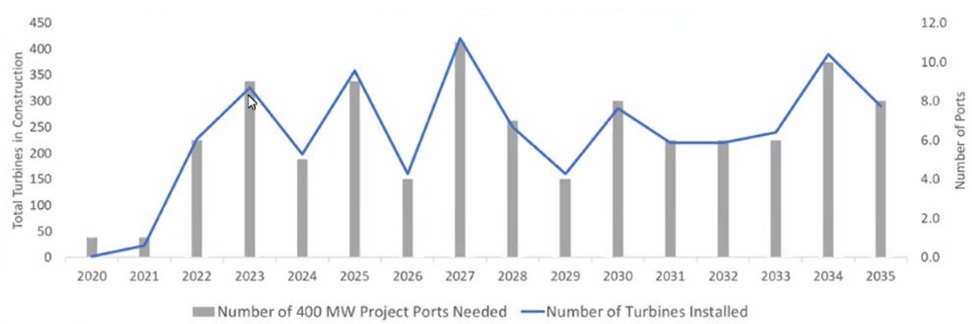
For example, the Providence and Worcester Railroad, founded in 1844, last year sold its artificial quay in Narragansett Bay to a firm founded in 2018, RI Waterfront Enterprises, which in turn is digging foundations strong enough to support the huge cranes needed to load and offload wind turbines. The company is partnering with *Waterson Terminal Services*, which operates the Port of Providence (ProvPort), to develop the 36-acre South Quay site across the Providence River.

"There will be elements to the South Quay project that will allow for transfer back and forth between *ProvPort*; we're going to put a [roll-on/roll-off] ramp in to match up with the one that ProvPort has, so cranes and other things can go back and forth, which will be a nice way of sharing equipment and costs," said Jay Borkland, senior engineering manager and renewables lead for Lloyd's *Register* Energy Americas.

Earlier this year, Ørsted announced the opening of an OSW innovation hub in Providence, which already hosts its U.S. headquarters, to help identify and finance related enterprises, especially next generation technology.

"With Ørsted being the global leader in the development of offshore wind, and Eversource being New England's largest energy company and transmission builder, we're really well positioned to bring offshore wind to the Northeast," said Stacy Tingley, senior stakeholder communications manager at Ørsted.

The Revolution Wind project about 15 miles south of Newport will comprise approximately 100 turbines and be operational by the end of 2023, she said.



Projected number of ports needed (400 MW throughput) to meet projected OSW turbine installation demand | *Lloyd's Register*

Regional and Global Market

Laura Hastings, deputy program director for the state Department of Labor and Training's *Real Jobs Rhode Island*, said she believes the state has the first OSW certification program in the country for high school students looking to work in the industry, *Wind Win RI*.

"We have a mantra: 'You can't be what you can't see.' So we take these kids out from urban high schools, and some of them have never been on a boat, never been to Block Island, or seen a wind farm," Hastings said. "Because the jobs aren't here yet ... it's a development process to keep moving forward, to expose the kids to what's out there and hope that it triggers something in them."

The state also offers a renewable energy associates program where young people can go to community college for two years without paying tuition, and it partners with the *Business Network for Offshore Wind* to train companies that want to work in the industry.

Borkland reminded participants that the region is part of a global market, with a project pipeline of approximately 190 GW through 2030. "That's an incredible amount of offshore wind going on, and if you think about the transition to this clean energy economy, the number of workers that will be needed, the number of components, everything is going to be stretched, which means a tremendous opportunity, also in Rhode Island, for manufacturing hubs to develop and for these innovation centers to grow."

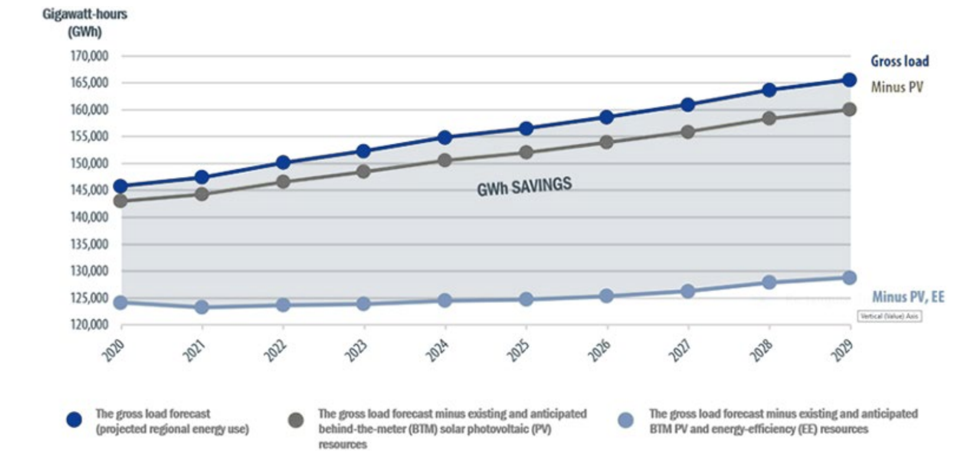
Regionalization and cooperation with other states makes sense in New England, as no single state can get all the development, Hastings said.

"If Rhode Island's economy is robust, southeastern Mass[achusetts] is, and Connecticut and vice versa," Hastings said. "There's this constant chatter of American individualization, but recognizing that we aren't going to get it all is important, that working together is going to be more helpful." ■

ISO-NE News

NEPOOL Stakeholders Split over PfP for EE

By Rich Heidorn Jr.



Projected annual energy use with and without EE and PV savings | *ISO-NE*

ISO-NE will proceed with its proposal to eliminate capacity performance payments for energy efficiency resources, despite its failure to win endorsement by the New England Power Pool Markets Committee.

The RTO announced last month it supported the rule change, which was initially proposed by LS Power. (See *ISO-NE to Eliminate Performance Payments for EE*.)

The proposal won 55.57% in a sector-weighted vote of the MC on Sept. 8, falling short of the 60% threshold for endorsement. The Supplier and Transmission sectors were unanimous in support of the proposal, which also was backed by most members of the Generation sector. It was opposed by a majority of the Alternative Resources and all of the End User members voting. All 49 Publicly Owned Entity members abstained.

In a *memo* to stakeholders, Henry Yoshimura, the RTO's director of demand resource strategy, said the change is a recognition that EE resources "permanently reduce energy consumption [and] create a reduction of demand across all conditions and prices."

Capacity performance payments, which are intended to provide resources with incentives to provide energy or reserves in real time, should be limited "to those resources whose performance could be at risk," Yoshimura said, citing generators, imports, batteries and demand response. In contrast, EE has no real-time performance and thus can't trip offline, he said.

Abigail Krich of Boreas Renewables spoke against the proposal, calling it "real slippery slope logic for Pay-for-Performance."

[Note: Although NEPOOL rules prohibit quoting speakers at meetings, those quoted in this article approved their remarks afterward to explain their positions.]

She said settlement-only generation, most variable generation and all non-dispatchable generation are similar to EE in that "they're really not able to increase output in response to a scarcity condition," such as the one that occurred on Sept. 3, 2018.

ISO-NE's Internal Market Monitor and External Market Monitor backed the change.

"The capacity provided by EE resources during a scarcity condition is not measured," said David Naughton, manager of surveillance and analysis for the RTO. "It's also not clear to me that EE resources have the ability to alleviate capacity shortage conditions in real time."

Pallas LeeVanSchaick of EMM Potomac Economics agreed with Naughton, saying PfP rules are intended to incentivize good performance that is verifiable.

"The nature of energy efficiency is that it's not really possible to assess performance in the kind of time frame that you need to make PfP work," he said. "It's really not a mechanism that's appropriate for something like energy efficiency."

LeeVanSchaick also rejected concerns that the loss of the revenue would stifle investment in EE.

Mark Spencer of LS Power urged stakeholders to "take a look at the merits of the argument rather than the emotional issues," noting the Monitors' endorsement. "It's a better market design."

Spencer also said it was a mischaracterization to suggest the change abrogated a compromise that emerged in the Demand Resources Working Group (DRWG) report after 18 months of stakeholder work. (See "Assessing EE Resource Performance," *NEPOOL Markets Committee Briefs: Sept. 18, 2019*.) The MC approved a proposal by the New England States Committee on Electricity with a 94% vote. The proposal, which effectively removed EE from balancing ratio calculations for scarcity events during off-peak hours when EE is not measured, was approved by FERC in July (ER20-1967).

The discussions were prompted by the Sept. 3, 2018, scarcity event during off peak hours, which resulted in capacity performance payment credits exceeding charges by $7.8 million because EE had been eliminated from the numerator of the balancing ratio but not the denominator.

Spencer said the DRWG solution "was not a compromise." He said stakeholders were faced with the choice of the lesser of two evils, and "that doesn't result in a durable market design."

The change left EE with the ability to earn PfP bonuses, or be charged penalties, during peak hours.

Synapse Energy's Doug Hurley, the leader of the AR sector, did not respond to requests for comment on the MC debate.

Hurley had *presented* the DRWG solution to the committee in March on behalf of his client, EE aggregator Vermont Energy Investment Corp. "I understand that some participants are frustrated that EE resources are subject to PfP only during DR on-peak and seasonal-peak hours," he had said. "Our proposal is separate from addressing that issue."

Calpine's Brett Kruse said he supported eliminating PfP payments to EE but also agreed with Krich on the need for a broader examination to limit PfP payments to only those resources with "production risk."

"If something breaks during one of these PfP events, then they're paying the guys that are there picking up the slack. There are probably some other [resources] that fit much like EE, and those resources should be excluded from the pool as well."

Yoshimura said ISO-NE will ask FERC to approve the change effective 60 days after the filing is made. ■

ISO-NE News

NEPOOL Markets Committee Briefs

The New England Power Pool Markets Committee began a three-day meeting Sept. 8 at which stakeholders discussed updated parameters for Forward Capacity Auction 16 for 2025/26. (See related story, *ISO-NE Challenged on Wind, Solar, Storage Revenues*)

Before those discussions, members heard an update on ISO-NE's next FERC Order 841 compliance filing and its proposal to sunset the Forward Reserve Market (FRM).

Order 841 Compliance Update

ISO-NE's Jennifer Wolfson gave the committee a presentation on the RTO's plans for responding to FERC's Aug. 4 order on its second Order 841 compliance filing. (See *FERC OKs Most of ISO-NE 2nd Storage Compliance*.)

One set of changes responds to FERC's concern that the RTO's Tariff language preventing double payment for charging energy at the retail and wholesale levels could allow host utilities to decide whether an electric storage resource (ESR) may participate in its markets. The changes would be effective in the first quarter of 2021.

The other changes address FERC's directive that ISO-NE add to its Tariff the mechanism by which it will account for state of charge and duration characteristics in the day-ahead energy market. The RTO will propose four day-ahead bidding parameters: initial state of charge; maximum state of charge; minimum state of charge; and round-trip efficiency. They would be effective Jan. 1, 2026.

The RTO also will propose several clean-up revisions to Appendix C of the Tariff.

ISO-NE has asked FERC to allow it to make the filing by Dec. 7. It is targeting a vote by the MC in November and will seek Participants Committee endorsement in December.

Green Mountain Power's Stafford Hill Solar Farm in Rutland, Vt., was the first in the region to use battery storage to reduce peak demand. | *UVM*

The commission's August order also rejected language applying transmission charges to an ESR when that resource is charging for later resale in wholesale markets and is not providing a service, and to include a basic description of ISO-NE's metering methodology and accounting practices for ESRs.

The commission also disagreed with the RTO's contention that storage resources will always be providing a service when charging for later resale in the wholesale markets and should thus be exempt from transmission charges. It said ISO-NE should account for self-scheduled megawatts when calculating an ESR's contribution to regional network load.

The RTO's response on the transmission charge exemption will be discussed at the Transmission Committee and Participating Transmission Owners Administrative Committee.

Forward Reserve Market Sunset

The committee also heard a presentation on the RTO's proposal to sunset the FRM on June 1, 2025, to avoid conflicts with its proposed Energy Security Improvements (ESI) initiative. (See "ISO-NE Seeks to Sunset Forward Reserve Market," *NEPOOL Markets Committee Briefs: Aug. 11-13, 2020*.)

The FRM awards obligations for 10-minute non-spinning reserves and 30-minute operating reserves.

Transmission investments and market changes, including the anticipated implementation of ESI, have or will relieve many locational constraints and reward resource flexibility, the RTO says, making the FRM unnecessary.

ISO-NE plans an MC vote on the proposal in October, followed by a PC vote in November and a FERC filing by the end of the year.

The RTO's Jonathan Lowell presented two versions of the proposed Tariff language because of uncertainty over when FERC will rule on the ESI proposal, which was filed in April. (See *ISO-NE Sending 2 Energy Security Plans to FERC*.)

One version would be filed if an order on ESI is received by the end of the year that accepts the parts of the initiative that would supplant the FRM — specifically, provisions regarding 10- and 30-minute reserves in the day-ahead market.

Another version includes "contingency language" in case FERC does not act by the end of the year.

If the commission issues an order before the end of the year but rejects the ESI reserves provisions, no sunset filing would be made until the RTO wins approval of a market design that includes day-ahead reserves.

Lowell responded to a stakeholder question about why the RTO wouldn't sunset the FRM for FCA 15 to avoid an ESI/FRM overlap.

Lowell said bidders have already made decisions for FCA 15 based on the net cost of new entry and other parameters already set for the auction.

"Setting the FRM sunset to align with [capacity commitment period] 15 at this point in time is not a feasible course of action," the RTO said.

Generation Information System Referral

The committee approved the referral to the NEPOOL Generation Information System (GIS) Operating Rules Working Group of requests to improve uploads by independent verifiers and enable application programming interface (API) access to the account holder public report. The GIS issues and tracks certificates for all generation and load produced in the ISO-NE control area as well as imports.

PowerDash, which provides software for the management and monitoring of alternative energy installations, asked the GIS Usability Group to address a problem with the uploads of "independent verifiers" — third-party meter readers.

Currently, if a facility that has not been assigned a "verifier" status is included in a comma-separated value (CSV) upload by a third-party meter reader, the entire upload fails. The proposed change would provide an error message indicating that the facility is not present in the account but would allow all other data to be uploaded. PowerDash said the change would reduce the need for manual crosschecks between the GIS account holders' internal systems and the GIS.

The Usability Group also received a request from *SRECTrade*, which provides transaction and management services for solar renewable energy credits, to enable API access to the account holder public report. Currently, the API requires an account ID for each account to which the user is delivering certificates. ■

— Rich Heidorn Jr.

MISO News

MISO Market Subcommittee Briefs

RTO Reviews Stakeholder Feedback on Updating VoLL

Stakeholders would prefer MISO use RTO-specific data as much as possible as it considers whether and how to update its value of lost load (VoLL), Michael Robinson, principal adviser of market design, *told* the Market Subcommittee on Thursday via teleconference.

MISO's VoLL is currently a flat $3,500/MWh and is used to set the upper value of the operating reserve demand curve and LMP cap. It essentially determines at what price customers would prefer interruption to paying the marginal cost of service. The RTO has been considering how it can vary the value to account for differences in season, time of day, region and load type, among other factors. (See *MISO Revisits Scarcity Pricing Rethink*.) Robinson opened the discussion with a lengthy analogy about trying to find the right type of ax for felling a tree, but only having other types of axes.

The RTO proposed several options for refining the VoLL. Robinson said stakeholders showed little to no interest in using previous studies that did not use Midwest-specific data, including one done by London Economics on ERCOT's VoLL.

Rather, they prefer that any analysis use the most recent data available out of MISO, including the possibility of doing a completely new study. This approach, however, would likely take up to a year and a half, Robinson said, and be "extremely expensive to conduct."

Customized Energy Solutions Ted Kuhn asked whether the effort would be "a waste of time."

Independent Market Monitor David Patton chimed in, saying updating the VoLL is "as far from a waste of time as any [effort] I can think of." He said MISO needs to ensure the value of reliability is embedded in its prices and that scarcity prices "are not close to being right."

"This is critically important work," Patton said.

MISO will continue to narrow down its potential approaches based on stakeholder feedback, which is due Sept. 30, and further discuss the issue at the subcommittee's meeting next month.

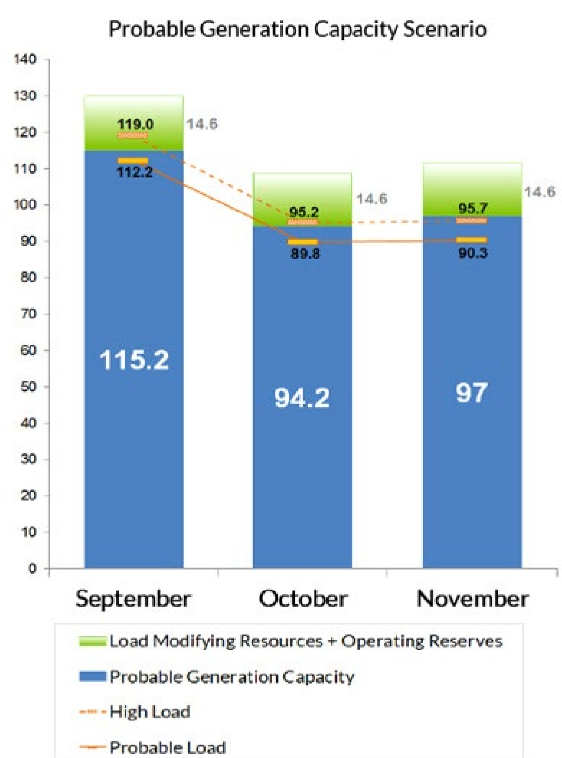
Fall Seasonal Outlook

MISO expects adequate resources for the upcoming fall season, though planned generator outages are expected to rise this year because of delays related to the COVID-19 pandemic.

The National Oceanic and Atmospheric Administration is predicting higher-than-usual temperatures for MISO South and parts of the RTO's eastern footprint this fall, Eric Rodriguez, resource adequacy coordinator, *told* the subcommittee. The RTO's preliminary expected peak load for the season is 113 GW, compared to an expected 152 GW of available capacity.

Planned outages are expected to peak in mid-October, as they usually do, but MISO expects them to be slightly higher this year, as generators rescheduled their spring maintenance during the height of the pandemic, Rodriguez said. Still, the highest risk for a maximum generation event is in September, when a worst-case scenario of higher-than-expected forced outages and demand could lead the RTO to narrowly exceed its 14.6 GW of available load-modifying resources and operating reserves. ■

— Michael Brooks



MISO's preliminary fall 2020 resource adequacy projections (GW). The RTO said maximum generation events could occur in September in a worst-case scenario. | *MISO*

MISO News

FERC Refuses Complaint over Wabash's DG Rules

By Amanda Durish Cook

FERC has sided with the Wabash Valley Power Association in a skirmish with a cooperative member over its distributed generation rules.

Tipmont Rural Electric Membership Cooperative must continue to abide by Wabash's Distributed Generation Policy, FERC ordered Friday. The commission said Wabash's policy is effective as of June 29 (*ER20-1683-001*).

The rural co-op in eastern Indiana has taken issue with Wabash's DG supply contract since 2018, when it requested early termination of its obligations under it. Tipmont earlier this year said that Wabash's freshly filed Distributed Generation Policy under a new tariff section was anticompetitive because it establishes Wabash as the "exclusive buyer of power from its potential distributed competitors" and limits Tipmont's energy purchases to distributed resources of 10 kW or less, or up to 25 kW with Wabash's approval. Tipmont is under an all-requirements wholesale power supply contract with Wabash with the exception of the small, distributed energy allotments through 2050.

FERC batted away the distribution co-op's complaints over the contract.

"We are not persuaded by Tipmont's interpretation of its contracts and related arguments about the anticompetitive effects of the Distributed Generation Policy. Tipmont contracted to purchase from Wabash all required electric power to operate Tipmont's system. As Tipmont executed all-requirements contracts with Wabash, there are no provisions allowing Tipmont to transact with distributed resources," FERC said.

However, FERC acknowledged that Tipmont is the only one of Wabash's two dozen members that has neither adopted a resolution agreeing to abide by the DG policy nor authorized Wabash to file an implementation plan under the Public Utility Regulatory Policies Act on its behalf. Because of that, FERC directed Wabash to add language to its contract specifying that the policy only applies to non-qualifying-facility DG. The commission said the upcoming compliance filing should apply to Tipmont and "any other member who has chosen to retain its PURPA purchase obligations."

Otherwise, FERC disagreed with Tipmont's claim that Wabash's distribution supply contracts only stipulate that Wabash supplies Tipmont's "electrical needs as measured at the wholesale delivery point." The commission said it found nothing in the contracts to support the co-op's argument.

"We note that under this interpretation, if Tipmont were able to purchase its total energy requirements from generation located on Tipmont's distribution system, Tipmont would no longer have any obligation to purchase energy from Wabash. This would undermine the purpose of a long-term, all-requirements contract, in which Tipmont elected to purchase all needed energy from Wabash, and Wabash agreed to fulfill Tipmont's energy needs by making long-term arrangements," FERC said. ■

| Tipmont REMC

MISO News

MISO, SPP to Conduct Targeted Transmission Study

'Game Changer'?

By Tom Kleckner

MISO and SPP on Monday announced a yearlong transmission study to identify projects with "comprehensive, cost-effective and efficient upgrades" after their staffs once again failed to agree on an interregional project this year.

The RTOs *said* the joint study will focus on solutions they believe will "offer benefits to both [the] interconnection customers and end-use consumers" of their members. The study's expanded scope will include projects near the RTOs' seam that support both organizations' interconnection processes.

Cost allocation will be addressed "once there's a better sense of the types of projects and benefits that might result," an SPP spokesman said. Previous MISO-SPP studies that have evaluated interregional projects' cost allocation have failed to produce any new transmission.

"A fundamental issue facing grid transformation is the lack of transmission at requested connection points," SPP CEO Barbara Sugg said in a statement. "Working together, MISO and SPP can target those areas where there are mutual benefits on both sides of our [seam]."

SPP CEO Barbara Sugg | © *RTO Insider*

In doing so, the RTOs tacitly acknowledged stakeholder frustration over their inability to identify joint projects under their Joint Operating Agreement. MISO in August all but admitted the grid operators will once again come up empty after a fourth joint study in six years. (See *MISO, SPP Close to Ruling out Joint Projects Again*.)

MISO CEO John Bear | © *RTO Insider*

"[Stakeholders] have told us that we need a better solution that prioritizes projects that address these gaps," MISO CEO John Bear said in a statement. "Collaborating in this way gives us the opportunity to explore potential improvements within our own interconnection processes while informing longer-term regional transmission planning efforts in both MISO and SPP."

Clean Energy Groups Cheer

The American Wind Energy Association, Clean Grid Alliance and Advanced Power Alliance applauded the RTOs for what they labeled "a game changer." The organizations released a joint statement that said the study will be a "new milestone" in coordination between the RTOs, their leadership, state regulators and other stakeholders.

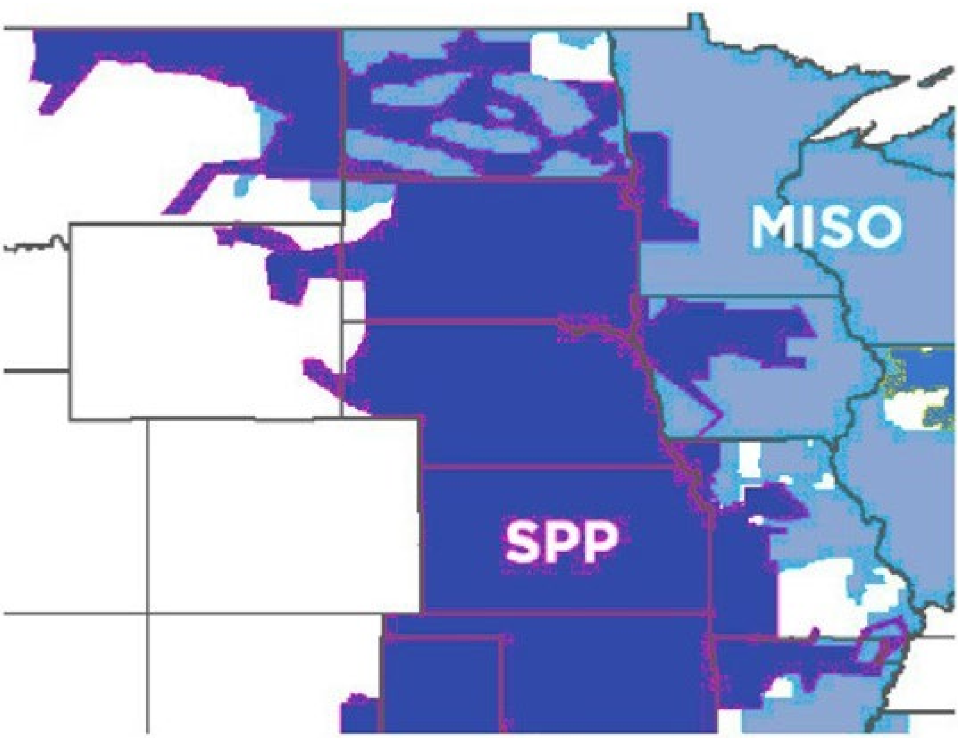
"Working together, the two [RTOs] can enable and expedite needed transmission development on their seam and address related generation interconnection challenges," the organizations said. "This forward-thinking partnership includes an aggressive, but achievable, timetable, and we pledge to provide any assistance necessary to support this effort. Coordinated transmission planning will allow consumers across the country to harness the economic and environmental benefits of renewable energy."

The RTOs expect the joint study to begin in December and will include opportunities to share information with stakeholders and solicit their input. The grid operators' respective boards will have to approve any identified projects before they can move forward, as the study will be done outside their tariffs.

Aubrey Johnson, MISO's executive director of system planning and competitive transmission, told a meeting of the RTOs' state regulators that some of the study's details are still being worked out but that its initial focus will be identifying issues that have benefits and should be pursued.

"The effort is an attempt to perform an alternative approach to address the historical challenges in targeted areas of the seam," Johnson told a meeting of the Organization of MISO States and SPP Regional State Committee' Seams Liaison Committee. "It's a little bit different from some of the things we've done under the JOA. We're trying to do this outside all the other work we've done."

SPP Vice President of Engineering Antoine Lucas told the committee that the study "creates some flexibility to see if there are some potential solutions ... to get over the hurdles and challenges we've had in the JOA studies." ■



The MISO-SPP seam | *ACES*

NYISO News

NYISO Business Issues Committee Briefs

BIC Approves Extra 10 MW in Con Ed Steam Exemptions

NYISO stakeholders at the Business Issues Committee on Wednesday recommended the Management Committee approve increasing by 10 MW the exemption from real-time generation penalties for units that supply the New York City steam distribution system.

Chris Hargett of Consolidated Edison *presented* the rationale for increasing the exemption, currently at 523 MW, for the company's East River Units 1, 2 and 6, specifically a number of projects completed over the past several years that have increased the efficiency of Unit 6.

Hargett said that while Con Ed does not sell excess or unneeded electricity from the winter-peaking steam system on the wholesale market, the power is nonetheless available to NYISO for reliability reasons. Under normal conditions, the utility only dispatches the units to meet steam demands, given their operating characteristics.

If the MC approves the Tariff revision at its Sept. 23 meeting, and the Board of Directors does so in October, NYISO will make a Federal Power Act Section 205 filing with FERC.

Committee Approves ESR Capacity Bidding Rules

The BIC also recommended MC approval of proposed energy storage resource (ESR) bidding rules for installed capacity suppliers with an energy-duration limitation.

Market Design Specialist Sarah Carkner *presented* the ISO's proposal for Tariff revisions specifying that such ESRs bid or schedule a bilateral transaction for their full injection range for all hours during the peak load window and to bid their full withdrawal range for all hours outside of the peak load window, or notify the ISO of a derate.

Given MC support and board approval, the ISO will later this year or in early 2021 submit the proposed Tariff revisions to FERC and update the ICAP Manual to accommodate the expanding capacity eligibility rules, at which time changes to the availability calculation for ESRs will be incorporated, Carkner said.

Incorporating Wholesale Market Solar in Dispatch, LBMP

The BIC recommended the MC approve revising market rules applied to wind energy resources to also encompass solar resources.

In the calculation of the locational-based marginal prices for wind and solar resources, the lower dispatch limit would be zero, and the upper dispatch limit would be the supply forecast, NYISO analyst Cameron McPherson *said*. The dispatch definitions would apply to both the day-ahead and real-time markets.

Solar resources would submit flexible offers indicating their willingness to generate at various price levels and would also receive, and be expected to respond to, NYISO economic dispatch instructions (down only) when prices are below their offer.

The proposed revisions leverage a set of existing rules and processes that require only incremental changes in order to accommodate solar, which is a prerequisite to deploying the co-located storage resource (CSR) market design within the hybrid storage model, McPherson said.

Additional resource flexibility will improve the ISO's ability to accommodate increased levels of intermittent resources, and solar resources will be able to signal their economic willingness to generate, minimizing the need for out-of-market curtailments and self-directed curtailments.

If the MC and board approve, the ISO will file the proposed Tariff revisions at FERC in November/December and look to implement them in 2021.

Credit Policy Enhancements

The BIC recommended, with several abstentions, that the MC approve changes to NYISO's policy on extending unsecured credit to public power providers and other government entities.

The proposed Tariff revisions would stipulate that government entities are eligible for up to $1 million in unsecured credit, as public power entities currently are, and require that a public power or government entity be an investment-grade customer to be eligible for $1 million in unsecured credit.

FERC in April granted the ISO a nine-month waiver allowing it to grant up to $1 million in unsecured credit to government entities that do not meet the current Tariff definition of a public power entity.

The ISO's manager of corporate credit, Sheri Prevratil, *said* that NYISO recognizes there is

Con Edison won approval from the NYISO BIC of a proposal to increase the exemption from real-time generation penalties for units that supply steam to New York City. | *Con Edison*

some inherent risk associated with extending unsecured credit as a general matter, and that the proposed changes were consistent with all other customers who qualify for unsecured credit under the Tariff.

Investment-grade customers are those with a senior long-term unsecured debt rating of BBB- or higher by Standard & Poor's or Fitch, or Baa3 or higher by Moody's Investors Service. A customer without a rating may request a NYISO equivalency rating using its audited financial statements.

If the MC and NYISO board approve, the ISO will make a Section 205 filing in October.

The BIC also recommended MC approval of *proposed* enhancements to the ISO's current transmission congestion contracts (TCC) auction practices and credit policy.

Currently, the second year of a two-year TCC is the only one for which the ISO solely holds a margin to cover declines in value relative to auction-determined market-clearing prices. Market participants support the ISO holding as collateral the higher of the payment obligation or holding requirement until the second year is paid, rather than paying for both years in advance, Prevratil said. The ISO also proposes using auction prices to calculate requirements for TCCs subject to only the historical congestion rent credit requirement.

NYISO currently does not recalculate the credit requirement for the second year until approximately one year after the initial award. The ISO recommends administering a one-year round for TCCs covering the same period as the second year five to six months earlier, which will ensure more current pricing is used.

If the MC and board approve, the ISO will submit the changes to FERC in the fourth quarter. ■

— Michael Kuser

Pritzker Commits to Working with PJM on Climate Goals

By Michael Yoder

Illinois Gov. J.B. Pritzker told a virtual gathering of PJM stakeholders Wednesday that his state's transition to cleaner energy is "non-negotiable," but he emphasized the need for collaboration with the RTO.

Pritzker delivered the keynote address for PJM's General Session stakeholder meeting, headlining a group of diverse speakers on the topic of resource adequacy and the RTO's capacity market.

Throughout his speech, the governor stressed the "urgent need" to address climate change and pointed out that it is a common goal among many states in PJM.

"We all know well that systems transform faster when all their players and parts are willing to move," Pritzker said. "So, it's important that we work together to move toward an ethical, affordable, clean and renewable energy economy as soon as we can."

Pritzker said he hopes PJM and MISO will work with Illinois and other states in allowing capacity markets to reflect their desire for clean energy.

"Beyond addressing capacity market issues, we're interested in working with PJM to make further progress toward rules that recognize and enhance clean energy to advance the clean energy economy," he said. "With a commitment to doing what's right, we can pave the way to a clean and renewable economy, not just for Illinois, but for all of PJM's member states and, in turn, the nation."

"Bold action," he said, is needed to tackle climate issues in the Midwest as the region sees record-breaking flooding and extreme droughts. He said that his energy *plan*, released last month, prioritizes both consumers and climate change. He said he welcomes the help of PJM and its stakeholders to achieve its goals. (See *Exelon to Close Ill. Nukes as Gov. Touts Clean Energy Plan*.)

"I know this group that eats, sleeps and breathes the details on how we get there and is going to dive right in," Pritzker said.

The governor also said there is a need to strengthen utility company transparency and ethics requirements. Utility companies "can no longer write the state's energy policies behind closed doors," he said, pointing to the recent bribery scandal with Commonwealth Edison and its parent company, Exelon. Pritzker said Exelon must open its books for a "transparent, independent and expert review of finances" to do a proper investigation. (See *ComEd to Pay $200 Million in Bribery Scheme*.)

He also called for changes to state laws to incentivize rapid development of renewable energy, including putting a price on carbon emissions. State policies must be developed in an open setting with engagement from stakeholders impacted by energy policy, including utility ratepayers, he said.

CEO's Perspective

Speaking earlier in the session, PJM CEO Manu Asthana said it's "imperative" that the RTO resume a schedule of regularly occurring capacity auctions as soon as possible.

PJM CEO Manu Asthana | © *RTO Insider*

Illinois Gov. J.B. Pritzker | *PJM*

Asthana said PJM's markets add between $3.2 billion and $4 billion of value annually through the benefits of scale, efficient operations and the power of competition. He said competition in the markets has led to reductions in wholesale power prices and a 34% reduction in carbon emissions since 2005.

"These auctions and PJM's other markets add significant value, and that value can't be taken for granted," Asthana said.

The pace of change in the energy industry is accelerating, Asthana said, and is driven by a change in technology, including batteries, offshore wind and smart grid technologies.

The RTO is also seeing changes in consumer preferences towards decarbonization, Asthana said, along with changes in public policy, as Illinois and some other PJM states take "aggressive steps" to decarbonize their generation.

Asthana said PJM stakeholders have said they are open to starting a conversation about a long-term solutions to resource adequacy challenges. He pointed out that of the 107,000 MW of generation currently in PJM's interconnection queue, about 86% is either solar, wind, or batteries.

"This is not some distant theoretical change that we're talking about," Asthana said. "This change is here now." ■

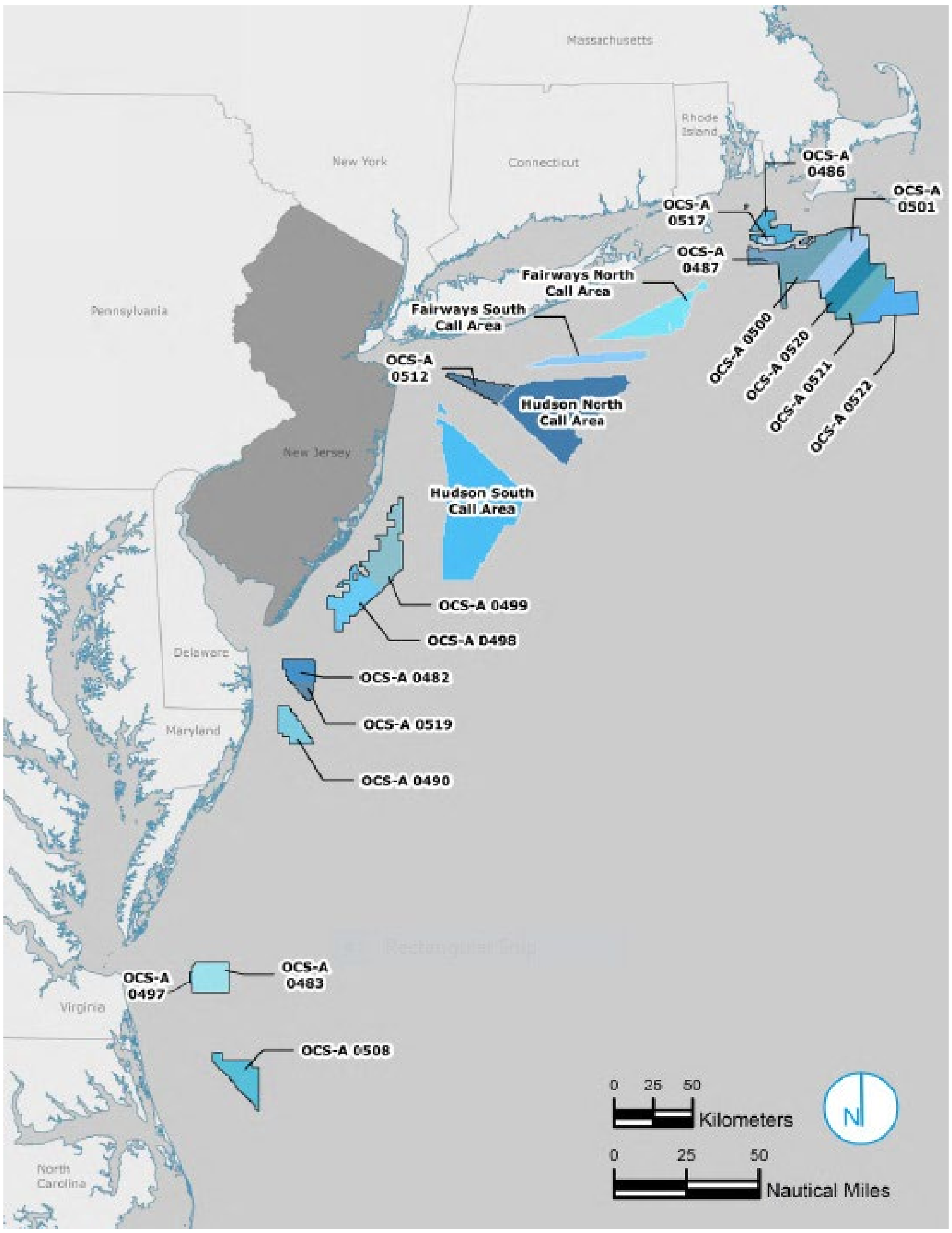
New Jersey BPU OKs 2nd Offshore Wind Solicitation

By Rich Heidorn Jr.

The New Jersey Board of Public Utilities voted Wednesday to seek 1,200 to 2,400 MW in its second solicitation for offshore wind, continuing efforts to meet a goal of 7,500 MW by 2035 despite doubts about the resource's ability to win revenues through PJM's capacity market.

Responses to the solicitation will be accepted between Sept. 10 and Dec. 10, with an award expected in June 2021.

"This second solicitation not only reinforces our commitment to fighting climate change and achieving 100% clean energy by 2050, but it secures New Jersey's foothold as a national leader in the growing U.S. offshore wind industry," Gov. Phil Murphy said in a statement.



The Bureau of Ocean Energy Management has designated 17 lease areas with potential capacity of more than 21 GW along the East Coast. Ørsted's 1,100-MW Ocean Wind project, expected to begin operations in 2024, will be built in lease area OCS-A 0498. | *N.J. BPU*

Under the *proposed solicitation schedule*, the BPU will consider a third solicitation in 2022 for at least 1,200 MW of OSW and hold additional solicitations every two years until 2028.

The BPU awarded its first OSW contract to Ørsted's 1,100-MW Ocean Wind project last year. Ocean Wind, which will be built 15 miles from Atlantic City, is expected to begin operations in 2024. (See *Orsted Wins Record Offshore Wind Bid in NJ*.)

The board on Wednesday also gave final approval to the state's *Offshore Wind Strategic Plan*, which provides recommendations to maximize the economic benefits of the projects while protecting the environment and fishing interests. (See *NJ Releases Draft Offshore Wind Plan*.)

The East Coast's OSW industry has grown from 30 MW in 2018 to a pipeline of more than 35 GW by 2035, according to the plan.

Commitments by New Jersey and its neighbors, Maryland (1,200 MW) and New York (9,000 MW) account for about half of the East Coast market. The Bureau of Ocean Energy Management has thus far designated 17 lease areas with potential capacity of more than 21 GW along the coast.

The plan calls for the state to evaluate transmission costs based on several scenarios, including each project using its own radial line and a "backbone" of shared transmission. (See *Coastal States Seek Balance on Offshore Wind*.)

The BPU and the New Jersey Economic Development Authority (NJEDA) on Wednesday also approved two memoranda of understanding authorizing almost $6 million in spending to support OSW and other clean energy projects. New Jersey's Clean Energy Program, which is run by the BPU, will provide $4.5 million to support NJEDA-led workforce development projects aimed at preparing workers in the state for OSW jobs and $1.25 million to support early-stage, New Jersey-based clean tech companies.

New Jersey officials have said FERC's December order requiring PJM to apply its minimum offer price rule to all new state-subsidized generation could prevent OSW from earning capacity revenues. In response, the state legislature is considering a bill that would require the BPU to study the implications of withdrawing from PJM and either going it alone or joining NYISO. (See *NJ Senate Exploring Exit from PJM*.) ■

PJM MRC/MC Preview

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

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

Markets and Reliability Committee

Endorsements/Approvals (9:10-11:00)

1. Cost Development Subcommittee (9:10-9:20)

Members will be asked to *endorse* a revised charter for the Cost Development Subcommittee, which has been dormant since 2013 but is being revived to address issues including the biennial review of Manual 15 and clarifications to variable operations and maintenance rules and the fuel-cost policy. The *revised charter* would have the subcommittee report to the Market Implementation Committee instead of the MRC.

2. Critical Infrastructure Stakeholder Oversight Senior Task Force (9:20-9:40)

Greg Poulos, executive director of the Consumer Advocates of the PJM States, and Erik Heinle of the D.C. Office of the People's Counsel will ask members to revoke an existing issue charge for Planning Committee special sessions on critical infrastructure stakeholder oversight and approve a *new issue charge* creating the Critical Infrastructure Stakeholder Oversight Senior Task Force, which would report to the MRC.

They *say* the change is needed because of FERC's March order approving Attachment M-4 to the PJM Tariff for the planning of Critical Infrastructure Protection (CIP-014) mitigation projects and the failure of the PC to address outstanding issues related to CIP-014 facilities. (See "Critical Infrastructure Task Force Tabled," *PJM MRC Briefs: Aug. 20, 2020*.)

3. PMU Placement in RTEP Planning Process (9:40-10:10)

Members will be asked to *endorse changes* to Manual 01: Control Center and Data Exchange Requirements and Manual 14B: PJM Region Transmission Planning Process to expand the use of synchrophasors and make them a requirement for certain projects under the Regional Transmission Expansion Plan. (See "Manual 1 Changes for PMUs," *PJM Operating Committee Briefs: Aug. 6, 2020*

4. Capacity Capability Senior Task Force Proposed Solutions (10:10-11:00)

The MRC will be asked to endorse *rules* for using the effective load-carrying capability (ELCC) method to calculate the capability of limited-duration, intermittent and combination (limited-duration plus intermittent) resources, the results of which would be revised with changes to the resource mix or load shape.

The rules will govern the timing of annual ELCC analyses; the allocation of ELCC capability of a resource class to specific units; the simulated dispatch of energy storage and hybrid resources; and the determination of resource classes. The main motion, Package A, which does not include a transition plan, received 64% support of the task force. *Package D*, which includes a transition, won 57% support and may be considered if the main motion fails.

MC endorsement will be sought on the same day.

Members Committee

Consent Agenda (12:35-12:40)

B. The committee will be asked to approve *Tariff clean-up provisions* related to its credit and risk management revisions to the Tariff and Operating Agreement, which FERC accepted on May 30 (ER20-1451). The changes are needed to ensure consistency with other recent rule changes and to avoid confusion.

C. Members will vote on proposed OA revisions to grant transmission owners access to the Dispatch Interactive Map Application. (See "DIMA Quick Fix Endorsed," *PJM OC Briefs: July 9, 2020*.)

D. The committee will vote on OA revisions to clarify when capacity benefits of market efficiency projects are calculated, removing obsolete language from the Tariff that conflicted with the OA. (See "Market Efficiency Proposals," *PJM MRC Briefs: Aug. 20, 2020*.)

Endorsements/Approvals (12:40-1:10)

1. Capacity Capability Senior Task Force Proposed Solutions (12:40-1:10)

See MRC item 4 above. ■

— Rich Heidorn Jr.

PJM News

Rehearing Sought on PJM End-of-life Order

By Rich Heidorn Jr.

More than a dozen load-side stakeholders on Thursday asked FERC to reverse its August order accepting the PJM Transmission Owners sector's Tariff amendments governing end-of-life (EOL) projects (ER20-2046). (See *FERC Accepts PJM TOs' End-of-life Revisions*.)

The order represents a "fundamental and unlawful shift in transmission planning responsibility from the regional transmission organization, PJM, to the PJM Transmission Owners," said consumer advocates for Delaware, D.C., Indiana, New Jersey, Ohio and West Virginia, who joined American Municipal Power, AMP Transmission, Blue Ridge Power Agency, LS Power, Old Dominion Electric Cooperative, the PJM Industrial Customer Coalition and the Public Power Association of New Jersey in filing *one challenge*.

They said the order is improper because it gives the TOs unilateral authority to propose revisions related to transmission planning, gives them veto authority over future planning methodologies, restricts PJM's role as the regional planner and reduces transparency and the rights of other stakeholders.

"Not only is the order's decision to accept the TO proposal not supported by substantial evidence, the TO proposal is contrary to the plain language of the governing documents upon which it is based," they said. "The Aug. 11 order fails to reconcile the TO proposal's conflicts with regional transmission planning protocols and procedures established in the PJM Operating Agreement."

The New Jersey Board of Public Utilities also filed *a challenge* saying the order violates the transparency principles of Order 890 and ignores cost concerns over "unchecked transmission owner investment."

"After transmission spending remained between approximately $1.7 billion and $3.7 billion from 2005 to 2009, it rose to approximately $8 billion in 2018. Transmission owners invested approximately $69.6 billion in baseline and supplemental projects from 2005 through 2019," the BPU said. "New Jersey has been particularly hard hit. For example, over a third of PJM's total $55.6 billion in transmission between 2015 and 2019 occurred in New Jersey."

The TOs had proposed to identify and include asset-management projects within the existing planning procedures of Tariff Attachment M-3 and to include procedures for the identification and planning for EOL needs of transmission lines 100 kV and above. They voted in June to approve a Federal Power Act Section 205 filing of the proposed amendments.

Stakeholders challenging the filing asserted that the TOs do not have "exclusive filing rights" in regard to EOL projects and that PJM members maintain rights under the OA to also make filings related to EOL projects. A competing, joint stakeholder proposal is still pending before FERC (ER20-2308). (See *PJM Files EOL Proposal over TO Protest*.) ■

Company Briefs

BP Buys into Offshore Wind Industry

BP last week announced it will purchase 50% of Equinor's Empire Wind and Beacon Wind offshore wind assets off Long Island and Massachusetts, respectively, for $1.1 billion. Equinor will remain operator of the sites.

Empire is expected to have a capacity of 2 GW, while Beacon is designed to have 2.4 GW.

BP's first dip into the OSW industry is part of its strategy to reinvent itself as an integrated energy company instead of an international oil company. Last month, BP pledged to reduce its oil and gas production by 40% by 2030.

More: *OilPrice.com*

Duke Energy Pledges EV Fleet by 2030

Duke Energy last week pledged to convert most of its 10,000-vehicle fleet to electric or another zero-carbon alternative by 2030.

The company said it will convert 100% of its light-duty vehicles to electric and 50% of its combined fleet of medium-duty, heavy-duty and off-road vehicles to EVs, plug-in hybrids or other zero-carbon alternatives. Duke said the change will reduce carbon dioxide emissions by 60,000 metric tons and petroleum usage by 10 million gallons annually.

More: *WHNS*

Duke, Ameresco Win Army Solar-plus-battery Project

Duke Energy and renewable energy company Ameresco last week were awarded a $36 million contract to install a solar-plus-storage system and implement energy-efficiency solutions at Fort Bragg in North Carolina.

The project will include a 1.1-MW floating photovoltaic array on Big Muddy Lake and a 2-MW battery storage system to provide on-site power in case of outages. Construction is expected to begin in November.

More: *Renewables Now*

Enel Begins Operations of 2nd Phase of Texas Solar Farm

Enel Green Power last week said it has started operations of the 245-MW second phase of its Roadrunner solar farm in Upton County, Texas.

Roadrunner will sell 65 MW to Mondelez International and 70 MW to Clorox under power purchase agreements. The project's total capacity of 497 MW makes it the largest operational solar farm in Texas and the company's largest in the U.S.

More: *Renews*

Former ComEd Exec Charged in Madigan Probe

Fidel Marquez, Commonwealth Edison's former senior vice president of governmental and external affairs from 2012 to September 2019, was charged last week with one count of conspiracy to commit bribery. Documents show that Illinois House Speaker Michael Madigan issued a personal invitation to Marquez to attend House of Representatives inauguration ceremonies as a guest in January 2019, underscoring a personal relationship between the two.

U.S. Attorney John Lausch's office recently alleged that Marquez funneled a payment of $37,500 to an unnamed company, which in turn was expected to spread "a substantial portion" to Madigan associates. Prosecutors also allege Marquez and ComEd illegally doled out jobs, contracts and cash payments to political allies.

Last month, investigators subpoenaed Madigan's office, seeking records involving AT&T, Walgreens, Rush University Medical Center and other political operatives and lobbyists regarding a possible corruption scandal.

More: *WBEZ*

Hindenburg Research Firm Calls Nikola a 'Fraud'

A report issued by investment firm Hindenburg Research last week called alternative-fuel truck-maker Nikola "an intricate fraud" and said it rolled a truck down a hill in a promotional video because the vehicle was not functional.

Nikola released a statement saying the company "has been vetted by some of the world's most credible companies and investors" and "will not waver based on a report filled with misleading information attempting to manipulate our stock." However, company representatives did not respond to questions regarding whether the video was fabricated. Nikola stock was down about 11% on Thursday.

Hindenburg, which is intentionally named after the 1937 airship disaster and specializes in takedowns of publicly traded companies, has shorted stock in Nikola, meaning the company can profit if the stock declines. The report came out just days after General Motors announced it is taking an 11% stake in Nikola and will produce its hydrogen fuel cell electric pickup truck by the end of 2022. On Monday, Nikola issued a statement calling the report "false" and "defamatory" and said that it had contacted and briefed the U.S. Securities and Exchange Commission regarding its concerns.

More: *The Arizona Republic*; *Pulse 2.0*; *CNBC*

Nationwide Invests $200M into NC Solar

Nationwide and solar company Sol Systems last week completed the purchase of $200 million in solar energy projects in North Carolina from Cypress Creek Renewables. Since 2012, the partnership, under the name Helios Infrastructure, has financed more than $700 million in solar projects throughout the U.S.

The North Carolina portfolio includes 20 projects that are either operational or under construction and is primarily composed of assets selling energy to utilities, municipal customers and universities.

More: *The Columbus Dispatch*

SunPower Expects to Top $1B in 2020

SunPower last week said it expects $1 billion in revenue this year and hopes to build on that number by 30 to 50% in 2021.

The company projects revenue of between $220 million and $250 million for the third quarter and $330 million and $370 million for the fourth quarter. It expects net income of $20 million to $30 million for the full year.

More: *Renewables Now*

Uber Vows to be Emissions-free by 2040

Uber last week said it plans to run an entirely green fleet of electric vehicles in the U.S., Canada and Europe by 2030 and the rest of the world by 2040.

The company said it will spend $800 million to help drivers make the switch to electric cars while forming partnerships with manufacturers to guarantee discounts.

Currently, riders in 15 U.S. and Canadian cities have the option to request an electric or hybrid vehicle for $1 extra. The choice will be available in more than 65 cities around the world by the end of 2020.

More: *International Business Times*

GCPA Announces Power Star Award Winner

The Gulf Coast Power Association's board of directors said last week it has selected 40-year industry veteran **Tom Payton** as the 2020 recipient of the Pat Wood Power Star Award, presented annually in recognition of significant contributions to Texas' competitive energy markets.

GCPA noted Payton's more than 25 years of helping evolve U.S. electric markets in Texas and the Eastern Interconnection. He is credited with helping develop ERCOT's market design and pioneered the first controllable loads supplying "generation-type" ancillary services. Payton was a member of the grid operator's Board of Directors from 2002 to 2006 before retiring from Occidental Petroleum in 2013 as a senior vice president.

The award's namesake, former FERC and Texas Public Utility Commission Chair Pat Wood III, will help present the award during GCPA's annual *Fall Conference*, which will be held virtually Sept. 29 to Oct. 1. "If there is one certainty in my life it's this: Behind every successful market practice we have adopted in ERCOT, you will find Tom Payton's fingerprints," Wood said.

More: *GCPA*

Federal Briefs

Dominion Applies for Additional 20-year License for North Anna

Dominion Energy is seeking approval from the Nuclear Regulatory Commission to continue operating its two nuclear units at the North Anna Power Station in Louisa County, Va., until 2058 and 2060.

An approval would allow Dominion to operate the reactors beyond the current license extension that was granted in 2003, which enabled the reactors to run until 2038 and 2040. Dominion said it intended to seek renewal for years, but a company spokesman said it only recently entered the period when it could file because the original license for Unit 2 would have expired this year.

An NRC spokesperson said staff have an 18-month goal for completing a review of a subsequent license renewal once the commission accepts the application.

More: *The Free Lance-Star*

EIA Says Coal's Generation Percentage to Rise Next Year

The Energy Information Administration last week said it estimates coal's generation share will rise to 22% in 2021, up from 18% this year, while natural gas' share will decline to 35%.

EIA says the reversal will be because natural gas prices are being propped up by stronger-than-expected power demand this year. As gas prices inch toward $2.5/MMBtu — nearly 70% higher than the lowest point this year — it could make for a slight reversal in the percentages next year.

The shift will vary by region. The Midwestern and Southeastern markets are already seeing signs of natural gas-to-coal switching. Conversely, the Northeast is closer to dry gas basins and hasn't seen signs of switching yet. That could change in the winter months when heating demand surges.

More: *The Wall Street Journal*

Greenhouse Gases Hit Record Despite Lockdowns

A report released by the U.N. last week showed the global atmospheric concentration of carbon dioxide hit 414.38 ppm in July and now sits at its highest level in 3 million years. Scientists consider 350 ppm, which was breached in 1988, a safe limit.

While daily emissions fell by 17% in April relative to last year, it was still on a par with 2006, underlining how much emissions have grown. By June, emissions were back within 5% of 2019 levels, according to the report.

Global temperatures have risen by about 1.1 degrees Celsius above pre-industrial levels. Scientists say a rise beyond 2 degrees — or even 1.5 for island nations — will lead to worse impacts across the world, including droughts, stronger storms and extreme sea level rise.

More: *Reuters*

Hydrogen, Carbon Capture Key to Net-zero Electricity

A report released by Energy Innovations last week said the U.S. could generate affordable electricity without producing carbon dioxide by 2035 if it focuses on developing hydrogen or carbon-capture technology.

The researchers highlighted five scenarios for the country to generate 100% clean energy within 15 years without raising costs. Three rely on the deployment of green hydrogen technology, while two rely on capturing carbon dioxide from existing power plants.

The analysis builds on a report by Energy Innovation and the University of California Berkeley released earlier this year that said power-sector emissions can be cut 90% by 2035 by deploying more solar, wind and battery storage.

More: *Reuters*

Report Warns of Financial Havoc from Climate Change

A report commissioned by the Commodity

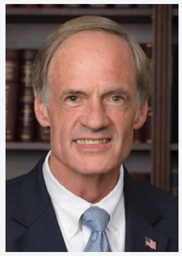
Futures Trading Commission concluded that climate change threatens U.S. financial markets, as the costs of wildfires, storms, droughts and floods spread through insurance and mortgage markets, pension funds and other financial institutions.

Among the risks already pervading the markets are falling home prices and rising mortgage default rates in regions where wildfires and flooding are worsening. Extreme weather could also cause swings in agricultural commodity prices, while climate-spurred market volatility could afflict pension and retirement funds.

Heath Tarbert, the Republican chairman of the council, acknowledged the risk of climate change but noted the report also detailed what regulators called "transition risk" — the financial harm that could befall the fossil fuel industry if the government enacts aggressive policies to curb carbon dioxide pollution.

More: *The New York Times*

Senators Reach Compromise on GHG Amendment



Sens. **Tom Carper** (D-Del.) and John Kennedy (R-La.) agreed to a compromise with Sen. John Barrasso (R-Wyo.) last week on an amendment that would cut down the use of hydrofluorocarbons (HFCs).

The amendment aims to reduce the use of HFCs over a 15-year period and require EPA to implement an 85% reduction of HFC production and consumption as compared to annual levels from 2011 to 2013. However, it would prevent state and local governments from regulating HFCs for at least five years and could be extended to 10 years if there isn't a sufficient substitute.

The amendment is part of the greater American Energy Innovation Act, which would boost research and development into renewable energy and technology to ease fossil fuel pollution.

More: *The Hill*

US Adds 3.5 GW of Solar in Q2

National solar capacity additions in the second quarter totaled 3.5 GW, down 6% from the preceding quarter, according to the Solar Energy Industries Association and Wood Mackenzie.

The latest Solar Market Insight report showed a 23% quarter-on-quarter drop in residential installations and a 12% decrease in nonresidential because of measures taken to limit the spread of COVID-19.

Wood Mackenzie expects 2020 additions to be up 37% year-on-year to more than 18 GW. It would be only 6% below the company's forecast before the pandemic.

More: *Renewables Now*

State Briefs

ARIZONA

Tucson Declares Climate Emergency

Tucson Mayor **Regina Romero** and the City Council declared a climate emergency last week.

The declaration sets a goal of reaching carbon neutrality by 2030 while committing the city to developing and implementing a 10-year Climate Action and Adaptation Plan. It also directs all city departments to prioritize and align efforts with the Paris Agreement and the Green New Deal.

Romero hopes to have the city's climate plan within the next 12 to 18 months.

More: *KOLD*

CALIFORNIA

CEC Approves Funding for Hydrogen Fueling Stations

The Energy Commission last week approved $39.1 million in funding for 123 hydrogen refueling stations throughout the state.

Funds were awarded to three companies — FirstElement, Iwatani and Shell — for 36 stations to service passenger vehicles. Another 87 stations were also recommended for funding to these same companies in subsequent batches.

More: *City News Service*

PG&E to Cut Down 200+ Trees in Nevada County

Pacific Gas and Electric last week began cutting down 263 trees in Nevada County.

City Planner Amy Wolfson said about 100 trees are on public property, with the remaining being on private property.

PG&E said while it typically removes trees that are only 12 feet away from power lines, in this instance it does not matter how far away the trees are. If they are deemed a hazard, the company has an obligation to remove them.

More: *KCRA*

Wildfire Smoke Decreases Solar Output

CAISO last week said layers of ash and smoke from the ongoing wildfires have decreased solar energy output from panels by as much as 20%.

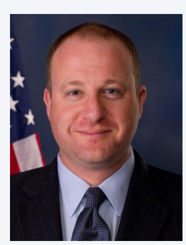
Fortunately, most of the state's large-scale solar grids are in the desert where smoke isn't as concentrated.

"Even with the orange skies overhead, solar panels were producing 80, or more, percent of the electricity that we rely on them to produce," said Bernadette Del Chiaro, executive director of the California Solar and Storage Association.

More: *KQED*

COLORADO

State Ends Shutoff Moratorium, Utilities Begin to Send Notices



Gov. **Jared Polis** last week issued a 30-day extension of an executive order that suspended late and reconnection fees for utilities, but he did not extend the moratorium on shutoffs that ended earlier this summer. With that, most utilities have started sending out disconnection notices.

The Public Utilities Commission has rules that utilities must follow before cutting a customer's power. Among those are that the company must propose an installment payment plan to those who contact them about a shutoff notice. Xcel Energy has mailed about 48,000 notices to customers and disconnected about 20 as of two weeks ago.

Energy Outreach Colorado, which provides payment assistance to low-income customers, said it received 374 requests in June, compared to 202 requests in June 2019.

More: *The Denver Post*

CONNECTICUT

Utilities Say Mandating Outage Fixes Within 3 Days Would Drive up Rates

EVERSOURCE

Eversource Energy and United Illuminating last week warned the General Assembly's joint Energy and Technology Committee that a mandate for utilities to restore most major outages within 72 hours would require significant staffing increases and would likely drive up rates.

A recent committee hearing reviewed a bill drafted in response to Tropical Storm Isaias — which caused nearly 1 million power outages in the state Aug. 4 — and the utilities' handling of the recovery. The measure would freeze rates while directing the Public Utilities Regulatory Agency to craft new "performance-based regulations" and rates by September 2022.

The utilities endorsed the concept of a performance-based system but balked at proposals that would mandate they reimburse customers up to $1,000 in spoiled medicines and lost food. They also would owe a base rebate of $125 per customer per day for each day in excess of 72 hours and could face civil penalties equal to 10% of their annual revenue for failure to meet performance standards.

More: *The Connecticut Mirror*

ILLINOIS

Chicago Issues $200M RFP for Renewable Energy Supplier

The city of Chicago last week announced a new request for proposals for a renewable energy supplier for all city-owned buildings and committed to ensuring all are powered by 100% renewable energy by 2025.

The contract would provide all city-owned buildings, streetlights and other facilities with renewable electricity for at least five years beginning in 2022. The current cost of powering city-owned buildings is about $40 million annually, resulting in an estimated renewable contract of $200 million for the vendor.

Applications are due by Nov. 6. The city plans to announce the chosen vendor in January.

More: *Smart Cities World*

Zion Approves Solar Station on Former Landfill Site

The Zion City Council has approved a special-use permit for a 2.43-MW solar station to be built on 10 acres of a former landfill.

The state Environmental Protection Agency initially issued a permit for project in 2018. The permit was the first of its kind issued by the agency.

The station will have about 5,000 panels, which will be about 6 feet tall, and cost about $5 million. Construction could begin as early as next spring.

More: *Lake County News-Sun*

MICHIGAN

PSC Approves Settlement Reducing Consumers Rate Increase

PSC

The Public Service Commission last week approved a settlement agreement that cut the rate increase granted to Consumers Energy's natural gas customers by approximately 40%.

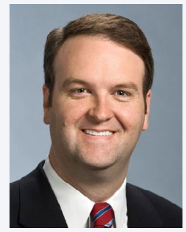
Under the agreement, Consumers can raise its rates by $144 million. The company argued that the additional revenue is needed for natural gas system infrastructure replacements and rising costs for operations and maintenance.

The new rates will take effect Oct. 1. Average gas customers will see a $6.72 increase in their monthly bills. The agreement was signed by the Department of Attorney General, the Citizens Utility Board of Michigan and the Lansing Board of Water & Light, among other intervenors.

More: *Michigan PSC*

MISSOURI

Local Leaders, Advocates Push for Ameren to Retire Coal Plants



St. Louis County Executive **Sam Page**, the Sierra Club and Democratic congressional nominee Cori Bush last week said Ameren should to retire its fleet of coal plants by 2030 — 15 years earlier than planned — and transition to clean energy.

Ameren filed its last long-term generation plan in 2017 that included its largest commitment to renewable energy, with related investments of $1 billion and a push for wind to account for about 10% of its power production. The company also outlined goals to reduce its carbon emissions by at least 35% by 2030 and 80% by 2050, compared to 2005 levels. Still, the goals fall shy of the latest targets from the Intergovernmental Panel on Climate Change.

The company generates nearly two-thirds of its electricity from coal. Its two largest coal plants are slated to run into the 2040s. It has until Oct. 1 to file a new plan.

More: *St. Louis Post-Dispatch*

MONTANA

Bullock Releases Climate Solutions Plan

Gov. **Steve Bullock** last week released a 72-page Climate Solutions plan that contained recommendations and strategies for the state to deal with climate change.

The plan is the culmination of more than a year's work by a council created by the governor. Among other things, its proposals aim for net greenhouse gas neutrality in the electric power sector by 2035 and net-zero emissions overall by 2040-2050. However, some points would require legislative action or approval by the Public Service Commission or other agencies and local governments.

One recommendation that proved contentious was a carbon tax, with Bullock saying he does not support such a tax and would not commit the state to any regional or national policy that imposes carbon prices. The plan now goes to the Legislature and the PSC.

More: *Missoulian*; *Great Falls Tribune*

NEBRASKA

Gage County Approves Turbine Setback Requirement

The Gage County Board of Supervisors last week voted 6-1 to increase the commercial wind turbine setback distance from a nonparticipating residence to 1 mile. The distance had been three-eighths of a mile.

The push for the change was driven by a NextEra Energy Resources proposal to build a wind farm in the county.

The board also approved a plan to ask the Planning and Zoning Commission to review turbine noise limits and possibly making the setback from the property line rather than the residence.

More: *Beatrice Daily Sun*

NEVADA

NV Energy Ordered to Refund $60M After Overcollection

The Public Utilities Commission last week ordered NV Energy to return nearly $60 million in overearnings to customers starting in October. The $53 credit is the largest one-time credit ever given by the utility.

The overearning totals stem from NV Energy's 2017 general rate case. The PUC had ordered the company to implement an earnings-sharing mechanism requiring it to split any profits above 9.7% of the approved rates between itself and customers. Now, three years to the 2020 general rate case, utility representatives testified that they tracked overearnings of about $43.3 million in 2018 and $16.4 million in 2019.

NV Energy did not dispute the amount owed, but it opposed the structure and timing of the one-time credit and would prefer to spread them out over a three-year period. However, commissioners said the COVID-19 pandemic-driven recession presented a unique set of circumstances that required it to take unique action.

More: *The Nevada Independent*

OHIO

Watchdog Seeks Probe of FirstEnergy

The Consumers' Counsel last week filed a motion with the Public Utilities Commission asking that outside investigators examine FirstEnergy and whether money collected from consumers "was improperly used for any activities in connection with HB 6 instead of for electric utility service." The watchdog also asked that the investigation and a management audit determine whether FirstEnergy violated any laws or regulations.

The filing claims that before HB 6 was approved, FirstEnergy charged customers nearly $7 billion under a 1999 state deregulation law that created competition and was supposed to end such subsidies. It also asks the PUC to reopen a 2017 case in which it ordered an audit of a previous ruling allowing FirstEnergy to charge customers for modernizing its grid.

HB 6, which was pushed through the legislature last year by then-House Speaker Larry Householder, created a $1 billion bailout of two nuclear power plants owned by a FirstEnergy subsidiary until early this year. The law requires a charge on all ratepayers' bills to fund the bailout.

More: *The Washington Post*

SOUTH CAROLINA

Charleston Sues Fossil Fuel Companies for Climate Change Damages

Charleston city officials last week filed a lawsuit in the state Court of Common Pleas in Charleston County against 24 fossil fuel companies, claiming that because they contributed to climate change and misled the public about the danger their products posed to the environment, they should pay for the damages caused by flooding in the city.

The defendants named in the lawsuit include Exxon Mobil, Royal Dutch Shell, Chevron and Hess, among others. Charleston is the first city in the South to file a lawsuit against fossil fuel companies for their contributions to climate change.

The lawsuit was filed to time with the third anniversary of Hurricane Irma, which caused severe flooding in Charleston.

More: *The Charlotte Observer*

WEST VIRGINIA

EDA Approves Loan Guarantee for Brooke County Plant

The Economic Development Authority last week unanimously approved a $5.5 million loan guarantee for the proposed Brooke County Power natural gas plant in Colliers. The facility, which is expected to be built in 2022, would be the state's first natural gas-fired plant.

"We're just very thankful that they took all the facts into consideration at the end of the day and did what was right for not just this region in the Northern Panhandle but the entire state," County Commissioner A.J. Thomas said. He said he believes the plant will serve as a catalyst for major economic growth in the region.

More: *The Herald-Dispatch*

USDA Announces Funds for Rural Energy Projects

The U.S. Department of Agriculture last week announced more than $760,000 in funding for 22 rural energy projects in the state. The funds will help businesses install solar panels, energy-efficient heating and cooling systems, and water recycling equipment.

The funding includes $250,000 for the West Virginia Potato Chip Company, $80,665 for Innovation Properties, $48,606 for the Whiteman Bowling Center and $24,962 for the Bavarian Inn.

"Investing in rural energy projects is essential to boosting West Virginia's economy while supporting small businesses across the state with innovative technology," U.S. Sen. Joe Manchin (D) said.

More: *The Associated Press*

WYOMING

Feds Allow State to Take Lead on Carbon Dioxide Storage Wells

EPA last week said it will allow the Department of Environmental Quality to take the lead in regulating class VI underground injection wells used to store carbon dioxide in rock formations. The state is one of two able to implement its own regulations on class VI injection wells, with North Dakota receiving permission in 2018.

Regulators will have the ability to craft and enforce regulations to protect drinking water sources during the construction and use of the wells, as required under the Safe Drinking Water Act.

The University of Wyoming's School of Energy Resources is already moving ahead with a program that will require the use of class VI injection wells. The project, called CarbonSAFE, is researching how to make storing millions of tons of carbon dioxide per year underground both commercially and environmentally feasible.

More: *Casper Star-Tribune*

PSC Delays Investigation into PacifiCorp

The Public Service Commission last week decided to delay finalizing its investigation into PacifiCorp over the company plan to retire several coal plants early to save ratepayers money. The commission determined it needed more time to weigh the merits and legality of introducing new evidence, which involves a study on the potential benefits of retrofitting coal-fired plants with carbon-capture technology.

The company's plan did not sit well with lawmakers and industry groups who held multiple conferences and hearings to investigate the integrity of the plan.

As the investigation seemed to be coming to a close, Glenrock Energy filed a motion on Sept. 2 to introduce additional evidence in the form of a study published by the U.S. Department of Energy that said equipping coal plants with capture technology would reduce emissions, cut costs and sustain jobs in the state. Public deliberations will be rescheduled for early October.

More: *Casper Star-Tribune*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