

Senate Confirms Christie, Clements to FERC

GOP to Hold 3-2 Edge Barring Daily Resignation

By Michael Brooks

The U.S. Senate on Nov. 30 quickly and quietly confirmed Mark Christie and Allison Clements to FERC, restoring the commission, at least temporarily, to full strength for the first time since August 2018.

It took less than a minute last tMonday evening for Senate Majority Leader Mitch McConnell (R-Ky.) to bring the nominations up for a voice



The Senate confirmed Mark Christie and Allison Clements, with Sen. Dan Sullivan (pictured) presiding over an empty chamber, save Majority Leader Mitch McConnell, who cast the lone "aye" vote. | C-SPAN

vote and say "aye," with acting President pro tempore Dan Sullivan (R-Alaska) affirming their confirmation before an empty Senate chamber. The scene was a far cry from the confirmations of President Trump's previous two nominees to the commission, with partisan bickering over Bernard McNamee (confirmed 50-49) and James Danly (52-40).

The Senate Energy and Natural Resources Committee advanced the nominees to the floor Nov. 19. Clements, a Democrat and energy policy adviser for the Energy Foundation, fills the seat left open by the departure of Cheryl LaFleur in August 2019. Christie, a Republican and chair of the Virginia State Corporation Commission, takes the place of McNamee, who departed Sept. 4. Clements' term ends in June 2024 and Christie's in June 2025. (See *Committee Advances FERC Nominees to Full Senate.*)

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Report: FERC Enforcement Actions down Sharply in FY20 (p.3)

New CAISO CEO Vows Urgency on Resource Adequacy

Mainzer Says Collaboration with State Agencies is Key

By Hudson Sangree

Elliot Mainzer paid close attention from his home in Oregon as CAISO ordered rolling blackouts in August. He said he was not entirely surprised because the ISO had warned of possible summer shortfalls for months.

Now that he's in charge, CAISO's new CEO said he is addressing California's resource adequacy problems, in collaboration with leaders at the state Public Utilities Commission and Energy Commission (CEC), with a "tremendous sense of urgency" to prevent more blackouts next summer.

"Without question, resource adequacy is job No. 1 for California," Mainzer told *RTO Insider*. "We need to make sure we adapt to stay ahead of that reliability curve."

The world's fifth largest economy is switching from fossil fuels to wind and solar as mandated by landmark state laws, but the transition has proven problematic, in part because of insufficient storage for renewables. Massive wildfires attributed to climate change plagued the state the past four years, and unprecedented heat waves strained resources across the West in August and September. (See *CAISO Says Constrained Tx Contributed to Blackouts* and *WECC Findings Show Complexity of Heat Wave Event.*)

"When I saw what happened back in August, it was not something that had been entirely unanticipated," Mainzer said. "We know that

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CAISO Wasn't Gamed in Blackouts, Watchdog Finds (p.11)

Bill Nye the Science Guy: Electrification is a Big Idea



Bill Nye on Dec. 3, 2020 shared a session with keynote speaker Ayana Elizabeth Johnson at the 10th annual State of NY Sustainability Conference. (p.36) | NYCSHE

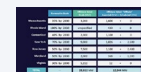
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Report: FERC Enforcement Actions down Sharply in FY20

By Michael Brooks

FERC's Office of Enforcement opened only six new investigations in fiscal year 2020 and managed to get just \$550,000 in civil penalties and disgorgements from the three settlements it closed, according to its annual *report*, released Nov. 19.

The three settlements came early in the fiscal year, in November 2019 and January 2020, suggesting the COVID-19 pandemic may have played a part in the downturn. The report notes that "while Enforcement continued its typical investigations, audits and surveillance activities in FY 2020, it also took steps to help regulated entities manage their potential enforcement and compliance-related obligations in response to the unprecedented COVID-19 pandemic." This included suspending new audits until July 31 and "postponing contacting entities regarding surveillance inquiries, except those involving market behavior that could result in significant risk of harm to the market." (See *FERC Loosens Requirements in Pandemic*.)

This fiscal year continued a trend from last year, with the office opening half the number of new investigations as the previous year, and

the amount of money the office collected in penalties and disgorgements was a pittance compared to other years. In fiscal years 2017 and 2018, it collected \$51 million and \$83 million, respectively. Even in FY19, considered a slow year for the office, it brought in \$14.4 million. (See *Slow Year for FERC Enforcement, Report Shows*.)

The report does note that four cases, in which Enforcement is seeking more than \$89 million in penalties and disgorgement, are pending in U.S. district courts.

The largest penalty assessed by the commission came at the very beginning of the fiscal year, Nov. 1, 2019, and involved Calpine (*IN17-1*). The company agreed to pay \$400,000 because Enforcement found that eight of its plants failed to properly maintain or even falsified records of battery tests, resulting in more than 200 violations of NERC reliability standard PRC-005-1 R2.

Several mitigating factors lowered the settlement amount: plant operators at Calpine's Gilroy plant in California self-reported several violations in 2015, leading to a wider internal investigation; Calpine fully cooperated with Enforcement's own investigation; and the of-

fice found that the company had not centrally directed any of the violations, with each plant having different circumstances. The company also agreed to a mitigation plan in the settlement.

This year's penalties also included FERC's settlement in January with Exelon, which agreed to disgorge more than \$100,000 because of an error that resulted in its Mystic Unit 7 in Massachusetts being overcompensated. (See "Fuel Cost Violation," *FERC Rejects Mystic Cost-of-service Amendment*.)

After Enforcement staff's presentation of the report during FERC's open meeting last month, Commissioner Richard Glick praised them as the commission's "unsung heroes." But he expressed concern that the commission itself had "gone AWOL at this point" in enforcing rules against market manipulation based on the low quantity of penalties this year.

"I recognize that you can't always make a finite judgment based on a single year's statistic, but I think it's at least worth asking whether the commission remains committed to its enforcement responsibilities, and I've had my doubts," he said. ■

Senate Confirms Christie, Clements to FERC

GOP to Hold 3-2 Edge Barring Danly Resignation

Continued from page 1

Republicans could hold a 3-2 majority on the commission up to the departure of Commissioner Neil Chatterjee, whose term ends June 30. However, it is customary for the chair appointed by an outgoing administration to tender their resignation upon the inauguration of a new president. By law, FERC is limited to no more than three commissioners of the same party.

Chatterjee has previously pledged to complete his term. That means all eyes are now on Chair James Danly, whose term ends in 2023. Regardless, he will preside over at least two more open meetings: FERC has rescheduled its Jan. 21 meeting for Jan. 19, the day before Inauguration Day, after which either Clements or fellow Democrat Richard Glick will become chair. Jan. 19 is a Tuesday. FERC's open meetings are normally held on Thursdays.

FERC has not had a full complement of commissioners since the departure of Robert Powelson in August 2018. That period, along with Powelson's tenure, lasted only a year.

"For the first time in years, FERC will have a full, bipartisan complement of five commissioners," American Council on Renewable Energy CEO Gregory Wetstone said in a statement.

"With fresh voices from clean energy and state regulatory backgrounds, we hope this reinvigorated, independent FERC will look anew at how to achieve the long overdue regulatory reforms needed to accelerate our energy transition."

"Congratulations to Allison Clements and



New FERC Commissioners Allison Clements and Mark Christie | © RTO Insider

Mark Christie on their confirmation votes tonight!" Glick *tweeted*. "I look forward to working with them and am excited we are finally back to a full five-member FERC!"

"I am delighted that our two new colleagues have been confirmed, and I look forward to working with them," Danly said in a *statement*. ■

FERC/Federal News



Researchers Seek Ways to Jump Start Fleet Electrification

EDF Introduces Total Cost of Electrification 'Toolkit'

By Rich Heidom Jr.

Despite representing only 4% of U.S. vehicles, diesel-powered trucks and buses are responsible for a disproportionate share of pollution and carbon emissions, making them a prime target for electrification efforts. Now, the Environmental Defense Fund is offering a "toolkit" to help fleet owners overcome obstacles to making the switch from internal combustion engines.

EDF's report, "*Financing the Transition: Unlocking Capital to Electrify Truck and Bus Fleets*," published Nov. 18, goes beyond traditional total cost of ownership (TCO) calculations to consider "soft" costs and other risks that present barriers to change. The report introduces a new framework, total cost of electrification (TCE), which it says can help policymakers, fleet owners, utilities and investors account for, and overcome, the challenges.

"The medium- and heavy-duty vehicle (MHDV) market — which includes everything from semitrucks and delivery vans, to city buses and garbage trucks — is on the cusp of an electric transformation," the report says. "To ensure and accelerate the transition, we must move beyond the set of traditional mechanisms that have been used to assist one-to-one replacements of trucks and buses, such as grant programs providing basic buy-down payments. ... These solutions must deploy limited public monies in a manner that will unlock private capital at an unprecedented scale."

The product of interviews with 32 stakeholders, including fleet operators, finance professionals and public policy experts, the



Andy Darrell, Environmental Defense Fund | EDF



Truck receiving charge | EDF

report was authored by EDF with M.J. Bradley & Associates and Vivid Economics. It allows fleet operators to identify their obstacles and match them with potential solutions, such as green bonds to help with financing or battery guarantees to address technology risks.

Signs of Change

The U.S. has 14 million buses and large trucks, most fueled by diesel, which EDF says "are among the dirtiest vehicles on the road and will be the leading source of growth in transportation climate pollution over the next 30 years."

Signs of change are apparent: Daimler, the No. 1 freight truck producer in the U.S., has pledged to stop selling internal combustion trucks in its main markets by 2039. Amazon ordered 100,000 electric trucks from electric vehicle startup Rivian last year, and companies including PepsiCo, Anheuser-Busch and J.B. Hunt Transport Services are piloting emission-free trucks.

In June, 15 U.S. states committed to have 30% of their truck, bus and van sales be zero-emission by 2030. In September, California Gov. Gavin Newsom issued an executive order requiring a transition to zero-emission trucks by 2045. These 16 states represent more than a third of the total U.S. MHDV fleet. (See [Calif. to Halt Gas-powered Auto Sales by 2035](#).)

Officials in New York, Los Angeles, Houston and Honolulu are also planning to go all-electric for fleets such as garbage trucks and transit and school buses.

"Several different factors are coming together

to make the time right to electrify trucks and buses at larger scale, especially in the transit bus and medium-duty sector," said Andy Darrell, EDF's chief of strategy, global energy and finance said in an interview with *RTO Insider*. "We're seeing that the technology is reaching a tipping point; that policymakers are beginning to set ambitious goals and targets to help stimulate demand. There's a rise in interest [by] the investment community in socially responsible investments. And then, of course, from a climate and public health perspective, there is an urgent need to reduce pollution from trucks and buses."

Yet the transition hasn't moved as quickly as it could, Darrell said.

"What we heard back [from the interviews] was that capital is ready to help. There is interest in the fleet owners to move forward, but there are a few key ... pain points that we need to solve to get past that first transition."

'Soft' Costs

The researchers put a priority on deploying public money where it's needed the most and where it will have the most impact, as well as enabling private investment and financing options.

EV and battery costs have declined, and studies show electric MHDVs have a lower TCO than ICEs. But zero-emission vehicles are still much more expensive to purchase, "a powerful deterrent," the report said.

While traditional TCO calculations focus on upfront purchase costs and lifetime operat-

FERC/Federal News



ing costs, TCE was designed to target all the barriers, including “soft costs,” such as changes to business operations (e.g., routes and schedules) and permitting approvals. TCE also considers “uncertainties, risks and frictions” that can discourage fleet operators from making the switch.

Among the uncertainties are concerns about battery performance and lifespan and the residual value of vehicles and batteries when they are taken out of service.

Then there are the “frictions,” such as a lack of staff familiar with the new technologies or financing methods, and inertia in the procurement and contracting process.

EDF found that traditional public and private mechanisms to help with the purchase of cleaner vehicles are “often mismatched with the highest-priority needs for fleet transitions.”

Fleet owners also complain that existing grant programs are administratively difficult and expensive to navigate. “The end result is a lost opportunity to replace more internal-combustion vehicles with zero-emission ones,” the report said.

The toolkit identifies three types of financing solutions: capital instruments, risk-reduction instruments and cost-smoothing instruments.

These include public-backed “soft” loans with low interest rates, longer maturity and reduced collateral requirements; public “buy down” of interest rates; equity investments; and commercial, municipal and green bonds.

Smaller MHDV fleet electrification projects can be bundled together to attract investors looking for larger opportunities. “This approach can transform one-off, non-traded assets into standardized, tradable assets and has been used in other clean economy sectors (e.g., renewable energy, energy efficiency) to catalyze the flow of capital at scale,” EDF said.

Risk-reduction instruments include performance guarantees to protect electric MHDV purchasers from underperformance of vehicles or batteries and residual value guarantees to protect investors or purchasers by guaranteeing a minimum resale value. Political risk guarantees can protect against losses from changes in climate and vehicle or fuel regulations or policies.

EDF also promotes nonfinancial solutions such as technical support and policy actions, such as changes to allow EVs to acquire monetizable emissions credits or to operate as grid assets via bidirectional charging and discharging.

Darrell noted that school buses are idle most



Larissa Koehler, Environmental Defense Fund | EDF

of the day and during summers. “A vehicle-to-grid integration program [that allows the buses to sell power to the grid] could be a terrific solution,” he said. “That might work for school buses, but it might not work for fleets that are in use most of the day.”

Next Steps

“Research of this type is critical in ensuring that the ambitious goals that are being set across the country can be met in the most cost-effective way possible,” Larissa Koehler, a senior attorney at EDF who works on transportation electrification, said in an interview.

Capitalizing on the report will require collaboration, EDF said. “Real progress requires more than frameworks and toolkits. To bring these static documents to life, leaders from government, business and finance must break out of sectoral silos and open themselves up to thinking differently.”

New York’s Metropolitan Transportation Authority has committed to convert its 6,000 transit buses to electricity by 2045, with interim goals of switching out 500 buses per year. But their depots are in crowded urban areas, making them difficult to retrofit with charging stations.

“The depot that I visited ended up having the charging stations up on the roof because they were having a hard time fitting them in elsewhere,” Darrell said. “It took a creative thinker from the real estate side and the fleet side [of MTA] to figure out how to do this.

“I see this gap between the opportunity in the fleets to do something amazing for climate and clean air, and capital waiting on the sidelines to jump in. I’m hoping that this report can help close that gap,” Darrell said. “Now that we understand a little more what the landscape looks like, we are interested to partner with fleet owners and policymakers and investors to try to help create the table around which these stakeholders can come together and ... show the real world how this can work.” ■

FLEET INVESTMENT BARRIERS

HARD COSTS	SOFT COSTS	RISKS + UNCERTAINTIES	FRICTIONS
Costs from investment in new assets and fixed infrastructure	Costs from additional activities and processes to switch to electric MHDVs	Costs from uncertainties that make financing more expensive or electric MHDVs appear less cost competitive	Limitations that increase the psychological or practical cost of switching to electric MHDVs

TCE TOOLKIT

Public-backed “soft” loans	Operational expenditure grants	Asset residual value guarantees	Non-financial grants (e.g. in-kind support)
Interest rate incentives	Performance guarantees	Political risk guarantees	Policy reform for new approaches
Equity investments	Operational leasing	Financial risk guarantees	Technical assistance for using financing
Financial grants	“Wet” (all inclusive) leasing	Building secondary markets for vehicles and batteries	Guidance on financing compliance with regulations
Commercial bonds	Lease-purchase agreements	Battery health programs	Mandates for fleet transitions
Green bonds	On-bill financing		
Municipal bonds			
Aggregation / Warehousing			

LEGEND

Capital instruments	Risk reduction instruments	Cost smoothing instruments	Technical support	Policy action
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FERC/Federal News



Experts: New Ontario Capacity Market Can Learn from US

By Amanda Durish Cook

Ontario's nascent capacity market could take advantage of lessons from the U.S., experts said Wednesday.

The panel during the Association of Power Producers of Ontario's (APPrO) annual energy and networking conference was coincidentally the same day as the Ontario Independent Electricity System Operator's (IESO) first ever [capacity auction](#) for summer 2021. The auction marks the first time the province will allow non-demand response resources the opportunity to supply capacity.

Borden Ladner Gervais partner and panel host John Vellone said it was only fitting that APPrO host the discussion as offers from Ontario suppliers rolled in.

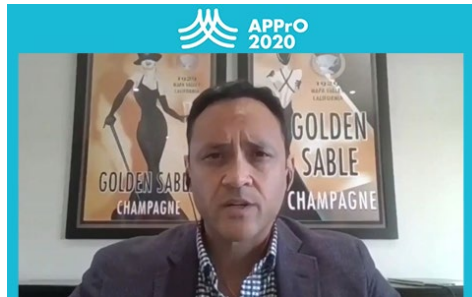
"Where we've been in the U.S. is we've had a surplus for quite some time," said Potomac Economics President David Patton, who was on hand to offer the American perspective on capacity market formation.

Patton said U.S. markets typically maintain 15 to 17% in additional reserves beyond a peak-day forecast to achieve the U.S.' one-day-in-10-year loss-of-load risk standard. American capacity markets are covering for existing generation's going-forward costs but not generating signals for new investment, Patton said.

Complicating matters, Patton said policy-driven investments in renewable generation are growing existing surpluses.

"So there's a bit of a challenge, because the markets don't look in the near term like they're going to be moving towards a long-run equilibrium," he said.

Patton said market design must balance out-of-market investments in renewable generation to meet public policy goals with the need for the market to facilitate good decisions



Jason Chee-Aloy, Power Advisory | APPrO

by market participants. He also said most renewables do not contribute meaningfully to capacity reserves and said capacity credits should reflect that.

Incorporating carbon pricing into markets would be beneficial because it would reduce out-of-market distortions, he said. "If you have out-of-market actions, it's always detrimental to the market."

"Out-of-market interventions aren't going to stop; they're just going to grow," said Jason Chee-Aloy, managing director at Ontario-based energy consulting firm Power Advisory. "I think we have to admit that's going to happen."

Patton said forgoing a capacity market is an option, provided that a market's shortage pricing is strong enough.

"Pricing is king in any market, and I would argue that's something that we got wrong in Ontario from the get-go with uniform pricing," Chee-Aloy said.

Ontario has a chance to recast its pricing, he said, suggesting the province use offer guarantee payments and make-whole payments. He said the re-evaluation would come at an opportune time, as Ontario is predicted to need capacity by the late 2020s.

Chee-Aloy pointed out that local distribution companies in Ontario do not have obligations



Elisabeth DeMarco, DeMarco Allan | APPrO

to serve load, leading to a lack of a "robust buy-side" in the market. He said generators and resource adequacy providers have to finance projects and could bolster investments with market hedges.

"We're still double-downing on out-of-market payments," he said. "We're going to need a multipronged approach to resource adequacy. And sometimes I think Ontario looks to the Northeast when I think we should look to the Midwest. When you look at the characteristics of Ontario, we're much more like [MISO]. We've got a mixture of different types of players; we've got rate-regulated generation, and pretty much all of the independent power producers are under contract with the IESO."

He also pointed out that the government-owned Ontario Power Generation owns about 50% of the capacity in the province, much of it rate-regulated, reminiscent of MISO's vertically integrated utilities.

"But we could rely less on resource adequacy mechanisms ... if we get the shortage pricing right for energy and operating reserves," Chee-Aloy said.

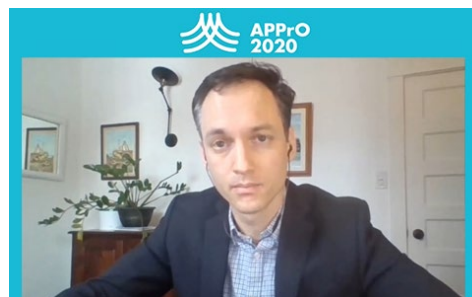
Risk is currently high in Ontario, he said, evidenced by the 759 renewable energy contracts [terminated](#) within the past year-and-a-half by the Progressive Conservative provincial government as a cost-cutting measure. He said he did not know of any other market except Spain that has reversed so many already-executed contracts.

DeMarco Allan senior partner Elisabeth DeMarco said it is no longer simply a matter of working out energy market pricing, but electricity and emissions market pricing.

"We are very much behind the ball of emissions market and electricity market integration," she said of Ontario. "It's not some distant, foreign aspect of markets, but now an integral portion of it." ■



Potomac Economics President David Patton | APPrO



Borden Ladner Gervais partner John Vellone | APPrO

FERC/Federal News



Advocates Seek Bipartisan Support for Energy Efficiency

Big Goals, Cautious Optimism at ACEEE Forum

By Rich Heidom Jr.

Decarbonization advocates said last week they hope energy efficiency is one issue that will attract bipartisan support in a narrowly divided Congress in 2021.

“Regardless of the outcome of the special [Senate] elections in Georgia, we are going to have some very narrow margins in both the House and the Senate,” U.S. Rep. Paul Tonko (D-N.Y.) told the American Council for an Energy-Efficient Economy’s (ACEEE) Energy Efficiency and Climate Policy Forum on Thursday. “It is my hope that with the weight of the White House, coupled with its executive agenda, we will be able to do more than you might expect.”



U.S. Rep. Paul Tonko (D-N.Y.) | ACEEE

Tonko, chair of the House Energy and Commerce Committee’s Environment and Climate Change Subcommittee, said President-elect Joe Biden’s top priorities for 2021 should include getting the Department of Energy’s Office of Energy Efficiency & Renewable Energy (EERE) “back on track.”

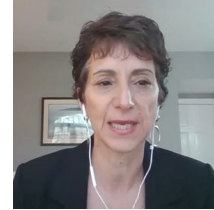
“DOE will need more resources and personnel,” he said. “EERE’s employment levels are more than 180 [full-time equivalents] below fiscal year 2013 levels.”

Tonko also said he held out hope that Congress might approve some energy efficiency legislation before the lame duck session ends this month. “Currently people in both chambers are working to reach agreement on an energy package for an end-of-year bill. I don’t want to suggest that it will be the bold suite of clean energy priorities that I want to see advanced. And it is far from certain that anything will be able to be enacted. But the good news is energy conservation measures have always enjoyed strong bipartisan, bicameral support in Congress. So, if any energy policies move this month, there’s a good chance some efficiency and [research and development] provisions will be part of it.”

The daylong conference also included discussions on decarbonizing industry, transportation and buildings.

New York Moving on Building Emissions

Janet Joseph, senior vice president of strategy and market development for the New York State Energy Research and Development



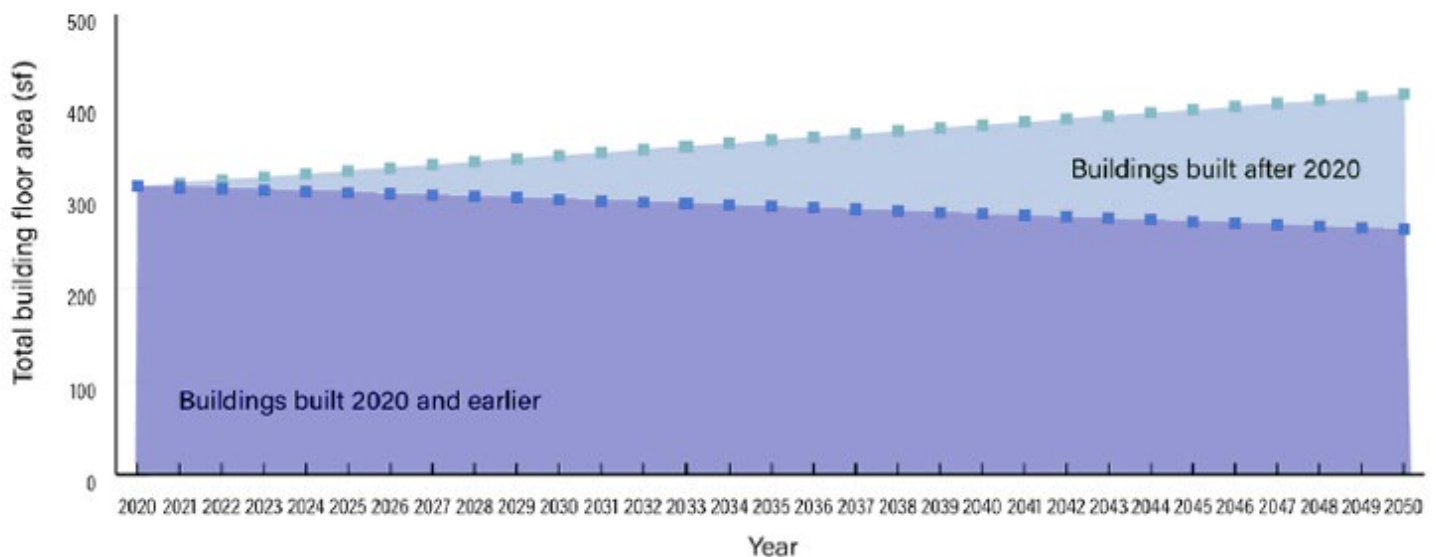
Janet Joseph, NYSERDA | ACEEE

Authority (NYSERDA), noted that 70% of the state’s building stock was constructed before they were subject to energy standards. The impact? Space and water heating is the state’s single largest source of greenhouse gas emissions, she said.

In response, the state plans to electrify all heating and cooling, make buildings more energy efficient and incorporate more load flexibility into them, Joseph said. “This will become really significant, as we will need to accommodate an electric supply that is largely powered by intermittent renewable resources.”

Joseph said NYSERDA will release its “Carbon Neutral Buildings Roadmap” early next year. By 2030, more than half of heating systems installed in New York will need to be heat pumps; by 2050, nearly all new systems must be heat pumps powered by carbon-free electricity, Joseph said. “Air-source heat pumps, ground-source heat pumps, heat pump hot water heaters [and] high-efficiency systems that can work in cold climates.”

But despite providing heat pump incentives for



New and existing residential and commercial buildings, 2020-2050 | ACEEE

FERC/Federal News



several years and supporting pilot programs, only about 3% of the state's homes are using heat pumps for heating. "So, we are clearly at the beginning of a major transformation in how we heat and cool our buildings," she said.

In April, officials announced *New York State Clean Heat*, which will include almost \$500 million in consumer incentives to be distributed by utilities. It also includes about \$200 million in spending by NYSERDA to improve consumer awareness of improvements in heat pump technology and reduce their costs by 25% while increasing the pool of labor to install them by more than 14,000 workers.

The goal, Joseph said, is to position "the state for more affirmative regulatory action that will send a clear market signal for all-electric buildings in the future."

"We will need regulatory changes through building and construction codes, appliance standards and/or greenhouse gas emission standards that set a clear market signal with a date certain to drive building electrification at the scale and pace we need to achieve our climate goals."

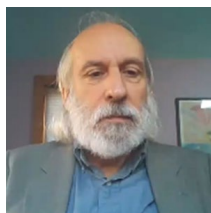
She said the state also will launch a demonstration initiative next year focused on community-scale district geothermal systems. "We need heat pump solutions that can scale," she said.

It is also partnering with the real estate industry in seeking decarbonization strategies for tall buildings in New York City and elsewhere, through the *Empire Building Challenge*.

"We will need low-cost capital, and lots of it, to support investments on the scale of what has been mobilized to support clean water infra-

structure in this country. ... We will also need continued innovation in these technologies to drive performance and cost improvements, and specifically getting at hard to electrify buildings. There will be some buildings, at least in New York state, that will be very hard to electrify."

Building Codes



ACEEE Executive Director Steve Nadel | ACEEE

ACEEE Executive Director Steve Nadel also took up the subject of building codes, noting that the "energy use index" for commercial buildings has been reduced by about 50% since 1975, with somewhat smaller cuts for residential buildings, as a result of tightened

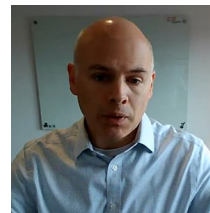
state and local building codes. New model codes by the American Society of Heating, Refrigerating and Air-Conditioning Engineers and the International Energy Conservation Code (IECC) appear to require "significant" additional savings, he said.

But Nadel said legislation to tighten federal code goals have been opposed by homebuilders, whose dominance of the IECC has prevented faster progress.

"There may be some questions about whether the IECC process is fair or whether we need an alternative," he said. "This year, the membership effectively overrode [the homebuilders]. We'll see what the process is going forward and whether the IECC process is workable, or whether we need to be looking

for alternatives."

Decarbonizing Manufacturing



Tom Dower, ArcelorMittal | ACEEE

The conference also heard from Tom Dower, senior director of government relations for ArcelorMittal, a steel producer and mining company with industrial operations in 18 countries, who briefed ACEEE on the company's commitment to net-zero emissions by 2050.

In Europe, where most of the company's operations are located, it has pledged a 30% emissions reduction by 2030, a "very aggressive [goal] for a steelmaker," Dower said.

He said the company was hoping to pioneer a carbon-neutral method for steel and ironmaking. But, he said, "new policy frameworks will be required to ensure the transition to carbon neutrality is both competitive and technically possible," decriing the U.S.' lack of a "coordinated, coherent climate strategy."

"We're working in industries that have long investment cycles, and it's unclear right now whether the market will reward early movers. [It] can require a leap of faith for those who want to make the right steps towards decarbonization but are in a market environment today [in which they] may be harmed economically."

"Uncertainty," he added, "is not helpful in terms of leadership and making difficult decisions." ■

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CAISO/West News

New CAISO CEO Vows Urgency on Resource Adequacy

Mainzer Says Collaboration with State Agencies is Key

Continued from page 1

the resource base is changing dramatically. We know that the climate is changing. California clearly has significant co-dependencies with other regions of the West. And as the resource base has changed, we need to make sure that our planning and procurement and our operations adapt sufficiently rapidly to stay ahead of the reliability curve.

“California has placed itself on the absolute leading edge of energy policy in this country, if not the world,” he said. “In order to achieve the ambitious goals, we all recognize that we need to have a planning and procurement and an operational framework that is up to the task of those public policy goals.”

Roundtrip to California

Mainzer’s move from the Bonneville Power Administration in Portland, Ore., to CAISO headquarters in Folsom, Calif., in late September was a return home of sorts.

He grew up in San Francisco and attended the

University of California, Berkeley, as an undergraduate, before traveling for school and work to India, New England, South Africa, Houston and the Pacific Northwest.

Mainzer said he first grew interested in energy, particularly sustainable energy, when he spent a semester abroad in India and saw the massive Sardar Sarovar Dam being built.

Graduate work in business and environmental studies at Yale University led him to South Africa, where he helped the government of President Nelson Mandela understand how the U.S. regulated its electric utilities, lessons South African leaders hoped to apply at home.

At Yale, Mainzer came across a company called Enron, which was buying wind and solar generation in the West. He went to work for the company, first in Houston and then in Portland, where he founded its renewables trading desk. He lost his job in late 2001, when the company collapsed after gaming California’s energy market.

Mainzer said he was not involved in Enron’s

malfeasance, but the experience left a sour taste.

“I said, ‘That’s about enough private sector for me for a while,’ and I went across the river to BPA,” he said. “Eighteen years later, this opportunity at CAISO opened up. It’s been a great journey.”

Training Ground

Mainzer took over as BPA administrator in 2013. The energy market was changing. Electricity prices were falling fast, with fracking and renewables entering the mix. At the same time, the cost of maintaining BPA’s aging infrastructure, including hydroelectric dams dating to the Great Depression, was growing.

BPA’s rates had been rising too, and buyers, particularly the public power entities that the administration supplied, were not happy.

“Our customers were saying to us, ‘Hey, if you guys don’t get your cost structure under control, and you don’t get your rates under control, we’re not sure we’re going to be there



Elliot Mainzer became CAISO’s CEO on Sept. 30. | CAISO

CAISO/West News

for that next round of long-term contracts,” Mainzer said. “And so I put a tremendous amount of energy, with my staff and my leadership team and in partnership with customers, to really bend our cost curve to get our rates flattened out to a much more sustainable trajectory and to really maintain that role as the long-term provider of choice for those public power customers.”

Their goal was that BPA would “still be a good deal” in a competitive energy market, he said.

Employee safety was another top priority after a series of injuries and fatalities, Mainzer said. “We transformed the safety culture of BPA in deep ways.” In addition, BPA’s 15,000 circuit miles of transmission lines required upgrades for “efficiency and agility.”

The set of challenges was good training for the job at CAISO, he said.

“I’ve always tried in my career to prepare myself and position myself to work in organizations that are highly impactful and, if staffed correctly and oriented correctly, can have a really positive influence,” Mainzer said. “Bonnevile was that for the Northwest, and down here in California, the ISO is such a pivotal organization.”

Moving Forward

When California officials, including former CAISO CEO Steve Berberich, reacted testily to the August blackouts, Mainzer said he understood their frustration. California has a complex system in which the CEC forecasts long-term demand, the CPUC orders year-ahead procurement and CAISO allocates the capacity it is given, with limited backstop procurement authority.

Mainzer said he is approaching his new job by listening to others and working closely with the state commissions, while also acknowledging the hard realities ahead.

“My focus has been on coming in and trying to build collaborative and effective working relationships with the leadership of the CPUC and the CEC, getting to know some of their key staff and offering the hand of partnership,” he said.

“For me, just coming in with fresh eyes — given my experience in the Northwest [with] multi-stakeholder challenges — I think it’s just clear California will not succeed and will not have an effective resource adequacy framework if the ISO and the CPUC and the CEC do not have that shared sense of tremendous urgency and focus and collaboration,” he said.

“We have to work well together.

“You can’t have a world where you have two or three analytical frameworks for resource adequacy at different stages of the chain,” Mainzer said. “We need to be looking at issues through roughly the same analytical lens.”

Like leaders at the CPUC and CEC, Mainzer said he wants to see the state’s leading-edge resources thrive, including behind-the-meter solar generation, distributed energy resources, demand response and battery storage. But “for those resources to play important roles in the reliability solution, we have to be really objective and rational ... about the different behavioral characteristics of those resources and what it takes to enable them to perform [optimally].”

The new CEO said he’s keenly interested in sharing resources across the West through CAISO’s Energy Imbalance Market, including its extended day-ahead market now under development, and perhaps eventually talking about a Western RTO. For now, however, Mainzer said he is focused on the state’s internal needs.

“Failure is not an option,” Mainzer said. “We have got to continue making progress and working effectively together.” ■

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CAISO/West News

CAISO Wasn't Gamed in Blackouts, Monitor Finds

By Hudson Sangree

CAISO's Department of Market Monitoring found no evidence of market manipulation or strategic generator outages during the rolling blackouts of mid-August, the market watchdog said in a *report* filed Nov. 24.

"DMM has carefully reviewed major outages which occurred on Aug. 14-15," it said. "Based on its data analysis and conversations with plant operators, DMM has found no indication that outages were falsely declared at strategic times in order to allow generation owners to profit from higher prices."

Some CAISO critics have called for an objective review of the blackouts and questioned why, for example, CAISO allowed large volumes of energy exports on days when it knew supply would be tight. The skeptics included the California Community Choice Association and a former president of the California Public Utilities Commission. (See *CalCCA Seeks 'Objective' Review of Blackout Report* and *Former CPUC President Calls for CAISO Probe*.)

Others speculated that CAISO's decision to cease convergence bidding after the blackouts signaled that the financial hedges may have

been used to game the market. (See *Theories Abound over California Blackouts Cause*.)

The DMM dismissed those notions as unfounded.

"DMM closely monitored and reviewed market behavior during the Aug. 14-15 heat wave," it said. "Contrary to some suggestions in the media, DMM has found no evidence that market results on these days were the result of market manipulation."

Whether the department's report will satisfy the critics remains to be seen. In other areas, it largely agreed with the findings of a preliminary root-cause analysis by CAISO, the CPUC and the California Energy Commission. (See *CAISO Says Constrained Tx Contributed to Blackouts*.)

"Key findings in this report are consistent with findings in the joint CAISO/CPUC/CEC report, which found that there was no single root cause of the load-shedding events occurring on Aug. 14-15," the department said.

An extreme Western heat wave that strained supply in California and the Southwest "resulted in demand for electricity well in excess of current resource planning targets," it said. It recommended CAISO re-evaluate its planning

targets and resource adequacy requirements prior to next summer.

Current counting rules for resource adequacy "overestimate the actual capacity that is available from many resources during the early evening hours, when solar production is very low and demand is still very high," the department said. The blackouts occurred under such conditions.

"The most significant and actionable of these factors involve California's resource adequacy program," it said. "To limit the potential for similar conditions in future years, system level resource adequacy requirements should be modified to ensure more capacity is available during net load peak hours. In addition, capacity counting rules for different resource types should be modified to more accurately reflect the actual availability of these resources during the net load peak hours."

The DMM agreed with the joint-agency root-cause analysis that "a prior market enhancement was unintentionally causing the CAISO's [residual unit commitment] process to mask the load under-scheduling and convergence bidding supply effects, reinforcing the signal that more exports were supportable."

And it found, as did CAISO, that transmission constraints because of weather in the Pacific Northwest limited imports, while the sudden loss of several gas plants in California forced the ISO to declare Stage 3 energy emergencies.

"Although the overall level of gas capacity on outage was not unusually high on these days, this sudden loss of a significant amount of gas capacity came at a time when the amount of excess supply was very low due to a combination of other factors," the DMM said.

The department also agreed with the ISO that "self-scheduling of relatively large volumes of exports in the day-ahead market that were not backed by imports being wheeled through or contracts with capacity within CAISO" contributed to the outages.

"This increased the overall demand that had to be met in both the CAISO day-ahead and real-time markets because exports not supported by physical supply were passed from the residual unit commitment process into the real-time market at this time," it said. "These export schedules were not subsequently curtailed in real-time during hours when the CAISO was curtailed." ■



CAISO/West News

PG&E Faces 'Enhanced Oversight' by CPUC

Vegetation Maintenance Scrutinized by State Regulator, Federal Judge

By Hudson Sangree

The California Public Utilities Commission might implement, for the first time, the strict regimen of oversight and enforcement that Pacific Gas and Electric agreed to last year as part of its bankruptcy plan, the commission's president told the utility Nov. 24.

The commission is concerned about alleged lapses in PG&E's vegetation and line maintenance. The oversight process includes mechanisms that could eventually place PG&E into receivership or allow a public takeover of the utility.

"As you are aware, as a condition of approval of Pacific Gas and Electric Co.'s plan of reorganization, the California Public Utilities Commission instituted a six-step enhanced oversight and enforcement process to ensure PG&E is held accountable for delivering on its safety responsibilities," CPUC President Marybel Batjer *wrote* to interim CEO William Smith. "By this letter, I am writing to inform you that I have directed CPUC staff to conduct fact-finding to determine whether a recommendation to place PG&E into the enhanced oversight and enforcement process is warranted. These fact-finding activities are well underway and are being undertaken expeditiously.



Interim PG&E CEO
William Smith | PG&E



CPUC President Marybel Batjer | CPUC

"My concerns arose from what appears to be a pattern of vegetation and asset management deficiencies that implicate PG&E's ability to provide safe, reliable service to customers," she continued. The CPUC's Wildfire

Safety Division "identified a volume and rate of defects in PG&E's vegetation management that is notably higher than those observed" for the state's other large investor-owned utilities. "In addition, CPUC staff are reviewing recent filings made by PG&E in its federal criminal proceeding regarding deficiencies and inconsistencies in its vegetation management practices and recordkeeping."



PG&E's wildfire prevention efforts include enhanced vegetation and line maintenance. | PG&E

PG&E did not immediately respond to a request for comment. It acknowledged in a federal court filing last month that it needs to improve its vegetation maintenance practices.

'Offender PG&E'

Gov. Gavin Newsom signed a bill in July that put the CPUC's increased oversight-and-enforcement protocol into state law. (See *Gov-ernor Signs PG&E 'Plan B' Takeover Bill.*)

The rules require PG&E to submit to greater scrutiny and potential state control for repeated and uncorrected safety problems. Under the terms of the law, the CPUC can appoint a third-party monitor, followed by a receiver, and eventually rescind PG&E's license to operate as the monopoly utility for most of Northern and Central California.

PG&E equipment caused catastrophic wildfires in 2017 and 2018 that killed more than 100 people and destroyed thousands of homes, resulting in its bankruptcy and stricter scrutiny by state and federal authorities.

The utility remains on probation for felonies related to the San Bruno gas pipeline explosion in 2010. U.S. District Judge William Alsup, who oversees the probation, has repeatedly required PG&E to account for its fire-prevention activities and, in some cases, its role in starting new fires. In October, Alsup questioned PG&E about its possible part in starting the Zogg Fire, which swept through rural Shasta and Tehama counties in late September, killing four residents and destroying more than 200 structures. (See *PG&E Line Was Active when Zogg Fire Started.*)

A federal monitor reporting to Alsup criticized PG&E's vegetation management practices in an Oct. 16 letter.

"On a per-mile basis, the monitor team is finding more missed trees ... in 2020 than we did in the later part of 2019," it said. One reason could be that PG&E trimmed trees in areas with low fire risk in 2019 to meet its CPUC-approved targets, rather than trimming trees in the high-fire-risk areas, the monitor said.

Alsup ordered PG&E to explain its shortcomings, which the monitor attributed to "human error, lack of oversight, miscommunications and failure to appropriately escalate matters." Those were the "same problems that offender PG&E has long had," the judge said.

PG&E responded Nov. 3 that it "did not programmatically target low-risk line miles for work in its Enhanced Vegetation Management (EVM) program during 2019" but instead used a risk model along with other factors, including weather conditions, to schedule maintenance.

"By the end of 2019, approximately 40% of the miles completed and more than 50% of the trees worked (removed or trimmed) as a result of the EVM program were in the top 100 highest-risk circuits as identified by the risk model in use at the time.

"While those figures reflect a significant reduction in wildfire risk, PG&E also accepts and agrees with the monitor's view that in making operational decisions, PG&E must give greater weight to working the riskiest areas first and must do so in a more rigorous, consistent and measurable way," it said. ■

CAISO/West News

PG&E Gets \$1.3B Rate Hike, Cancels Mass Blackouts

By Hudson Sangree

Pacific Gas and Electric canceled its anticipate blackouts Monday after saying it might shut off power to nearly 400,000 residents to prevent wildfires. The move would have been an extraordinary step in December, when fire season is normally over in the utility's Northern California service territory.

Over the weekend, Southern California Edison and San Diego Gas & Electric instituted public safety power shutoffs (PSPS) in their service territories that affected roughly 85,000 customers, or nearly 250,000 residents, as hot dry Santa Ana winds created dangerous fire conditions.

PG&E predicted mass blackouts Friday, a day after the California Public Utilities Commis-

sion unanimously approved the utility's 2020-2022 general rate case. The *decision* included a nearly \$1.3 billion, three-year rate increase, much of it meant to help the utility prevent wildfires and limit the extent of PSPS events.

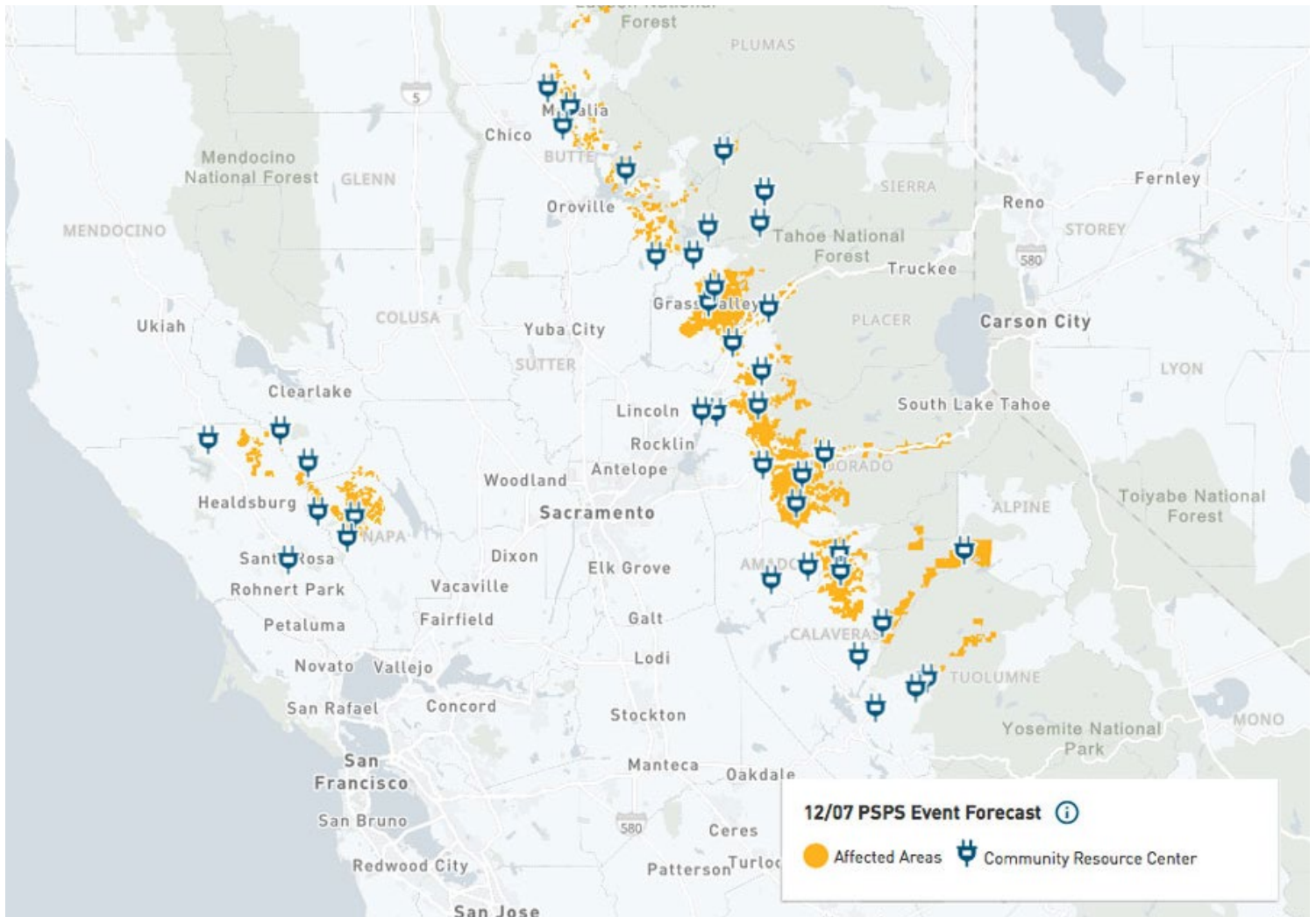
"This decision provides significant funding for PG&E's Community Wildfire Safety Program," Commissioner Liane Randolph said. "The CWSP incorporates a risk-based approach to identify and address PG&E assets that are most at risk from the threat of wildfires and associated events."

The CPUC approved \$603 million in 2020, \$930 million in 2021 and \$1.5 billion in 2022 in total funding for the wildfire program. PG&E said it will use the funds for enhanced vegetation management and system hardening, including installing stronger poles and trimming

branches from an estimated 120 million trees.

The commission authorized a \$9.1 billion revenue requirement for PG&E in 2020, a \$584 million increase over 2019 but \$474 million less than the utility's initial request. Increases of \$316 million and \$364 million for 2021 and 2022, respectively, will follow. PG&E and consumer groups reached the final amounts in a settlement approved by the CPUC.

Randolph noted that nearly \$3 billion of PG&E's wildfire mitigation work is excluded from its rate case by Assembly Bill 1054, passed last year. The bill prohibits the state's three large investor-owned utilities from earning a return on equity for their combined share of the first \$5 billion spent on wildfire-prevention measures.



PG&E on Dec. 5 said it could shut off power to 92,000 customers on Dec. 7. | PG&E

CAISO/West News

The CPUC also approved a settlement provision that allows PG&E to recover up to \$1.4 billion in annual insurance costs.

The settlement and commission's decision followed 17 community meetings held throughout PG&E's service territory and four weeks of evidentiary hearings.

The utility's equipment started devastating fires in 2017, 2018 and 2019 that killed more than 100 residents and destroyed tens of thousands of structures, the California Department of Forestry and Fire Protection found. The department is investigating PG&E for starting another wildfire in September that killed four people and burned more than 200 structures in rural Northern California. (See [PG&E Under Scrutiny in Deadly Zogg Fire.](#))

In a recent letter, CPUC President Marybel Batjer threatened to institute a new process of increased oversight of PG&E for what she said were serious lapses in the utility's vegetation management. (See related story, [PG&E Faces 'Enhanced Oversight' by CPUC.](#))

Critics have said the company put shareholder profits over grid maintenance for decades.

"Unfortunately, this summer has showed us again that PG&E is still behind in the invest-

ments needed to ... make [its] system and vegetation management safe," Commissioner Martha Guzman Aceves said. She said she would support PG&E's rate increase for safety reasons despite it coming during a pandemic and economic downturn, when many residents will feel the increase more.

December Fire Conditions

In its initial PSPS statement last week, PG&E said it might shut off power to 130,000 customers — or about 377,000 residents, based on average household size — in parts of 15 counties.

"Dry conditions combined with expected high wind gusts pose an increased risk for damage to the electric system that has the potential to ignite fires in areas with dry vegetation," the utility said in a news release.

It reduced the number Saturday to 92,000 customers, or about 267,000 residents, after receiving updated weather forecasts. It then cut the number of customers potentially affected by 90% Sunday and canceled the blackouts altogether Monday, citing improved weather.

In a separate statement on its rate case, PG&E

said the CPUC's decision will allow it to keep future PSPS events smaller and shorter.

The late fall fire conditions also impacted dryer Southern California, which has had catastrophic fires in December in recent years. The blazes included the 2017 Thomas Fire, blamed partly on Southern California Edison equipment. (See [Edison Takes Partial Blame for Wildfire in Earnings Call.](#))

SCE said Monday it had shut off power to about 12,000 customers for safety reasons and was considering shutting off power to more than 193,000 others, as the Santa Ana winds whipped wildfires in its service territory.

San Diego Gas & Electric blacked out 73,000 customers on Friday during dry, windy conditions. It had restored power to most by Monday but said more than 50,000 customers remained at risk for PSPS.

During the CPUC's discussion of PG&E's rate case, commissioners said climate change was pushing fire season later in the year and affecting greater numbers of residents.

"We are in the midst of customers facing shutoffs now because these ... dry winds are continuing into December, beyond what has been our usual fire season," Commissioner Genevieve Shiroma said. ■

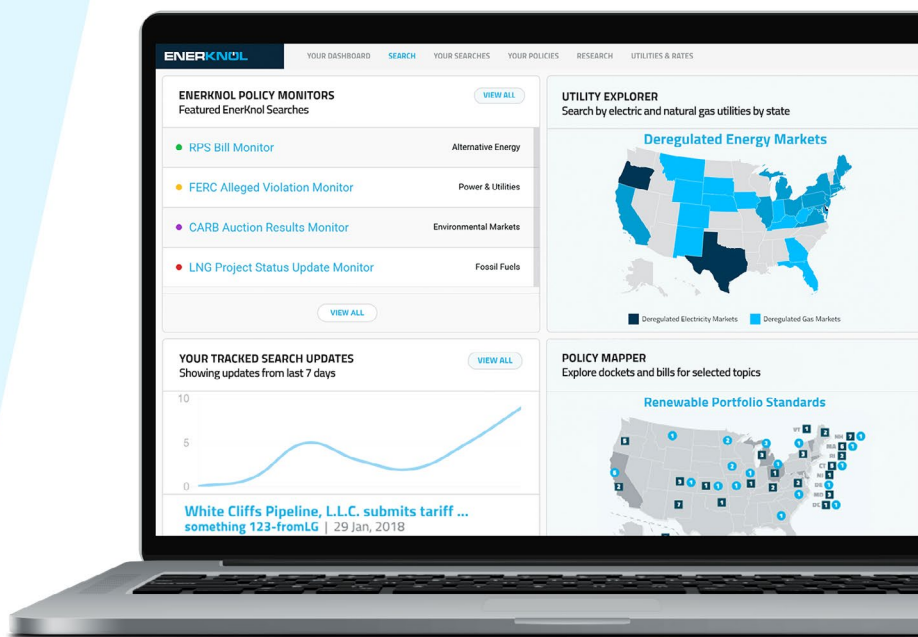
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ERCOT News



Vistra to Shut down Another Texas Coal Plant

By Tom Kleckner

Vistra continues to shed fossil-fueled assets, confirming Wednesday it will shut down a 40-year-old coal plant in South Texas over regulatory compliance and economic concerns.

The Irving, Texas-based company said it would retire the 650-MW Coletto Creek Power Plant no later than 2027 because it would be too expensive to comply with a pair of recently finalized EPA rules.

Separately, Luminant, the company's Texas generator, notified ERCOT on Nov. 30 that it intends to retire an older gas-fired generator with 244 MW of capacity in April 2021. The *Trinidad Power Plant* dates back to 1965.

Vistra said its analysis of EPA's Coal Combustion Residuals and Effluent Limitations Guidelines and potential future regulations would require a capital investment of "tens of millions of dollars" in emissions-control equipment to operate Coletto Creek beyond 2027. The first rule regulates the disposal of coal ash, and the second limits the amount of toxic metals in wastewater.

"This investment cannot be justified based on the underlying economics of the plant and the uncertainty of more stringent regulations to come," Vistra spokesperson Meranda Cohn said in an email to *RTO Insider*.

Coletto Creek is the smallest of Luminant's three coal plants in Texas. It was designed as a baseload plant but has been operating at only 38% capacity through the first nine months of 2020, the company said.

Vistra closed three power stations in 2017, shutting down 3.85 GW of coal fired generation because of the "economically challenged" environment. (See *Vistra Energy to Close 2 More Coal Plants*.) In October, the company said it would shut down seven coal plants in Illinois and Ohio, blaming MISO's "irreparably dysfunctional" capacity auction design. (See *Vistra Declares End of Midwest Coal Fleet*.)

Luminant has about 39 GW of generation, primarily coal- and gas-fired, across 12 states. In recent years, it has ventured into solar power and energy storage in its Texas footprint, where it has 180 MW of installed capacity and another 2 GW under development or in the pipeline.

"Vistra does not take lightly any decision about operations," Cohn said. "The company continually assesses our power plants based on real-time information while also analyzing the cost of environmental compliance for existing and pending regulations.

The company acquired Coletto Creek in 2018 as part of its merger with Dynegy. (See *Vistra-Dynegy Merger Closes After FERC Nod*.)



Luminant's Trinidad Power Plant | Luminant

Luminant, 1 Other File NSOs with ERCOT

Luminant filed a notification of suspension of operations (NSO) with ERCOT, telling the Texas grid operator it plans to decommission and permanently retire Trinidad as of April 29, 2021. Market participants have until Dec. 21 to file comments on the plan, after which ERCOT will issue a determination on the plant's future.

Wharton County Generation also filed an NSO on Nov. 30 for a 69-MW gas-fired unit along the Texas Gulf Coast. The company said the plant was decommissioned and retired that day after a forced outage. ERCOT said it will not evaluate the resource for reliability-must-run status. ■



Vistra says it will shut down its Coletto Creek Power Plant by 2027. | Luminant

ISO-NE News

FERC Orders End to ISO-NE Capacity Price Locks

By Jason York

FERC on Thursday ordered ISO-NE to remove its new-entrant rules for its Forward Capacity Market from its Tariff, preventing resources from being allowed to lock in their prices for seven years (*EL20-54*).

The commission said the rules resulted in “unreasonable price distortion” and that locked-in prices are “no longer required to attract new entry, with the benefits provided by price certainty no longer outweighing their price-suppressive effects.” FERC said that price-lock agreements in effect before the order will not be impacted, with the new rules starting with FCA 16, scheduled for February 2022.

The rules had been in effect since ISO-NE began its capacity market in 2006. They allowed capacity resources to sell at the same price for five years — extended to seven years in 2014 — with resources offering in Forward Capacity Auctions at \$0 after the first year to ensure that they cleared. Although this prevented them from taking advantage of higher prices, it was seen as a shield against lower prices.

ISO-NE implemented several other changes to the FCM when the price-lock period was extended, including a systemwide downward sloping demand curve to address capacity price volatility. It also implemented market

scarcity pricing enhancements that increased reserve constraint penalty factors for 10- and 30-minute reserves, and bumped up the price that resources are paid for energy and reserves in real-time during scarcity conditions.

“Together, these changes to the capacity, energy and ancillary services markets have significantly altered the landscape for new entrants in ISO-NE,” the commission wrote. “The energy and ancillary services market improvements provide resources to receive a more significant proportion of revenues in these markets, which reduces the revenue that resources need to earn from the FCM to recover their costs.”

The order ends a six-year-long proceeding. When FERC approved the price-lock extension, it allowed ISO-NE to forego an offer floor for resources, despite previously rejecting a request by PJM to remove the offer floor for its own price-lock period. This prompted a challenge by Exelon and the New England Power Generators Association (NEPGA) and the D.C. Circuit Court of Appeals remanding FERC’s approval, though the court did not vacate the rules.

FERC subsequently instituted a paper hearing in July to re-examine the rules. (See [FERC Opens Proceeding on ISO-NE New-entrant Rules](#).)

The commission said that new resources’

entry should be driven “at least in part” by future price expectations, and that the price lock interferes with that dynamic. With the elimination of price risk, a new resource may lower its offer price to increase the likelihood of being selected in the auction. FERC said that if this resource is the marginal resource, the lower clearing price “distorts the price signal sent by the FCM and reduces the price paid to all capacity suppliers in that auction.” The commission added that it previously recognized that new-entrant rules could result in price suppression, but ultimately found that it was “an acceptable byproduct of market rules that would attract new entry through greater investor assurance and protect consumers from very high year-one prices.”

ISO-NE spokesperson Matt Kakley said the RTO appreciated “the clarity” of FERC’s decision and is “prepared to eliminate the price lock for new resources.”

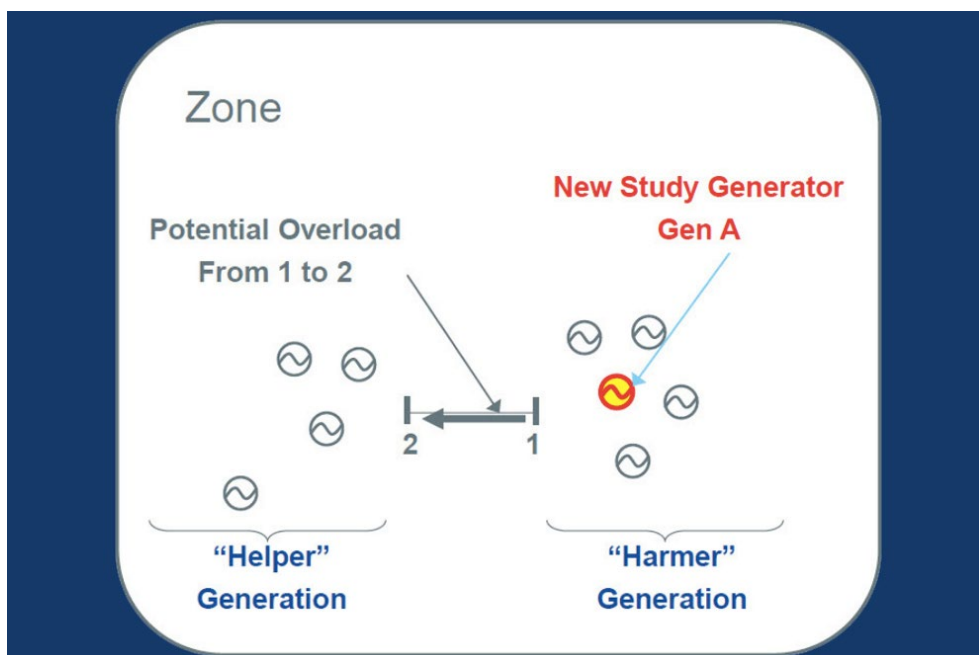
“We are gratified that the commission recognized the many improvements we have implemented in the New England wholesale markets,” Kakley said.

NEPGA President Dan Dolan said the organization is “very happy to see that FERC agreed that the seven-year capacity price lock is no longer necessary to bring in new investment and resources into New England. ... This order is a strong statement that New England’s Forward Capacity Market has matured to be an investible market that, when properly structured, can support reliability and new investment.”

But FERC disagreed with NEPGA’s argument that unreasonable price suppression would continue even after the price lock is removed unless ISO-NE implements a soft offer floor. The commission said that though NEPGA demonstrated “that FCA pricing outcomes can theoretically differ depending on whether a soft offer floor or a zero-price offer requirement is in place, recently cleared resources are unlikely to have high going-forward costs.”

The commission agreed with ISO-NE and Potomac Economics, the RTO’s External Market Monitor, that the adoption of an offer floor “would unnecessarily complicate the FCM and have detrimental consequences.”

Dolan said NEPGA stands by its concerns about “the ongoing price suppression effect that price-taking units have on the auction results” but added that “fortunately, the end is now in sight.” ■



Before accepting a new generating resource for its FCM, ISO-NE tests to ensure they do not cause overloads that cannot be fixed in time for the capacity commitment period. | *ISO-NE*

ISO-NE News

Offshore Wind Looks at Crowded Future in New England

By Michael Kuser

Although the pandemic turned this year into one of the most challenging in living memory, the U.S. offshore wind industry put “steel in the water”; the federal government made progress on environmental reviews; and many states ramped up their clean energy and procurement targets.

But growth challenges are starting to appear as several large projects move toward completion in the mid-2020s, putting pressure on transmission capability and supply chain infrastructure, according to federal and state officials.

So heard 150 participants on Wednesday at the eighth Annual New England Offshore Wind Conference hosted by the Environmental Business Council of New England (EBCNE). Following is some of what we heard.

Federal Perspective



James Bennett, BOEM | EBCNE

“The big item for 2020 is that we have steel in the water in the federal [Outer Continental Shelf],” said James Bennett, manager of the Renewable Energy Program at the Bureau of Ocean Energy Management (BOEM), referring to two 6-MW

turbines in a pilot project on a site leased by the Virginia Department of Mines, Minerals and Energy.

BOEM currently has 16 leases and is looking at other areas as well, while states have gone beyond goals and have identified about 12 GW of offtake, he said.

“It’s not just the leasing and offtake, it takes a substantial development of the industry, including port facilities, testing facilities, academic programs have sprung up, particularly up and down the East Coast, and we have industrial facilities and industrial synergies available through the offshore industry in the Gulf of Mexico,” Bennett said.

BOEM has 10 construction and operation plans (COPs) under review now and anticipates another five or so in the near future, he said.

“We have issues that are starting to develop with regard to transmission and whether or

	Renewable Goals	Offshore Wind Goals (MW)	Offshore Wind: “Offtake” Awarded (MW) + Scheduled (MW)	
Massachusetts	35% by 2030	3,200	1,600	+ 0
Rhode Island	100% by 2030	unspecified	430	+ 0
Connecticut	48% by 2030	2,300	1,108	+ 0
New York	70% by 2030	9,000	1,826	+ 2,500
New Jersey	50% by 2030	7,500	1,100	+ 2,400
Maryland	50% by 2030	2,000	368	+ 1,200
Virginia	30% by 2030	5,212	12	+ 0
TOTAL	--	28,612 MW	12,544 MW	

BOEM’s assessment of offshore wind development on the East Coast as of Dec. 2 | BOEM

not the system we have in place is as effective as it could be,” Bennett said.

“Navigation, of course, is probably the single biggest definer of what areas are even available for offshore development, and commercial and recreational fishing has been a key issue that we’re in the process of working through,” he said. “We’re anticipating a very active decade ahead.”

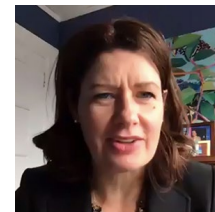
BOEM in November announced a one-month delay in Vineyard Wind’s final permitting, now scheduled for mid-January, with another delay announced last week by the developer because of a change in turbine design.

“Our programs have been very aggressive in anticipating movement on these projects, and we run into some delays, but we continue to move along. South Fork is the next project we’re working on for the environmental impact statement to move towards a record of decision. We’re also looking at the New York Bight, in addition to the lease we issued, the Empire Wind project, and we anticipate moving on additional areas and now have established the Gulf of Maine Task Force ... and are also looking at the Carolinas and out on the West Coast and Hawaii as well.”

Asked whether BOEM plans to open an office in the Northeast, Bennett said, “We believe that having our offices where the developers are would be a very good thing, but there are no concrete plans at the moment. It’s one of the things we’ll be looking at with the change in administrations. ... We’ve been surprised

during COVID at how much can be done remotely.”

States Ponder Shared Tx



Connecticut DEEP Commissioner Katie Dykes | EBCNE

“We are very close to issuing the draft of our integrated resources plan for our state ... which enables us to track our progress in meeting our state public policy goals,” said Commissioner Katie Dykes of the Connecticut Department of Energy and

Environmental Protection. “As a preview, we’ll be announcing in that plan that we are well on our way to meeting that 100% zero-carbon electric grid target by 2040, based on a whole portfolio of different resources, but recent commitments to offshore wind make up a really critical part of our state’s progress.”

Last year’s 800-MW Park City Wind project selection was the largest ever renewable procurement in Connecticut history, and the state has plenty of precision manufacturing to help develop a domestic supply chain for OSW and hopefully counteract the economic downturn inflicted by the pandemic, she said. For example, Park City will help build up the Port of Bridgeport, and the contract for 304 MW from Revolution Wind will help develop the state pier in New London.

“We were really pleased when Gov. [Ned]

ISO-NE News

Lamont joined with four other New England governors to announce a vision statement that our states are working to implement that calls for a new, regionally based market framework," Dykes said. (See [States Demand 'Central Role' in ISO-NE Market Design](#).)

"I'm excited to share the work that we're doing at this foundational stage of thinking about market designs that can work into the future to better catalyze the efficient deployment of renewables like offshore wind, and do so in a way that is harmonized with our regional wholesale energy markets," Dykes said.

States will organize technical meetings in the new year and "we will be emphasizing the need for transmission, that our planning for a transmission backbone is critical to ensure that we have onshore and offshore system upgrades that will provide for efficient utilization of the offshore resources being built," Dykes said.



Massachusetts DOER Commissioner Patrick Woodcock | EBCNE

Massachusetts Department of Energy Resources Commissioner Patrick Woodcock said it is important to maintain short-term progress but address long-term barriers to OSW development.

"We really are seeing that the transmission

network will be limited when you see the states' ambition, and we conducted a technical conference in 2020 that assessed whether there would be advantages to competitively soliciting transmission independently from generation, and we ultimately determined that it is a regional challenge," Woodcock said. "The challenge is real, but trying to do competitive transmission and address the long-term challenges of stable growth for the industry really does need to be a regional effort done in coordination with ISO-NE." (See [Mass. Nixes Separate Offshore Tx RFP](#).)

The states need to start long-term planning for the OSW industry, Woodcock said, including transmission planning, development of ports to support the supply chain. They also need to answer the question whether "our market structure is positioned to deliver this scale of resources, and I think the answer to that is no," he said.

The density of lease areas for uptake in New York, Connecticut and southern New England will create limitations that will require upgrades onshore, and questions linger about whether that will be cost-prohibitive and how to allocate those costs, he said.

"Delays in projects have put pressure on our port infrastructure across the East Coast. When you look at the condensing of schedules, it is the mid-2020s where a lot of projects are now planning to be installed, so there's a scarcity of acreage for portside infrastructure," Woodcock said. "Lastly, I would never have guessed in 2017 that there is some scarcity for leasing areas, but the interest of New York, Connecticut and New Jersey has really put pressure on our leasing area, which reinforces why we need to start planning for commercial leases in the Gulf of Maine."



Dan Burgess, Maine | EBCNE

Dan Burgess, director of the Maine Governor's Energy Office, said the state wants "to work closely with BOEM and make sure that whatever happens in the Gulf of Maine takes into consideration how important the fisheries are to our state. The lobster industry in particular is a big part of our heritage, but also a big part of our economic picture for the coastal communities."

Developer Updates



Nathaniel Mayo, Vineyard Wind | EBCNE

Nathaniel Mayo, director of public affairs for Vineyard Wind, said the project the previous day had announced a supplier agreement with General Electric for 13-MW Haliade X turbines, supplanting a previous deal with MHI Vestas.

"There's a lot of moving parts to that, the most notable of which from the development side being that we are now anticipating 62 turbine locations (down from 84), further shrinking that footprint and really capitalizing on a product from General Electric," Mayo said.

The change in equipment necessitates a temporary withdrawal of the COP for some internal due diligence, which "will add a few weeks of additional delay to our work, but it's been a long road and we look forward to completing that and resuming those operations as soon as possible," Mayo said.

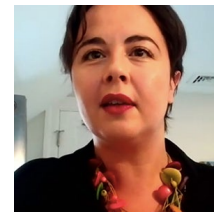
The company still plans to begin construction in the second half of next year and for the project to go online by the end of 2023.

The Massachusetts DPU last month approved contracts for the 804-MW Mayflower Wind

project, said Ruth Perry, marine science and regulatory policy specialist for Shell, a co-sponsor of Mayflower Wind Energy with Ocean Winds, a joint venture between ENGIE and EDP Renewables.

The project is slated to go operational in 2025 and to date has completed benthic habitat surveys and export cable routing, and will continue surveys in 2021, Perry said.

Sophie Hartfield Lewis is head of permitting and marine affairs for the 704-MW Revolution Wind project, a joint venture between Ørsted and Eversource that also is scheduled to go online at the end of 2023.



Sophie Hartfield Lewis, Ørsted | EBCNE

Lewis touted the partnership having chartered the industry's first Jones Act-compliant, U.S. flagged service operation vessel, a ship more than 260 feet long that Edison Chouest Offshore will build at its three shipyards in Florida, Louisiana and Mississippi.

The focus was transmission for Scott Lundin, head of permitting in New England for Equinor Wind US, which partnered with BP on the Empire Wind lease off New York and the Beacon Wind lease off Massachusetts.

New England differs from New York in being a region with six states interconnected electrically. For the Beacon project, Equinor has looked for points of interconnection capable of delivering to New England, New York and New Jersey, he said.

"There's no perfect solution, so we need to find a concept that will both be technically feasible, commercially viable and also permissible. ... So we're looking for the nexus of where those things come together," Lundin said. "Within 60 miles we can maintain standard high voltage AC, but beyond that and definitively after 100 miles we have to start thinking about reactive compensation and consider DC."

For the Beacon project, 60 miles reaches Cape Cod, but all the main load centers are outside the 100-mile radius, so "DC technology satisfies some of these regional transmission concerns and challenges," and also requires less cabling, Lundin said.

The Southeastern Massachusetts region of ISO-NE is challenged to take much more power, so "where we can interconnect in one state but deliver power to another presents some opportunities here," Lundin said. ■

ISO-NE News

ISO-NE PAC Briefs

Pilot Study Proposed

ISO-NE is *proposing* a pilot study for its “Transmission Planning for the Clean Energy Transition” effort that would test grid performance assumptions under scenarios of high renewable penetration and quantify the tradeoffs between transmission investment and less system flexibility.

The pilot study would take a “10,000-foot view” of the entire New England system, rather than a portion of it, according to Dan Schwarting, a transmission planning supervisor for the RTO.

The goal is to identify the overall trend of system behavior and reliability concerns as more renewables are brought online, not to identify exact needs or system upgrades. Base cases will represent a likely dispatch for a given condition rather than stress any specific portion of the system through generator outages.

The RTO said steady-state N-1-1 analysis on the entire system is feasible because of recent study automation efforts. Stability analysis will concentrate on faults on the 345-kV system and 230-kV or 115-kV faults that are incredibly impactful. Limited electromagnetic transient study work may be pursued as well.

Schwarting said the results of the pilot study will be most useful if it begins with fairly conservative conditions, such as high wind generation when low inertia may be a concern and low wind generation where load serving may be an issue. He said it would also investigate potential paths to address reliability concerns through transmission system investment, operational measures and policy changes.

Any reliability problems found would not be

immediately addressed in a solutions study or competitive request for proposals. The proposed transmission solutions would be representative only, and costs would be order-of-magnitude estimates.

The results of the pilot study would inform decisions on assumptions to be used in future transmission needs assessments.

Additionally, certain study assumptions are affected by policies both inside and outside ISO-NE’s purview, such as distribution system power factor, distributed energy resource voltage and frequency control capability, and DER fault ride-through capability. Initially, the pilot study will assume a “business-as-usual” approach to these policies. If changes to the policies promise benefits, they will be considered as mitigating measures. However, the RTO wants reasonable assurance that these policies would be implemented and enforced before it could rely on them in future needs assessments.

Schwarting said that many stakeholders provided comments during and after his PAC presentation in September. (See “Proposed Study Conditions to Meet Challenges in Transmission Planning,” *ISO-NE Planning Advisory Comm. Briefs: Sept. 24, 2020*.)

The feedback related to study conditions centered on two questions: How likely are the proposed study conditions to occur, and can operational measures ensure reliability in those conditions?

The DER and storage policies-related feedback and questions from stakeholders included: Would the implementation of voltage and/or frequency control on DERs mitigate reliability

concerns? Also, could better rules around the behavior of storage assets address peak- and minimum-load conditions?

Stakeholders could submit feedback on the pilot study proposal until Dec. 4, and the next steps include the development and review of the base cases. The analysis will begin in late 2020 or early 2021. The RTO will reach out to distribution providers regarding DER data collection in parallel to the pilot study.

Preliminary Production Cost from Economic Study Presented

ISO-NE *presented* preliminary production cost results to the PAC for the 2020 Economic Study requested by National Grid. The utility asked for a one-year study focused on 2035 to provide stakeholders analyses of the best ways to meet state clean-energy goals cost-effectively, leveraging transmission and storage as needed.

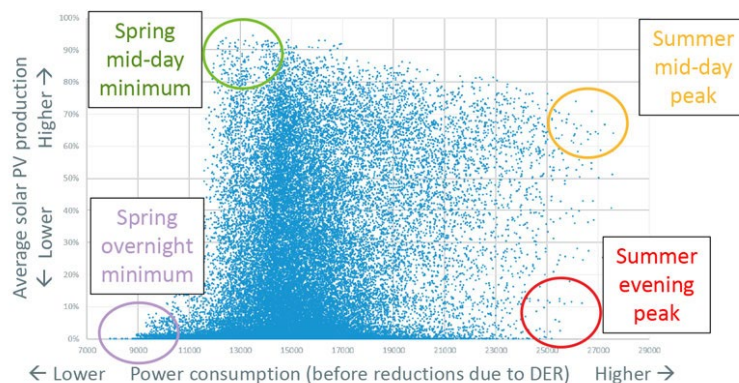
Richard Kornitsky, ISO-NE’s assistant engineer for system planning, said the introduction of bidirectionality across existing ties causes a reduction of spillage during situations of low load and high-variable resource production. Total systemwide spillage is relatively low compared to the New England States Committee on Electricity case of 8,000 MW spilled because of the RTO’s assumption of high load in 2035.

Because emissions associated with imports from Hydro-Québec and New Brunswick are assumed to be zero, the impact of energy banking of non-emitting New England resources is not apparent in many of the systemwide metrics. Natural gas production is replaced by adding new ties with firm low threshold-price import capability from Hydro-Québec.

The study used bidirectional threshold prices reflecting renewable energy credit values, first-to-curtail imports, then trigger exports, with renewables curtailed once export capability is exhausted. The prices ranged from $-\$100/\text{MWh}$ for behind-the-meter PV to $-\$30/\text{MWh}$ for onshore wind. The trigger for exports is assumed at $-\$25/\text{MWh}$.

Kornitsky asked for any feedback or comments by Dec. 1, including possible sensitivity scenarios. The next steps include identifying sensitivity scenarios and assumptions for the PAC meeting on Dec. 16, presenting assumptions for ancillary services analysis and draft results in the first quarter of 2021. The final report is expected in the second quarter of 2021. ■

— Jason York



Each blue dot represents a single hour experienced between 2012 and 2018. ISO-NE is proposing to study the “corners,” at the intersection of high/low load and high/low solar output. | *ISO-NE*

ISO-NE News

Officials Discuss Future of ISO-NE During Summit

By Jason York

As Joseph T. Kelliher started the third and final panel of the virtual New England Energy Summit on Nov. 30, the former FERC chairman said there has “always been some level of tension” between federal and state governments and grid operators.

“It existed before me. It’ll frankly probably always exist,” said Kelliher, a Republican who led FERC from 2005 to 2009. “So, it really is a question [of] how do you try to minimize the extent of that tension as much as possible.”

Kelliher served as moderator of a panel that featured FERC Commissioner Neil Chatterjee, Massachusetts Secretary of Energy and Environmental Affairs Kathleen Theoharides and ISO-NE CEO Gordon van Welie. Kelliher ultimately did not have to referee a tense exchange of ideas. Instead, an “interesting and substantive” discussion unfolded from a “polite group,” according to Kelliher.

“I thought maybe you’d mix it up a little bit just for the entertainment value of the audience,” Kelliher said.

Vision of the Future

Van Welie said that as ISO-NE did its strategic planning over the past 15 months, it was “very clear to us that there was significant change coming, and we wanted to make sure that we had appropriately positioned ourselves for those changes.”

“We have a mission statement, which is a fairly detailed statement, hardcoded in our Tariff documents ... [and] essentially says that we

have responsibility for designing and operating the wholesale markets, for upgrading the power system and doing transmission planning for the New England region, but it doesn’t really say anything about future intent,” van Welie said.

ISO-NE presented a vision statement at the NEPOOL Participants Committee meeting last month: “to harness the power of competition and advanced technologies to reliably plan and operate the grid as the region transitions to clean energy.” (See “ISO-NE Shares’ Vision for the Future,” *NEPOOL Participants Committee Briefs: Nov. 5, 2020*.)

According to van Welie, the vision statement “is a clear leaning in by the ISO into the broad policy objectives in the region to drive towards decarbonization of the grid and the economy as a whole.”

Theoharides said one approach to meeting the decarbonization goal is the Transportation and Climate Initiative (TCI), a collaboration of 12 Northeast and Mid-Atlantic states and D.C. TCI would set a limit on carbon dioxide emissions from diesel and gasoline vehicles and allow states to invest proceeds from the sale of carbon allowances to support the goals of the program, such as electric vehicle chargers and electric buses.

The initiative estimates a cap that cuts emissions 25% from 2022 levels by 2032 while covering almost three times the Regional Greenhouse Gas Initiative (RGGI) cap, which includes the New England states, New York and more recently New Jersey and Virginia. Transportation represents 43% of emissions

in the TCI region, which includes 72 million people, 52 million registered vehicles and \$5.3 trillion in GDP.

“Through this initiative, we can ensure a sustained investment in transportation to give people better, more affordable transportation options, while cutting the pollution that contributes to global warming and makes people more vulnerable to disease,” Theoharides said.

Whether through TCI or RGGI, Theoharides said, it is important that states are “able to work regionally to ensure residents have cost-effective and reliable energy.” She added that a decarbonized future cannot happen without a strong partnership between federal and state governments.

“We need a federal government that will be a committed partner, investing in climate solutions [and] setting minimum standards for climate action,” Theoharides said. She said that vehicle fuel efficiency standards are “a great example of this type of minimum federal standard that has been so important.”

“Federal climate policy should inherently include policy flexibility for states to design solutions that work for their unique circumstances,” Theoharides said. “But at the same time, our ability to take meaningful action on climate change depends on that federal baseline of standards.”

Chatterjee Touts Carbon Pricing

Chatterjee, who chaired FERC until President Trump demoted him shortly after the election in November, said FERC will be pivotal in the Biden administration’s efforts to “shape energy



Clockwise from top left: Robert Rio, Associated Industries of Massachusetts; Robert Either, ISO-NE; Francis Pullaro, RENEW Northeast; Doug Hurley, Synapse Energy Economics; Heather Hunt, NESCOE; David Cavanaugh, Energy New England | ISO-NE

ISO-NE News

and climate policy” with an important caveat.

“The fundamental fact is that FERC is not an environmental regulator,” Chatterjee said. “We have neither the expertise nor the statutory authority to be in the driver’s seat. When it comes to emissions policies, we are a market regulator. Our statutory mandate is to ensure the wholesale rates we oversee are just and reasonable, and that means that we have the responsibility to ensure that the markets we regulate remain competitive.”

Chatterjee said he has seen state policies negatively affect the competitiveness and functioning of wholesale markets, which required “tough, but in my view, necessary decisions” at FERC. He added that he was “truly excited” about the intersection of state carbon pricing policies and organized wholesale markets, which culminated with a technical conference on carbon pricing in September. (See [FERC Urged to Embrace Carbon Pricing](#).)

“We learned at the technical conference that there was broad agreement that wholesale market rules, incorporating a state-determined carbon price could offer a number of benefits like increased efficiency improvements on price formation and better support for the types of long-term price signals that our energy future requires,” Chatterjee said. “It all boils down to this: Carbon pricing is a fuel-neutral, transparent and market-based approach that can be harmonized with the markets we oversee. This stands in stark contrast to policy tools like subsidies, which can amount to hidden costs that can degrade market efficiency and skew price signals, ultimately hurting the consumer.”

Chatterjee said that as a conservative Republican, he believes “fundamentally” in states’ rights and the “ability to make decisions about

their local energy futures.” He also admitted that it was a “mistake ... an oversight” to not have state policymakers at the technical conference.

“I thought state interests were well represented in that conversation, but we should have had more direct state participation,” Chatterjee said.

He also wanted to make clear that the proposed policy statement inviting states to introduce carbon pricing in wholesale electricity markets was not “in any way shape or form an effort by FERC to set a carbon price or require any action” under the Federal Power Act. “It was a way for us to carry this important conversation forward and provide the industry with our current thinking.” (See [FERC: Send Us Your Carbon Pricing Plans](#).)

Transmission, Governance and Transparency

Van Welie said that without “a substantive price on carbon, there’s no choice but to engage in transmission planning out of market, *per se*.” He mentioned Texas’ Competitive Renewable Energy Zones as an example for developing the infrastructure needed to deliver remote wind to load centers.

“If you come from a policy point of view, you can’t get there,” van Welie said. “Then the only pathway from a transmission point of view is to do it along the lines of what the states have suggested, which is sort of like the Texas model in some ways that is going to end up deciding where we want to build the transmission in order to enable renewables. I don’t think there’s a market, *per se*, that will drive that outcome.”

When it comes to the governance and transparency at ISO-NE, van Welie said that he and

the Board of Directors will listen to the states to “understand what’s driving the concerns” with the RTO. States have called for governance reforms at ISO-NE, including issuing a vision statement of their own. (See [New England Governors Call for RTO Reform](#) and [States Demand Central Role in ISO-NE Market Design](#).)

“We’ve always felt that we are very transparent, and we feel like we’re goldfish swimming around in the bowl, and everybody can see exactly what we are doing all the time,” van Welie said. “Ultimately, we can’t make decisions without making a finding down at the FERC, so I think we need to understand what’s really driving this concern” about governance and transparency.

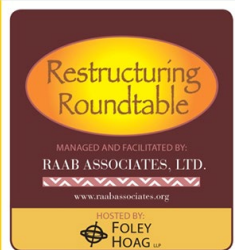
Whether it is market designs, progress and innovation or transmission planning, van Welie said he “can guarantee you it’s going to be done in a very transparent way because we’re going to be doing it through the stakeholder process.”

“There’s no way the ISO has the wherewithal to sit there in its ivory tower and come up with the solution,” van Welie said.

He added that the Tariff also “requires us to be transparent,” but if it is a question of whether the RTO is too independent, then he said that is part of a different conversation. He said CAISO’s Board of Governors is appointed by the state, and there are no “preconceived notions at this point.”

“We are listening. We want to understand,” van Welie said. “What we don’t want to do is have a conversation about governance impede our ability to make progress on the market design [and] in the transmission side of things. I think that needs to be full speed ahead, irrespective of what is happening on governance.” ■

Implications of the Election on Clean Energy/Decarbonization; & Wholesale Market Re-Design



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ISO-NE News



Overheard at New England Energy Summit Day 2

The New England Energy Summit kicked off the second of three virtual sessions Nov. 23 with a U.S. senator touting carbon pricing and finished with a panel of energy experts from the public and private sectors.

Here is some of what we heard at the summit, organized by the New England Power Generators Association and The Dupont Group.

Whitehouse Touts Carbon Pricing, Slams Big Tech

U.S. Sen. Sheldon Whitehouse (D-R.I.) has *delivered* hundreds of speeches from the Senate floor on climate change since 2012. He wasted little time in his keynote delving into an issue that has become a *cause célèbre* in New England: carbon pricing.

“I think carbon pricing is a pretty essential component of any rational analysis in the energy sector, and it has particular importance when you consider the climate peril that we face, particularly along the coastlines. Representing the Ocean State, I’m keenly aware of that,” Whitehouse said.

Whitehouse — who was campaigning in Georgia ahead of the Jan. 5 twin runoff races that will determine which party controls the Senate next year — said there is an “imbalance in the energy sector” in the form of a massive subsidy for fossil fuels. Whitehouse cited the International Monetary Fund reporting the yearly subsidy for fossil fuels in the U.S. is \$600 billion.

“If you have one fuel that has a \$600 billion annual advantage over its competitors, you have baked in a very bad distortion into the marketplace, and the obvious way to fix that is with a carbon price that counterbalances some, or all, of that subsidy until the market can work.”

Whitehouse said a carbon price is “far from dead” in Congress. He said it is the “leading strategy” on the Republican side, and there are four separate Democratic carbon pricing bills, “so this is not some fringe idea.”

Whitehouse added that Big Tech companies, such as Google, Apple, Microsoft and Facebook, “are not showing up in Congress to ask for climate legislation.” Instead, TechNet, the lobbying group for the companies, came to Capitol Hill with a 13-page list of legislative priorities and no mention of climate change or green energy, he said.

“There has to be a general awareness that American corporations are a wall in Congress,”

Whitehouse said. He said that President-elect Joe Biden would rally corporate support and “call out those faint hearts that say one thing but do something very different in Congress, which is basically everybody.”

Closer to home, Whitehouse addressed a question about the pushback from some states about increasing prices in the Regional Greenhouse Gas Initiative (RGGI) and expanding its use as a carbon-reduction tool. He said governors and state legislators face an interesting choice on RGGI.

“At the moment, RGGI has been run in a very comfortable way for everybody ... and it may be that the pressure from the inevitability of some real climate damage empowers some of the states that are leaning forward a little bit more on this to really press the states that are expressing skepticism to either get on board or get out,” Whitehouse said. “The stakes are so high, [but] I think a certain amount of that depends on what the signals from Washington look like. If it seems like Washington is coming together and starting to agree on a significant climate bill, that will take the pressure off RGGI, and in fact, the main question [then] becomes, ‘How does RGGI fit into this?’

“So [to be determined] is the way I would answer that question. But should we fail in Washington, and let’s say we don’t succeed in Georgia, Democrats [would] have a minority in the Senate, [and Senate Majority Leader] Mitch McConnell [R-Ky.] blocks any and all serious carbon legislation. But I think the pressure grows in RGGI to actually do something meaningful and not to be held back by the least ambitious member.”

‘Enormous Strides’ Toward Decarbonization

Whereas Whitehouse touted carbon pricing as a “pretty essential component,” Matthew Nelson, chair of the Massachusetts Department of Public Utilities, said his state has already embraced it through adopting RGGI — a cap-and-trade program — and now pushing the Transportation Climate Initiative (TCI).

“It’s not that we’re speaking from a place where we’re not for carbon pricing,” Nelson said. “But I think the key here is, what type of carbon pricing? FERC-jurisdictional, electric-sector-only carbon pricing has its drawbacks.”

Melissa Hoffer, energy and environment bureau chief in the Massachusetts Attorney Gen-

eral’s Office, said there have been “enormous strides in the decarbonization world.”

“What’s unique about what has occurred this year is you see it now being driven more by fiduciary concerns about the long-term viability of fossil fuel investments,” Hoffer said. “So while we still hear the moral argument motivating those decisions, we are also now hearing, ‘This is just not a good and stable investment for our assets over the long term.’”

Hoffer cited a report by Goldman Sachs that renewables will be the largest area of spending in the energy industry overall in 2021, surpassing upstream oil and gas for the first time in history. Goldman turned this into an implied carbon price of about \$40 to \$80/ton for new hydrocarbon developments.

Paul Hibbard, principal at Analysis Group, said the “real risk” is that the resource-specific policies and investments made in the present “could look outdated in a relatively short time, and it affects everyone in the economy.”

“Ultimately, all of our energy infrastructure has potential reliability implications, and you only need to think about a declining use of the natural gas infrastructure in the region and the impact that might have on the reliability,” Hibbard said.

Jennifer Benson, president of the Alliance for Business Leadership and a former Massachusetts state representative, said that she was committed to “writing and fighting for a revenue-positive carbon pricing bill.”

“My bill would raise hundreds of millions of dollars per year to fund resiliency and infrastructure by putting 30% of the carbon fees collected into a green infrastructure fund that could range from \$300 million at \$20/ton of carbon to \$600 million at a \$40/ton price,” Benson said. Massachusetts is “borrowing billions to pay for resiliency and renewable energy infrastructure, and that is straining our finances.”

“Imagine if the funding mechanism for these critical projects was built into our energy systems and tied directly to the cause of these problems,” Benson said. “Carbon pricing is a simple, elegant, market-based solution that has been proven to work in countries and regions with comparable demographics and economies to ours here in Massachusetts.” ■

— Jason York

ISO-NE News

Overheard at NECA's 19th Power Markets Conference

The Northeast Energy and Commerce Association (NECA) held its 19th Power Markets Conference virtually Nov. 19, featuring three panels discussing the impact of renewable energy integration on reliability, transmission and market rules.

The event also boasted two keynote speakers. The first, a longtime energy journalist, touched on the recent election results and their potential impact on power markets. The second was FERC Commissioner Richard Glick, who could rise to the chair position under the Biden administration.

Here are highlights of what we heard.

Do not Say 'Chairman Glick'

Glick started his keynote by making one thing clear: He does not know who the next FERC chair will be, though he did not deny that he wanted the position. Glick said he has been in Washington long enough to know that "those decisions are made for a variety of different reasons, and they're certainly out of my hands."

Glick also does not control what he called "the dispute" between FERC and the states over federal regulation of wholesale markets. He said he disagrees with FERC's endorsement of a minimum offer price rule (MOPR) in RTOs, which has the effect of raising prices and is "troubling for a variety of reasons."

MOPRs have caused states to re-evaluate their participation in wholesale markets, especially in New England, Glick said. If states continue to grow suspicious of the RTO markets with a MOPR regime, "they're going to go their own way, or they're going figure something else out," he said.

"I think that we're really at an important point here in time, and I certainly think the RTOs get it," Glick said. "I think ISO New England certainly gets it, and PJM and New York as well. They realized they need to do something different."

Glick said that at some point, he hopes to convince current — and future — colleagues to design capacity markets that better accommodate state policies and not antagonize them.

"One of the concerns I have is that I think we spend too much time worrying about capacity based on resources and not enough time worrying about flexibility," Glick said. "How do we encourage — whether it's gas or storage — those assets to be available when we need them for flexible purposes? It requires some

broader thought. ... It would probably take the commission a while to modify these markets, but if we don't do that, I do think that we're headed for a situation that no one's going to like."

Is it possible to design one-size-fits-all standard capacity markets for RTOs? Glick said Congress put an end to talk about that in the early 2000s after backlash from various stakeholders around the country.

"The concept of creating one format for all the RTOs is probably not in the cards," Glick said. But he admitted that he's "not a big believer in the mandatory capacity market concept or construct."

"I came in thinking that we had competitive markets," Glick said. "Instead, we have markets that have administrative constructs," in which the market monitor or FERC tells participants what they can bid into the capacity market "or even the ancillary services markets," he said. That means FERC spends "way too much time litigating these issues" because there are "hundreds of millions of dollars at stake."

"To me, it's way too complicated; I'd like to simplify it a little bit and go back to real competitive markets if we can."

Renewable Integration, Market Rules, Reliability and Tx

Clyde Loutan, principal of renewable energy integration at CAISO, said California has more than 20 GW of renewables on the grid. On some days, peak load is about 20 GW, which creates some "unique challenges."

"A bigger challenge is calculating or trying to figure out what that net load forecast is," Loutan said. "Remember, we have one variable, which was load was temperature-dependent, and if you could forecast the temperature, you could pretty much know what that load was going to be in California."

Lorenzo Kristov, retired principal of market and infrastructure policy at CAISO, added that the grid is no longer the only way to get electricity.

"For 100 years, if you wanted electricity, you got it from the power system," Kristov said. "Now, just about any customer can install on-site equipment, and the behind-the-meter market becomes a competitor for grid kilowatt-hours."

Kristov said large California-based companies



FERC Commissioner Richard Glick | NECA

like Google and Apple are starting to create resources at their facilities to manage some of their energy needs, which is likely to accelerate because associated technology costs "keep going down while the capabilities keep going up."

FirstLight Power CEO Alicia Barton added that one of the challenges is balancing future renewables with a grid maintenance. "Just because we've kept the lights on doesn't mean we're not facing some critical junctures ahead," she said.

Paul Wattles, senior analyst for market design at ERCOT, said more than \$6 billion is planned to be spent on transmission upgrades expected to be in service by 2025. Renewable integration is a significant driver of capital investment, but load growth is as well.

"We've just had just unprecedented load growth in the Permian Basin [oil fields], and a lot of that fracking and drilling out there is being done with portable generation because we didn't have the transmission system to get the power to the oil fields," Wattles said. "It also happens to be an area where there's tremendous solar irradiance capacity ... so that's a weird dichotomy, but they're going actually to help each other."

Eli Massey, senior adviser on policy studies for MISO, said large corporate users as well as states demand clean energy.

"The problem that we have from a planning [perspective] is we don't know how fast it's coming, and we're trying to get a much better idea of what are the operational impacts and how does our transmission system need to evolve to facilitate all this prospective genera-

ISO-NE News

tor interconnection,” Massey said.

He said a MISO Renewable Integration Impact Assessment found that “we start getting into some pretty tricky operating circumstances” when the RTO’s renewable penetration levels reach 40 to 50% of load.

“We’re going to need a significant amount of transmission investment,” Massey said.

Carissa Sedlacek, director of planning services at ISO-NE, said “our issues are not market design issues but rather transmission integration issues.” She said the RTO has determined that the Cape Cod area will require 345-kV upgrades to accommodate offshore wind.

“There’s going to be some serious siting concerns, especially in southern New England because it is congested from a population perspective, and finding the right of way to site the new transmission lines to integrate all of the proposed offshore wind will be a challenge for us over the next several years,” Sedlacek said. “This will take time. It’s not going to be a quick process.”

Vandan Divatia, director of ISO policy and interconnections at Eversource Energy, agreed that there is “some major work to do.”

“We have to integrate a ton of clean energy resources, over 10 GW just in this decade, and we will look to optimize clean energy and reliability needs in some cases to ensure cost-effectiveness and reliability for our customers,” Divatia said.

RENEW Northeast Executive Director Francis Pullaro said he recognizes “that a megawatt of nameplate wind is not an equivalent of a megawatt of nameplate gas in the ISO markets.”

“You know [wind and solar resources] are discounted because of the variability of wind and the limited amount of sunshine. Still, if developers could count on some level of revenue from that, it certainly would be reflected in the [competitive solicitation] bids that these resources are submitting,” Pullaro said. “I think that’s kind of how we see that issue: It’s above all a consumer issue, and I think that’s why the states are particularly concerned about it.”

NYISO Executive Vice President Emilie Nelson said MOPR is a “challenging issue that I think we’re trying to work through as an industry, and all of the Eastern RTOs are trying to figure out the right course.”

Nelson added that what is interesting about carbon pricing “is the design values that clean energy attribute, which is driving much of the policy that we’re trying to work through the



Clockwise from top left: David Fixler, Greenberg Traurig; Jeff Bishop, Key Capture Energy; Alicia Barton, FirstLight Power; Clyde Loutan, CAISO; and Lorenzo Kristov, CAISO. | NECA

energy market.”

ISO-NE Vice President of Market Development and Settlements Mark Karl said the RTO favors carbon pricing as a potential solution, though there are “certainly challenges with it.”

“It’s one thing to have carbon pricing in a single-state ISO versus trying to get six states to agree,” Karl said. “The advantage of carbon pricing is that we know how it works, and we have a model for it.”

Election Impact

Veteran energy journalist Peter Howe, now senior adviser and energy practice lead at Boston public relations firm Denterlein, said he does not have a crystal ball, nor “perfect clarity and vision into what’s going to come next” following the recent election results. But Howe does seem sure that the incoming Biden administration will undoubtedly be different on a host of energy and environmental issues than the outgoing Trump administration.

Some of President-elect Joe Biden’s policy proposals: net-zero emissions from the electric sector by 2035; a net-zero economy by 2050; rejoining the Paris Agreement on climate change; mass reversal and revocation of executive orders and lawsuits; clean energy jobs; and “electric vehicles galore,” Howe said. Some of them depend on the outcome of the runoff elections in Georgia for the final two U.S. Senate seats. Democratic wins would mean a 50-50 tie in the Senate, with Vice President-elect Kamala Harris as the tiebreaking vote. Just one Republican win would maintain the GOP’s slim majority and make it harder for the Biden administration to push through the most progressive part of any energy and environmental agenda, Howe said.

When it comes to oil and gas and fracking, Howe said many “symbolic and meaningful things” could be done, including how tightly leases on federal land are regulated and how

aggressively the Justice Department enforces environmental violations.

“I think that Joe Biden will get to a point where he can make a case that maybe [he] didn’t ban all fracking everywhere ... but has done a lot to keep up the pressure on this industry to be as clean as it can be,” Howe said. “And frankly [Biden] wouldn’t say it out loud, but [he needs] to just move the scales as best [he] can away from fossil fuels and toward renewables by making the production of fossil fuels incrementally more expensive by closer regulation.”

At the state and regional level, Howe said offshore wind projects like Vineyard Wind could clear remaining regulatory and permitting hurdles with the Bureau of Ocean Energy Management “led by people who are very enthusiastic about offshore wind.”

Howe also referenced the five New England governors, excluding New Hampshire’s, who recently advocated “very forcefully for changes” to ISO-NE governance, market design and transmission planning. (See [New England Governors Call for RTO Reform](#).)

Howe said the states and the RTO are in the same boat but “not rowing in the same direction” on renewables growth and 80% carbon reduction by 2050 or net-zero emissions. He said an expanded Regional Greenhouse Gas Initiative (RGGI) could bridge the divide.

“I certainly would love something like a supersize RGGI to bake in carbon pricing or some form of carbon pricing, rather than the complexity of blending [the public policies of] six states of into the market.”

States like Connecticut have openly talked about the idea of “actually departing” the ISO-NE wholesale market, though Howe thinks that is “quite a long shot, both physically and politically.” ■

— Jason York

ISO-NE News

U.S., Canada Experts Talk 'Net Zero' at Ontario Conference

By Jason York

U.S. energy leaders crossed the virtual border to Canada last week to share regional and federal updates with the Association of Power Producers of Ontario (APPRO) at its annual energy and networking conference.

"Every jurisdiction has its own peculiarities and specific assets ... so everybody's going to have a slightly different view, but I suspect the issues probably are very similar," APPRO CEO David Butters said.

Nancy Bagot, senior vice president of the D.C.-based Electric Power Supply Association, said decarbonization goals create "a lot of tension in the energy space" because they were not considered in the current energy market construct.

"I think the path forward is a national economy-wide carbon price," Bagot said. "That's the most effective tool to get us to our target as a nation that may be more likely under a Biden administration."

Bagot said there are "disparate interests and perspectives" on exactly how to achieve decarbonization targets without a clear federal policy.

FERC took "an important first step" with its technical conference on carbon pricing in September, Bagot said. She added that NYISO has worked on developing a carbon price approach with stakeholders, and she hopes it can eventually file a proposal with FERC.

Gavin Donohue, CEO of the Independent Power Producers of New York (IPPNY), said that carbon pricing "has been our number one issue" since before the COVID-19 pandemic.

"We want to see carbon pricing. Obviously, we'd like to see an economy-wide approach, [and] the NYISO has developed a carbon pricing proposal that is ready to go; Tariff language is drafted," Donohue said. "We need the state of New York to step up to indicate that they're willing to use this market fix as a way to get to the next generation of resources to comply with the New York Climate Leadership and Community Protection Act."

Dan Dolan, president of the New England Power Generators Association (NEPGA), said the ISO-NE region is comparable to "most other jurisdictions on the U.S. or the Canadian side."

"Clearly, the most straightforward and

economically efficient solution is a carbon price," Dolan said. "Our view is that should happen, and it needs to be a carbon price that is sufficient to both support investment of the new clean energy that's necessary as well as to support the retention and the re-integration of those resources on the systems that are providing those services as well."

Evan Bahry, executive director of the Independent Power Producers Society of Alberta, said his province is the "most attractive jurisdiction" in Canada to add renewables as solar and wind prices have fallen. There are provincial and national carbon taxes in Canada, and in Alberta, next year half of the cost of electricity will be a carbon tax, Bahry said. Alberta is also the heart of the Canadian oil and gas industry, but the province does not have nuclear or hydropower.

Bahry said the challenge of meeting net-zero emissions by 2050 as laid out by the Paris Agreement is "a very large promise for our government to make on our behalf."

"But like anyone else in our business, we like our challenges; we like our puzzles," Bahry said. "We're going to see how we can maintain reliability and open markets and achieve progressively more ambitious climate challenges."

Butters said, "If it is all going to be electricity — and of course there are other technologies out there that people are looking at like hydrogen — I just find it frustrating that so much weight seems to be put on electricity carrying water for decarbonization."

Navigating the Minefield

Dolan agreed with Butters and said there have been similar analyses in New England but added that the challenge also represents an opportunity.

"If we can get these two prongs right about getting the right services and monetized options for the services that are going to be necessary, and the financial structure within a market context to drive these new investments, it's a tremendous opportunity for the companies that we all collectively represent, and for the next wave of companies that come in," Dolan said. "It's about trying to create that more sustainable market structure that has durability to it, to be able to both integrate and withstand the policy pressures that are right now the existential crisis we're all wrestling."

Donohue said that to have an honest discussion, "you can't sit here and just say, 'Hey, we're

"I think the path forward is a national economy-wide carbon price. That's the most effective tool to get us to our target as a nation that may be more likely under a Biden administration."

— Nancy Bagot, senior vice president of the D.C.-based Electric Power Supply Association

going to do all this stuff, and not talk about carbon capture sequestration, not talk about offsets, not talk about the need for natural gas to back up the system in New York City."

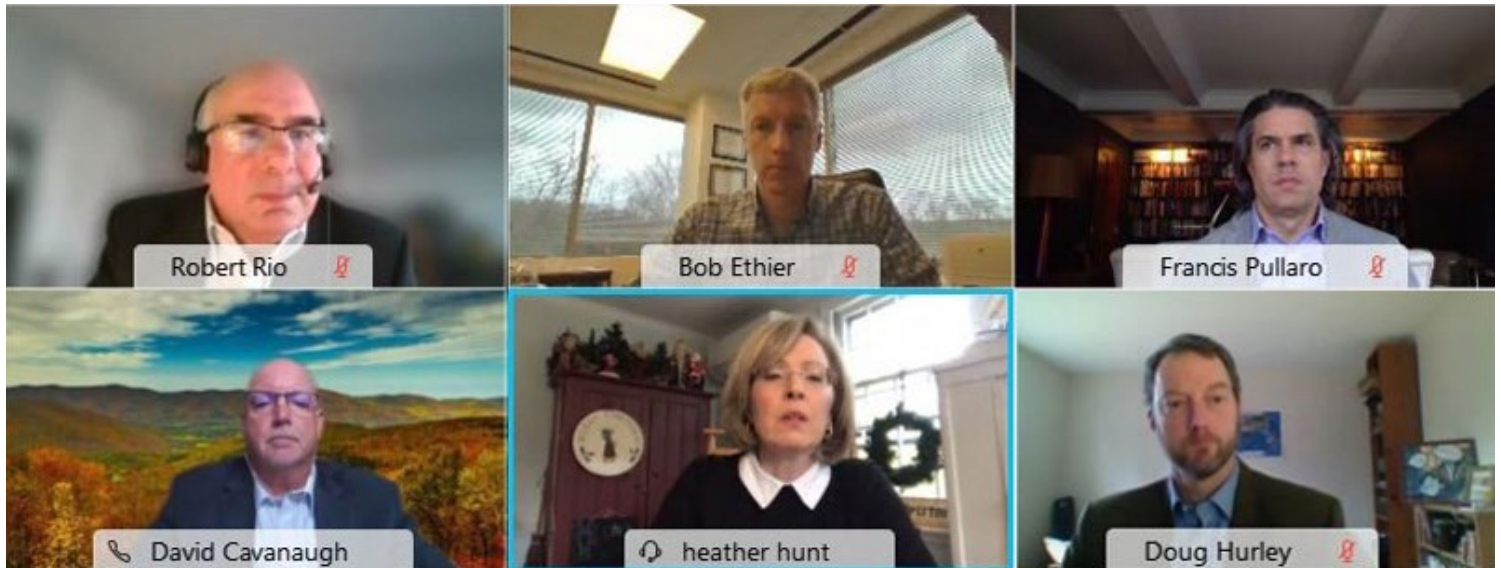
"What I'm trying to do is make sure that New York doesn't sleepwalk itself into a California situation, because you can talk about all this wonderful stuff you're going to do. ... 9,000 MW of offshore wind and 6,000 MW of solar sounds great, but New York is a unique place," he said. "We need to be honest with the public on what we need to do to keep the lights on and affordable. We fail to do that in New York. We just say we're going to do things, and then when it comes to how you deal with building emissions, transportation systems and manufacturing from a carbon perspective, there are no details. There's no discussion. It's 'Let's go back to no more natural gas,' so we've got to start having honest discussions with the people in our jurisdictions."

Bahry surmised that the panelists have "spent much of our careers trying to explain to politicians unintended consequences."

"We're concerned about wealth transfer as a carbon tax rises in our jurisdiction and inflates the market price. How much wealth transfer are we contributing to jurisdictions around us? There's a lot of unintended consequences that can occur in the electricity system if you're not open to the landscape and know where the mines are on the minefield." ■

ISO-NE News

Consumer Panel Discusses ISO-NE 'Visions of the Future'



From left to right, beginning with top left: Robert Rio, Associated Industries of Massachusetts; Robert Ethier, ISO-NE; Francis Pullaro, RENEW Northeast; David Cavanaugh, Energy New England; Heather Hunt, NESCOE; Doug Hurley, Synapse Energy Economics | ISO-NE

By Jason York

The ISO-NE Consumer Liaison Group last week held its final quarterly meeting of the year where a virtual panel of regional energy experts wrapped up 2020 and attempted to cast a hopeful look to 2021 as New England continues its transition to clean energy.

Robert Rio, senior vice president of government affairs and counsel at Associated Industries of Massachusetts, served as moderator for "Clean Energy & Regional Markets: The New England States' and Other Visions of the Future." He said the RTO must provide reliable and cost-effective power to preserve the wholesale markets, "all the while navigating the political minefields that are the New England states."

In October, ISO-NE confronted a joint statement from five of the region's six governors (Connecticut, Maine, Massachusetts, Rhode Island and Vermont) calling for market design, transmission planning and governance reforms, saying the RTO is frustrating their efforts to reduce economy-wide greenhouse gas emissions. The New England States Committee on Electricity, which represents the collective perspective of the region's six states in the NEPOOL stakeholder process, also released a vision statement that detailed specific reform measures. (See [New England Governors Call for RTO Reform](#) and [States Demand 'Central Role' in ISO-NE Market Design](#).)

NESCOE Executive Director Heather Hunt said the "concepts and concerns" in the vision statement should not come as a surprise; "If there were easy solutions ... we would have solved them by now." Hunt said the governors' joint statement "underscored their interest in better aligning our regional markets with the achievement of their collective and individual decarbonization goals and mandates."

David Cavanaugh, vice president of regulatory and market affairs at Energy New England, said NEPOOL has worked with ISO-NE and NESCOE through the stakeholder process on the Future Grid Initiative, which includes a *reliability study* and *potential pathways*, the latter of which "looks to identify a framework that may facilitate the entry of state policy resources, such that we can avoid the double-pay issues folks are concerned about."

'Figuratively Screaming'

Doug Hurley, principal associate at Synapse Energy Economics, said for the past 16 years he's spent his "time working with or directly for state agencies in most of the New England states on the cost of the wholesale electric grid and how to integrate clean energy into that system as quickly as possible." He said states have been "figuratively screaming" at ISO-NE for years about the issues in the NESCOE vision statement and hopes the RTO recognizes its gravity.

RENEW Northeast Executive Director Francis

Pullaro echoed Hurley's comments, saying it is "an impressive accomplishment to get six states that have different constituencies and different interests from time to time, to be able to come together with a detailed vision." He said the current power system was "designed for a different era" and the capacity market is "very costly to consumers."

The capacity market "was put in place for a variety of reasons and some of those reasons have evolved over time, but basically it never contemplated a world of renewable energy at this scale, and you have now a lot of renewables coming in and not being able to participate in the capacity market and states wondering why [they are] paying for duplicative resources," Pullaro said. "I think the old ways are just not suited for the future."

Robert Ethier, ISO-NE's vice president of system planning, said he looks forward to "figuring out with the states" what it will take to interconnect all the renewables they are seeking to contract over the next several decades.

"Clearly, that's not going to be a one-shot deal," Ethier said. "It's going to be an evolving plan as we learn more, as additional contracts are signed, etc."

According to Ethier, a 2019 NESCOE economic study looked at how much offshore wind could interconnect to the current grid.

"And the short answer is about 8,000 MW before things start to get really expensive," Ethier

ISO-NE News

said, adding that “2,500 to 3,000 MW” in Cape Cod “could easily cost \$300-plus million to interconnect it to the existing system.”

“I think we all have to be cognizant of the fact that it’s going to be expensive to interconnect all these renewable resources,” he said. “The costs are going to go up dramatically once we sort of hit the limits of our current system, and we have to start building large new 345-kV lines or large underground lines or underwater lines. While all of us are going to work together in good faith, and we are going to try to develop things at least-cost, it will cost money to integrate all these renewables in a useful way.”

Pullaro said while ISO-NE has been successful with competitive markets to bring costs down, “what we’ve seen over the last 10 years or so in New England” is that states putting out their renewable energy goals to a competitive bid has also reduced costs.

Word from an ‘Energy Nerd’

When Rio posed a question about distributed energy resources (DERs), Hurley answered that “the challenges are numerous, and it would be hard to list all of them.”

“I would say first and foremost as part of this

overall transition, it wasn’t what we originally envisioned when the markets and all the planning procedures were created,” Hurley said. “We’ve made a number of adjustments to those planning procedures and the markets to try to incorporate [DERs] better.”

He added that DERs provide “a whole bunch of opportunity” for participation by people who have small amounts of resources available to them like solar, wind or storage.

“It allows the opportunity for private businesses who are aggregators of those smaller resources together because even as much of an energy nerd as I am, I’m not going to try and enroll my solar panels directly into the ISO system, and put them in every day,” he said. “That’s just not a good use of my time. Even I would put them into an aggregation from something that some other company runs and put mine together with all my neighbors and then get that into the ISO systems in whatever way is appropriate.”

Finding the Pathway

Looking to 2021, Rio asked panelists what they think would be “really helpful” for the energy grid next year.

Cavanaugh, incoming chair of the NEPOOL Participants Committee, said New England has been struggling “with this tension of integrating state policy resources.”

“If 2021 was to have a success statement, it would be to find the appropriate pathways that balance investment, as well as state policy resources and achieving state goals, because you have to have a balance,” Cavanaugh said. “You still want to have the signals to draw merchant investment in the region because you need it, but you also need the ability to represent and respect state policy, so if ‘21 could deliver anything, it’d be identifying a pathway that’s successful in achieving that goal.”

Either added that, “if we can achieve it, that would be fantastic.”

Hunt said that 2021 “is a year for a fresh look at what we’re asking the markets to do and how we’re governing how the markets operate.”

Pullaro said he could not help but look for sources of hope during the pandemic.

“So [my thought] for 2021 is to try and enjoy the fact that we’re at a point where we’re not arguing whether to transition to a clean grid, but how to do it,” he said. ■

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ISO-NE News

NEPOOL Participants Committee Briefs

Committee Approves 2025/26 FCM Parameters

The NEPOOL Participants Committee on Thursday approved updates to Forward Capacity Market (FCM) parameters for the 2025/26 capacity commitment period during its final meeting of the year.

The values, which passed the Markets Committee last month, won 71.84% support in a sector-weighted vote.

ISO-NE had updated the FCM parameters' values since the November MC meeting as it recalculated offer review trigger prices (ORTPs) to account for the combined effects of the supported amendments. Two of the amendments from the Union of Concerned Scientists reduced the offshore wind ORTP value to \$0/kW-month.

The committee rejected the RTO's original FCM parameters with only 18.33% of the sector-weighted vote, similar to its support at the MC meeting in November. (See "Amended Motion to Update FCM Parameters Passes," [NEPOOL Markets Committee Briefs: Nov. 9-10, 2020](#).)

The committee also rejected an amendment from Jericho Power on behalf of the New En-

gland Power Generators Association, with only 32.97% voting in favor. The amendment would have accounted for the impact net cost of new entry reference unit has on the Locational Forward Reserve Market (LFRM) clearing price by including the unit in the supply stack at its opportunity cost, which would have increased the net CONE value.

Energy Market Value Drops

ISO-NE COO Vamsi Chadalavada [reported](#) the energy market value for November was \$197 million (through Nov. 23), down \$42 million from October and down \$142 million from the same month last year.

Natural gas prices were 4.7% higher from October to November, which pushed the average real-time hub LMPs to \$27.10/MWh, up 0.8% from the prior month. Natural gas prices and LMPs were down 39% and 21%, respectively, from the same period last year.

Average day-ahead cleared physical energy during the peak hours as a percentage of the forecasted load was 99.6% during November, down from 100.8% during October, with the minimum value for the month of 95.3% posted Nov. 14.

Daily uplift, or net commitment period compensation (NCPC) payments, in November totaled \$1.6 million over the period, down \$1.2 million from October and down \$2.1 million from November 2019. NCPC payments were 0.8% of the energy market value.

Cavanaugh Elected Chair

The committee elected Vice Chair David Cavanaugh, vice president of regulatory and market affairs for Energy New England, as its chair.

Previous Chair Nancy Chafetz of Direct Energy oversaw her final meeting and will remain one of the vice chairs. Other re-elected vice chairs included Doug Hurley, Synapse Energy Economics; Tina Belew, Massachusetts Attorney General's Office; Frank Etori, Vermont Electric Power Co.; and Michelle Gardner, NextEra Energy Resources.

Consent Agenda

The committee approved the consent agenda with one in opposition and some abstentions. It included support for ISO-NE's plan for its third Order 841 compliance filing.

The RTO proposed Tariff changes to comply with three FERC directives. The first change removes Tariff language that could create a barrier to a storage resource's market participation, effective in the first quarter of 2021. The second is the inclusion of four bidding parameters and a newly defined term that ISO-NE will use to account for the state of charge and duration characteristics in the day-ahead energy market. It would be effective Jan. 1, 2026.

The RTO was expected to file this compliance with FERC yesterday.

2021 Budget

The PC unanimously approved a 2021 budget of \$6,220,600 for NEPOOL, down \$90,000 (0.9%) from 2020's spending plan. NEPOOL expects to spend \$5,654,000 by the end of this year, \$711,00 less than the approved budget. Most of the decrease comes from a \$515,000 decline in committee meeting expenses amid the COVID-19 pandemic as all gatherings became virtual events. Committee meeting expenses for 2020 include amounts to be paid to consultants for assistance with ISO-NE's [Future Grid Initiative](#). The budget also assumes no in-person meetings for the first part of the year. ■



David Cavanaugh, Energy New England | © RTO Insider

— Jason York

MISO News



Renewable Supporters Frustrated with MISO Study Edict

By Amanda Durish Cook

Renewable energy proponents expressed frustration last week over what they perceived as MISO's premature declaration that its planning studies are above reproach.

The source of concern came during the Planning Subcommittee meeting Dec. 1, where MISO made a pre-emptive *determination* that its planning study objectives, methodologies and assumptions are "fair" in both its generator interconnection and annual Transmission Expansion Plan (MTEP) studies. The grid operator said the separate processes don't require significant alteration, despite stakeholder concerns that they should be better aligned.

MISO said any differences in the study approaches are appropriate.

The Planning Subcommittee had reviewed MISO's generator interconnection queue and MTEP planning study processes as part of a larger endeavor to better align its annual transmission planning with necessary network upgrades identified in interconnection studies.

The effort, which could have included study process alterations, is meant to produce more multifunctional transmission projects and combat steeply rising interconnection costs that result in high dropout rates of proposed generation projects.

Multiple stakeholders questioned MISO's stance on the issue.

"It doesn't seem fair that MISO has made this determination that its process is fair without stakeholder discussion," Clean Grid Alliance's Natalie McIntire said.



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"I don't agree that the status quo is fair," the Union of Concerned Scientists' Sam Gomberg said. "We aren't diving deep enough to figure out how reasonable these studies are. ... I don't feel that I've been convinced."

"I think of the planning as 'The Price is Right's' Plinko game," Gomberg continued, likening proposed generation projects to the discs and the various assumptions in interconnection studies to the pegs — where any peg hit can derail a project. He said interconnection projects are subject to factors not assumed in MTEP studies, culminating in costs being shifted away from annual transmission investments and onto generation projects' network upgrades.

Sustainable FERC Project's Lauren Azar asked for the opportunity to submit written comments to rebut MISO's conclusion.

McIntire said MISO's assessment of its separate study processes does not address transmission owners' unique local planning criteria, which are varied and possibly discriminatory, as they are applied to interconnection studies but not MTEP studies.

"At some point, we need to address that in the stakeholder forum," McIntire said.

MISO plans to hold a discussion on TOs' local planning criteria in spring.

But Xcel Energy's Drew Siebnaler said that no stakeholder has demonstrated that interconnecting generators are bearing cost shifts because of inadequate transmission planning.

"I have yet to see that there is any harm caused to generators because of modeling assumptions," he said.

MISO Senior Manager of Expansion Planning Edin Habibovic said the RTO has found that costs are being assigned appropriately between the queue and MTEP.

CGA's Rhonda Peters said the fact that nearly all generation projects in MISO West's 2017 cycle dropped out of the queue points to the "process being broken and something being wrong." The West region has been routinely flagged by stakeholders as troublesome for interconnecting generation. (See *MISO West Risks Becoming 'Dead Zone,' Stakeholders Warn.*)

WEC Energy Group's Chris Plante pointed out that MISO is also mounting a long-range transmission plan, which will most likely be a "substantial transmission overlay" to address some of the footprint's generation intercon-

nection constraints.

But McIntire said that the addition of a long-range planning effort still does not explain why the transmission issues found in generation interconnection queue studies do not show up in the annual MTEP economic studies.

Brattle Urges Look Beyond Reliability

Meanwhile, one consulting group has encouraged MISO to think outside of reliability and local needs for upcoming long-term transmission planning. (See *MISO Outlines Early Long-term Tx Plan Details.*)

Brattle Group Senior Fellow Johannes Pfeifenberger said that in general, current planning processes do not produce the most valuable transmission infrastructure because most projects only address reliability and local needs and exclude public policy or economic needs.

"A continued reliance on traditional transmission planning that is primarily focused on reliability and local needs leads to piecemeal solutions instead of developing integrated and flexible transmission solutions that enable the system to meet public policy goals will be more costly in the long run," Pfeifenberger *told* MISO state regulators in November. "Substantial recent transmission investments focused too narrowly on reliability and local needs have resulted in missed opportunities."

The Organization of MISO States has convened a special cost allocation committee to draw up principles on how the RTO should approach the cost sharing of its recently announced long-term transmission planning effort.

Pfeifenberger said most grid planners tend to default to the easiest method: developing necessary local and regional projects that do not have to be allocated.

He said that bickering over project cost allocation has "derailed many planning efforts and created barriers to the development of valuable transmission projects." He asked MISO to consider the "full range of benefits" of new transmission projects and urged staff to do the difficult work of allocating the costs of beneficial economic and public policy projects.

Brattle notes that the U.S. is experiencing an investment cycle in transmission to replace the last large system buildout in the 1960s and 1970s. The firm said the rebuild coming due offers an opportunity for a modern rework that has lower incremental costs and makes use of existing rights of way for transmission. ■

MISO News

Entergy Consultant Under Fire for Covert Role in MISO

Secret Consultants Discouraged but not Prohibited

By Amanda Durish Cook

Tensions have been building among MISO stakeholders over what some perceive as an undercover Entergy plant in stakeholder meetings.

At the center of the controversy is Veriquest Group President David Harlan, a former Entergy executive and regular attendee of MISO transmission planning meetings.

On Nov. 22, renewable energy advocacy group Energy and Policy Institute *accused* Entergy of placing Harlan in MISO stakeholder meetings to espouse the utility's ideas without the company connection, citing public records it obtained. The group suggested that Entergy may have hired him to influence MISO policy away from renewable development in order to safeguard its coal and gas plants. "Entergy may have been worried about low-cost wind energy in MISO displacing the company's expensive legacy coal and gas units, impairing its ability to justify construction of new power plants," EPI said.

Entergy: Nothing to Hide

Although Harlan had refused to identify his clients during meetings in 2019 and 2020, Entergy on Nov. 24 confirmed its association with him, telling *RTO Insider* there was nothing wrong with how he conducted himself.

Entergy Mississippi "has a longstanding working relationship with Dave Harlan and Veriquest Consulting," an Entergy spokesperson said. "Mr. Harlan is a retired Entergy employee. [He] has made no secret of his time working with Entergy and his representation of Entergy Mississippi is well known within MISO circles. He advocated on the company's behalf in the MISO stakeholder process, and, contrary ... to insinuations, there's nothing improper or unusual about those efforts."

Entergy's statement confirmed what some MISO members believed, said one stakeholder who asked not to be identified.

Use of a covert consultant does not appear to violate any MISO rules, however.

MISO's Steering Committee debated throughout the year — but ultimately decided against — proposing a new rule that would require consultants to identify the clients they represent when participating in stakeholder meetings. The RTO's Stakeholder Governance



| MISO

Guide does not contain a rule against the practice. (See *MISO Weighs Rule on Consultant Transparency*.)

The Steering Committee has instead advocated for committee chairs to be empowered to manage discussion based on the "norms" of their committees.

Stakeholders took notice after Harlan repeatedly refused to disclose his clients over multiple meetings of the MISO Planning Advisory Committee in 2019 and 2020. When Harlan offered opinions or asked MISO planners for more examination of their planning inputs, he has sometimes insisted that he is simply acting on his own behalf.

Questioning Planners' Assumptions

Harlan repeatedly questioned MISO transmission planners' assumptions on renewable generation growth, especially in MISO South. He has argued that renewables will not be able to carry the region's industrial load as effectively as existing baseload generation.

Before forming Veriquest in 2008, Harlan, an

engineer and MBA, *worked* for Entergy for 17 years. His last job was senior vice president for system planning and operations, following stints as vice president for strategic planning and special projects and vice president of marketing. He did not respond to *RTO Insider's* request for comment.

The Steering Committee in May leaned toward drafting general language supporting stakeholder transparency rather than imposing a strict rule that consultants be forthcoming about their clients. The committee has avoided mentioning Harlan by name, as other consultants have participated in the MISO stakeholder process without first disclosing clients publicly.

"I think the Steering Committee is hesitant to put some strict rules in place regarding consultants, but there could be some language that says, 'Hey, transparency is paramount to the stakeholder process,'" Resource Adequacy Subcommittee Chair Chris Plante of WEC Energy Group said at the Steering Committee's meeting June 10.

MISO News

Market Subcommittee Chair Megan Wisersky of Madison Gas and Electric said it was unnecessary to enact a new rule on consultant transparency.

"I see this as a matter of professional courtesy. And it's just that. I don't want to see professional courtesy codified in the Stakeholder Governance Guide," Wisersky said.

Discounting Comments

Plante also said a rule was unnecessary, though he warned that stakeholders unwilling to disclose whom they represent might be dismissed by others.

"I discount their comments. From my perspective, if they're not willing to announce their client, I take their comment less seriously," Plante said.

MISO's Advisory Committee *discussed* mandatory consultant identification at its closed executive planning session Nov. 2. The committee acknowledged that the issue arises mostly in PAC meetings. PAC Chair Cynthia Crane has promised a follow-up on the issue at the committee's January meeting.

Entergy's spokesperson said Harlan has abided by MISO requirements and that "his client's identity was known to MISO, to our regulators and to many stakeholders, as well."

"In addition, Mr. Harlan's advocacy with MISO was part of a larger effort by Entergy Mississippi to work alongside regulators and other stakeholders to advocate for transmission planning and cost allocation approaches that we believe are in our customers' best interests," he said.

Communications with Mississippi PSC

Emails from Harlan to Mississippi Public Service

Commission Special Counsel David Carr, obtained by EPI, confirm that Harlan makes comments on behalf of Entergy and collects information in MISO meetings to pass along in the company's strategy meetings. They also appear to show that Harlan sometimes voices the positions of the Mississippi PSC as well as Entergy Mississippi.

In one email Sept. 25, 2019, Harlan asks if he is accurately representing the stances of both Entergy Mississippi and the Mississippi PSC. "Please let me know if any of my comments were perceived as contrary to the common or best interest of MISO South customers, [the Mississippi PSC] or [Entergy Mississippi]," he says. "I need to be aware of any concerns so I can limit or reframe my comments in future discussions."

He also reports that he received "pushback in and outside of meetings seeking to silence or restrict my oral comments, from the renewable lobby and probably a MISO North regulator and some transmission developers." In the same email he says he "resisted efforts ... from MISO and some stakeholder [sic] to identify my clients before making a comment."

"My comments at MISO meetings always seek to raise issues for thought and to promote better visibility, transparency and objectivity in the MISO discussions and planning processes," he tells Carr. "I never represent that I speak for [Entergy Mississippi] or [the Mississippi PSC], but rather as a MISO South customer and an adviser to multiple MISO South stakeholders."

Harlan sent the email after Clean Grid Alliance's (CGA) Natalie McIntire appeared at the Sept. 23, 2019, PAC meeting to sound the alarm about increasingly pricey network upgrades for the mostly renewable generation in

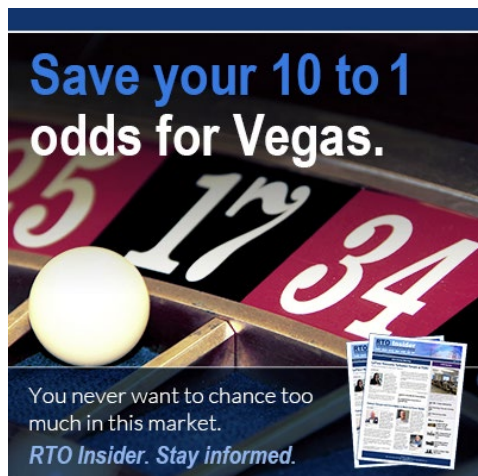
MISO's interconnection queue. (See [More MISO Members Join Call for Tx Planning Change](#).) He writes that his comments on the presentation "were not made on behalf of a specific client but to address issues of clarity or objectivity about the CGA proposal."

"Since no other MISO South entity made comments, I felt that CGA[s] comments needed some timely injection questioning some of their logic."

Harlan says that CGA is "launching a full-court press to build transmission for wind delivery from MISO North and have load pay for transmission costs for both local and distance delivery." He speculates that the Midwestern Governors Association and some MISO Midwest state regulators and utilities were also behind the push for new transmission to enable renewable generation.

In early October 2019, Carr wrote that PSC staff would discuss Clean Grid Alliance's presentation with Entergy Mississippi using information collected by Harlan. In a May 2019 email, Entergy Mississippi Vice President of Regulatory Affairs Jeremy Vanderloo gives Carr a heads-up that Harlan would be raising Entergy Mississippi's concerns about the cost allocation of some transmission projects in MISO's 2019 planning cycle at a MISO South subregional planning meeting.

Entergy has used backdoor channels to advance its agenda before. In 2018, Entergy New Orleans *contracted* with public affairs firm The Hawthorn Group to arrange for paid actors to show up at New Orleans City Council hearings in support of a proposed \$210 million natural gas plant. Though the council placed a \$5 million fine against the company for the scandal, it ultimately approved the Michoud Plant. ■



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MISO News

MISO Planning Subcommittee Briefs

Members on Notice for Model Manager

MISO urged members to prepare for its redesigned, one-shop modeling system for transmission planning.

The new *Model Manager* — part of MISO's ongoing effort to replace its outdated market platform — will start running in the third quarter of 2021. It's designed to be a singular repository for its many planning models and will include a customized grid-engineering software application. The RTO currently relies on several different methods to collect and validate grid information for modeling.

Planning Modeling Manager Amanda Schiro said now is the time for members to get acquainted with the Model Manager and prepare their systems for the interface changes.

"Processes are going to change. Members' data submission processes will need to adapt to the new modeling system," she told stakeholders during a Planning Subcommittee meeting Dec. 1. "Actions taken now to ensure readiness will allow for a smooth transition to the new system."

MISO Reports Nearly 900 Active Tx Projects

MISO is managing almost \$11 billion in active transmission projects, according to the latest quarterly *statistics* gathered for its annual Transmission Expansion Plans (MTEPs).



| © RTO Insider

The grid operator is tracking 890 active projects at \$10.7 billion, with 147 projects, worth around \$3 billion, currently under construction. The list doesn't include the 514 projects in MTEP 20, estimated to cost \$4 billion, that MISO plans to advance for approval during the Board of Directors meeting Dec. 10. (See *MISO in Final Stretch of \$4B MTEP 20*.)

Expansion Planning Engineer Gregory Plauk said most of the projects are expected to be in

service within the next few years.

Over the third quarter, staff said developers withdrew 25 transmission projects worth \$237.6 million.

Plauk said about \$25 billion worth of projects have gone into service since MISO began its MTEP planning cycles in 2003. ■

— Amanda Durish Cook

FERC Spurns LS Power's Voltage Threshold Argument

By Amanda Durish Cook

FERC has again turned down LS Power's argument for a lower voltage threshold on economic transmission projects in the MISO footprint.

The commission repeated its refusal to consider a lower voltage threshold in two orders on rehearing Dec. 3 (*EL19-79*; *ER20-1723-001*).

LS Power made a late-summer push to persuade FERC that MISO should use a 100-kV threshold for market efficiency projects instead of the 230-kV cutoff the RTO was cleared to use beginning in July. (See *LS Power Again Seeks MISO Cost Allocation Change*.) The competitive transmission developer claimed that MISO's 230-kV threshold is "arbitrary"

because projects with voltages down to 100 kV can deliver significant regional benefits.

But FERC said small, regionally beneficial projects are the exception, not the rule, and do not justify opening more projects to competitive bidding.

"LS Power's isolated and hypothetical examples are not generally representative of transmission projects with voltages as low as 100 kV within MISO," FERC said. "We continue to find that MISO's market efficiency project category and voltage threshold is not unjust and unreasonable simply because LS Power would prefer a lower voltage threshold that would open up more projects to competition."

LS Power argued that FERC's refusal to order a lower threshold ran counter to 2018's *Old*

Dominion Electric Cooperative v. FERC, in which the D.C. Circuit Court of Appeals ruled the commission erred when it prohibited cost sharing for a class of high-voltage projects that demonstrated significant regional benefits. The company argued the decision should be applied as caselaw, even for MISO lower-voltage facilities.

FERC said LS Power's examples of low-voltage transmission projects "are not indicative of the benefits that would accrue from such projects on a more general basis."

The commission also clarified that its decision does not mean that a regional economic project must benefit "all of MISO to be considered regionally significant." FERC said it never made the determination that LS Power incorrectly interpreted. ■

MISO News

MISO Nearing Decision on Seasonal Capacity Auction

By Amanda Durish Cook

In a bid to clamp down on an increase in emergency operating conditions, MISO plans to develop a new direction for its capacity auction and reliability requirements by the end of the year.

The grid operator said it wants to modify its capacity auction design to include a sub-annual component and create a selection method for new resource adequacy hours that define risk throughout the year. MISO hopes to file the two proposals with FERC by mid-2021.

Speaking during a virtual workshop Dec. 2, MISO Director of Research and Development Jessica Harrison said it's time to "lean in and pick an option" on how the grid operator will divide its annual capacity auction into sub-annual portions and to determine which resource adequacy hours it will use to size up reliability risks instead of relying on analyzing summer peaks.

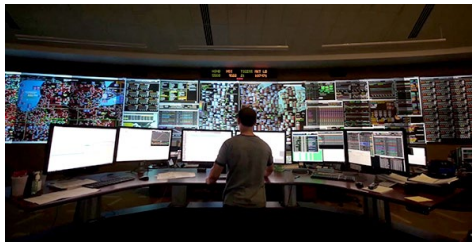
When pressed by stakeholders, Harrison said MISO prefers a seasonal auction frequency over monthly auctions, which would make forecasting more complicated. She also said it is leaning toward selecting resource adequacy hours using a "hybrid" approach where it would use both past maximum generation events and forward-looking risk predictions to select the year's most precarious hours.

The RTO said sub-annual requirements will better reflect differing capacity needs during the year when compared to a single annual requirement.

The grid operator recently conducted yet another *analysis* in an attempt to persuade stakeholders that loss-of-load risk is looming outside the summer season. Staff said the footprint can no longer rely on a hypothetical summer peak day as an adequate risk measure.

MISO performed a loss-of-load risk analysis on its current portfolio mix should the interconnection queue's projects be realized using two of the grid operator's three futures. The analysis showed that the current portfolio's risk was largely confined to the summer, including a slight risk in September. In the other scenarios, it found additional risk in January that increases year over year.

According to the analysis, the footprint could be exclusively winter peaking by 2035 when using the planning future with the most aggressive electrification and renewables



MISO control room and operator | MISO

predictions.

Duke Energy's Bryan Garnett said when he discusses a MISO seasonal construct with colleagues, he's invariably asked: "Didn't MISO already do that?" Garnett was referencing the RTO's monthly voluntary capacity auctions that became annual auctions in 2013.

"Why is MISO doing this when no other RTO is doing this?" Garnett asked during the Resource Adequacy Subcommittee teleconference on Nov. 4.

"While there's not a long, tenured history on this, I think we are seeing other ISOs and RTOs starting this discussion," Harrison said. "We need to modify our construct before we run into problems."

Madison Gas and Electric's Megan Wisersky cautioned staff that load-serving entities can only build new capacity so fast. She said MISO's seasonal definition of risks might push LSEs into building more generation on distribution systems.

"Tread carefully here about when you think all of this will happen and how fast we can respond," Wisersky said.

MISO predicts it needs an 18.3% reserve margin requirement in 2021, compared with the 18% it used for 2020. Staff project a regional surplus for the 2021 summer and possibly 2022's; however, it said supply could fall near or below its required reserve margin in 2023 or 2024. The RTO said its increasing resource-adequacy risk can be avoided if its LSEs firm up commitments of additional resources.

Some stakeholders aren't convinced that MISO will effectively manage separate seasonal offers or be able to accommodate coal generation outages under a seasonal capacity design.

WEC Energy Group has *suggested* MISO can obviate the need for its planning reserve margin and capacity accreditations if it transitions to an annual capacity auction with four indepen-

dent seasonal auctions, coupled with monthly auctions to take care of expected scarcity conditions.

WEC's Chad Koch said the monthly auctions can account for supply changes, including planned outages, retirements, new resources, seasonal renewable profiles and retail seasonal non-firm load.

Impending Availability Accreditation?

Independent Market Monitor David Patton recommended MISO transition to an "availability-based accreditation based on resources' availability during tight margin hours," as the RTO ponders whether to recalibrate resources' capacity accreditation.

Patton said he doesn't believe that adjusting the accreditation will tighten supply and drive prices up as some stakeholders have suggested, but will lead instead to "more available, more accessible" capacity.

He said MISO's current capacity accreditation is lacking because it doesn't account for any outages or derates beyond forced outages or the operating inflexibility of certain resources. He said those factors raise the accreditation for all units.

"If I'm an old steam unit with a 20-hour startup time, I may offer into the day-ahead, but I'm rarely going to be used," Patton explained during a Resource Adequacy Subcommittee teleconference on Dec. 3.

However, MISO should rely on history, not forecasts, to define the tight margin hours that accreditation would be based on, he said.

"I can't conceive of any other way to define tight margin hours other than using actual tight margin hours, not a forecast," Patton said. "If at the end of the day we're managing a system with uncertainty ... we have to use real-world hours."

He added that using real-world hours in accreditation shouldn't deter MISO from forecasting tight conditions and using them as a basis to rearrange planned outages.

Some stakeholders used nuclear maintenance as an example, where outages are scheduled three years ahead of time. They asked what happens if the outage lands on one of the predefined tight margin hours.

"That goes back to our principle: If you're not there when you're needed, then your accreditation should reflect that," Patton said. ■

NYISO News

NY Seeks 'Just Transition' in Decarbonization Plans

By Rich Heidom Jr.

The New York State Energy Research and Development Authority (NYSERDA) this month issued a *request for proposals* seeking contractors to conduct site reuse planning studies for retired power plants.

The \$5 million solicitation is just one manifestation of the huge effort the state is mounting to implement the Climate Leadership and Community Protection Act (CLCPA), which requires the state to switch to 100% zero-emission electricity by 2040 and reduce greenhouse gas emissions to 85% below 1990 levels by 2050.

At least 10 state agencies have roles in the transition, led by NYSERDA, the state Department of Environmental Conservation and the Climate Action Council, a 22-member committee that will prepare a scoping plan for achieving the state's energy and climate goals.

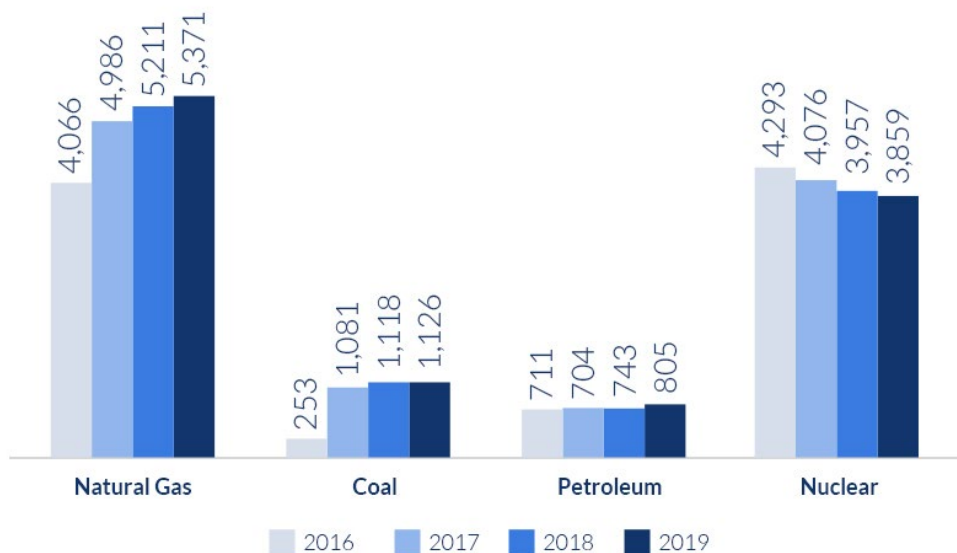
The council's work will be informed by more than 100 stakeholders — including manufacturers, farmers, generators, labor unions, environmental groups and trade associations — in advisory panels for Agriculture and Forestry; Energy Efficiency and Housing; Energy-Intensive and Trade-Exposed Industries; Land Use and Local Government; Power Generation; Transportation; and Waste. The RFP is related to the work of an eighth group reporting to the council, the Just Transition Working Group, which is considering issues of displaced workers, environmental justice and economic redevelopment.

At a meeting last week, the working group reviewed a straw proposal for the principles the state should follow, which it will present to the council on Dec. 15. In addition to the redevelopment of industrial communities, the 10 principles include topics such as "stakeholder-engaged transition planning"; preservation of culture and tradition; equitable access to "high quality, family-sustaining jobs"; climate adaptation planning; and protection of natural systems and resources.

Support for Power Plant Communities

The RFP is expected to result in \$4.75 million in spending on consultants providing affected plant-site municipalities with technical assistance and \$250,000 for a site reuse "toolkit" that could be used by other communities.

The deadline for responding is 3 p.m. Jan. 13; an informational webinar for prospective



Workforce for New York's traditional power generation (2016-2019) | *New York Just Transition Working Group*

bidder will be held at 10 a.m. Dec. 15. NYSERDA expects to invite communities to apply for assistance in the first quarter of next year.

At the Just Transition Working Group's meeting Thursday, Steve Ryan, director of business engagement for the state Department of Labor, briefed the panel on the department's Rapid Response *program*, which offers résumé development, interview coaching and training opportunities.

The department had deployed the program for workers at the Somerset Operating Co., the state's last coal-fired generating plant, which retired in March, and Indian Point nuclear plant, which shut down Unit 2 in April and will close its remaining unit next spring.

Ryan said the laid off workers appreciate the help. "We provide that hope. Because many of them have no idea where their next employment is going to be," he said.

James Shillitto, president of the Utility Workers Union of America Local 1-2, which represented 400 workers at Indian Point, said site redevelopment is an easier challenge than retraining laid off workers and finding them new, well paying jobs. "Retraining workers is a little bit more difficult because you have people in various levels of their lives. You have the ones that need to hang on for five or six more years to retire, and the ones that are going to work another 20 to 25 years."

The state Worker Adjustment and Retraining Notification (*WARN*) Act requires businesses to

give 90 days' advance notice for large layoffs or plant closures. "Typically, what happens with Rapid Response is it's triggered by a WARN notice. But in these cases, as with Indian Point, we're going to know well in advance what's coming so we should have a framework where we can begin that process without waiting for a WARN notice," Labor Commissioner Roberta Reardon said. "We need a long runway: as long a runway as we can get with both the employers and the workers to do the kinds of negotiating ... or training to really have the best impact."

Deliverables

Public Service Commission Chairman John B. Rhodes said the working group has two main deliverables, including an inventory of power plants at risk of closing, an effort to identify issues affecting plant site reuse.

The second deliverable is identification of problems and opportunities presented by site reuse. Among the problems: the local economic effects of lost salaries and reduced property tax revenues for local governments and schools. Also to be considered: environmental remediation and restoration.

Plant sites — often on lakes or rivers because of the need for cooling water — can be repurposed as parks or commercial or mixed-use developments. Their access to transmission lines and cooling water has also made them attractive to data centers — a use the owners of the Somerset plant are pursuing. They can

NYISO News



also provide interconnection points for new renewable generation.

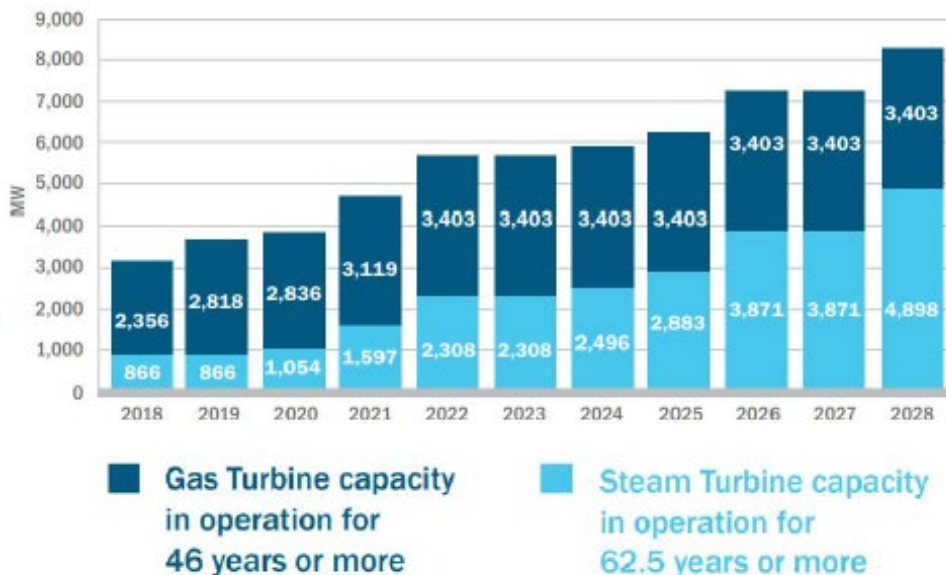
Jobs Mapping

The state also has begun early work on an assessment of job-loss-threatened power plant workers' skills to identify retraining paths and match them with job openings in clean energy and elsewhere.

As of 2019, the state had 800 workers in oil-fired generation, almost 5,400 in natural gas and more than 3,800 in nuclear. It also had more than 65,000 workers in transmission and distribution.

As of 2018, 76 of New York's 106 gas turbines (2,356 MW) were older than 46 years; nationally, 95% of such units have deactivated by this age. Similarly, 95% of steam turbines nationally retire by age 62.5. By that measure, 11 out of 46 units (866 MW) are at retirement age. By 2028, more than 8,300 MW of gas and steam turbine-based capacity in New York will hit retirement age.

About 35% of the state's generating capacity has been added since 2000. "There's been in recent years about 2,000 MW of natural gas combined cycle generation [added]," Emilie Nelson, executive vice president for NYISO, told the working group. "The plant staffing required for those types of facilities tends to be lesser than some of the older plants. We have about 2,000 MW of large-scale wind on the system. A lot of the solar that we have thus far is behind the meter, so [it requires] a little different type of support from a job perspective."



Gas turbines and steam turbines nearing retirement | NYISO 2018 Power Trends

Policy Drivers

In addition to the CLCPA, New York's transition is being driven by Regional Greenhouse Gas Initiative regulations adopted Dec. 1 to reduce the carbon dioxide emissions cap by 30% from 2020 to 2030. The changes also expand the program to cover peaking units above 15 MW, a reduction from the current 25-MW threshold.

The Department of Environmental Conservation's "peaker rule" will be phased in between 2023 and 2025, affecting 3,300 MW of capacity. The rule has two compliance options for plants that cannot meet emission limits on pounds of NO_x per megawatt-hour: stopping operation during summer ozone season, or replacing their output with energy storage or renewable generation at the same interconnection.

The 2020 NYISO Reliability Needs Assessment identified transmission security needs beginning in 2024 and resource adequacy needs by 2027. The ISO's first quarterly short-term assessment of reliability (STAR) report found an additional transmission security need in New York City for 2023. In addition, city regulations will bar combustion of Nos. 6

and 4 fuel oil by 2020 and 2025, respectively, affecting 2,946 MW.

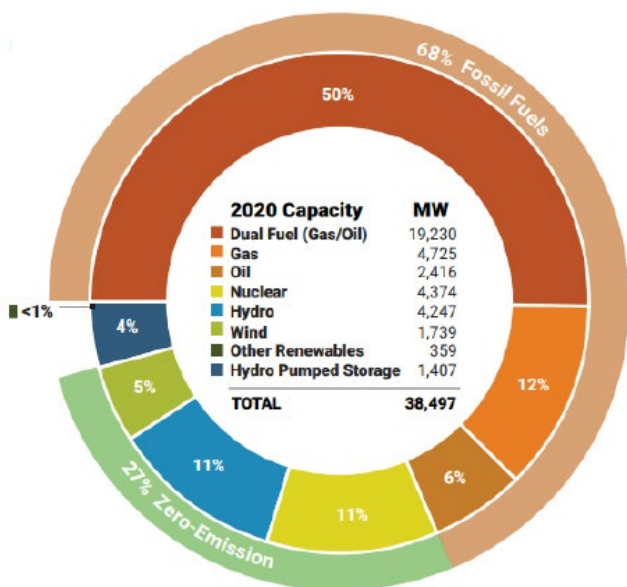
"This is manageable if we're thoughtful and look ahead," Rhodes said.

Putting it All Together

Lara Skinner, executive director of *The Worker Institute* at Cornell University, which performs research and education on current labor issues, noted that the Labor Department's Rapid Response program was created to respond to individual business closures. "When we think about this transition to a zero-carbon economy, we're taking about a massive transition. A major economic transition with significant labor, social, community impacts — economic impacts," she said.

Skinner suggested panel members review U.S. Sen. Tammy Duckworth's (D-Ill.) proposed "Marshall Plan for Coal Country Act," which would modify bankruptcy rules to require companies that shut down to provide health care and pension benefits to former workers and give free tuition at public colleges for their children.

"Today's meeting demonstrates to me that there's some really great thinking happening around the broader impact of the transition in New York state," Skinner said. "For me, it raises the question of how do we link all of this up? And how do we think bigger and broader about this transition and make sure that our approach to the transition is going to be comprehensive and cohesive?" ■



Summer 2020 generating capacity in New York | NYISO 2018 Power Trends

NYISO News



Bill Nye the Science Guy: Electrification is a Big Idea

NY Sustainability Conference Hears from Authors, Scholars, Activists

By Michael Kuser

As U.N. Secretary-General Antonio Guterres *warned* of the fatal consequences of humanity's "suicidal" war on nature on Wednesday, college teachers and students in New York started a three-day conference on how to save the planet through social equity, science and education.

Bill Nye "the Science Guy" said he likes to think of three big ideas to help sustain civilization, "and the first big idea is to raise the standard of living of women and girls, for when you raise the standard of living for women and girls, everybody's life is better."

Nye made his remarks Thursday at the 10th annual State of New York Sustainability Conference hosted by Cornell University, Ithaca College and the New York Coalition for Sustainability in Higher Education.

A 1977 Cornell grad in mechanical engineering, Nye said his second big idea is science, in this case "electricity, which is magical. Electricity enables this electronic conference that we're having today, and electricity can make toast. It's this amazing source of energy. And when you think about the way we use energy right now, at least a third of it goes to the transportation sector. By some estimates half of it goes to the transportation sector."

Electrifying all ground transportation and coming up with a better fuel for airplanes can eliminate an enormous amount of fossil fuel consumption, which will lead to cleaner air for everybody, Nye said.

"And the third thing is access to the internet, for when everybody has access to the internet you can have education for everybody in the world," Nye said. "And when we have that you will not have this extraordinary anti-science movement, this anti-vaxxer movement, this weird denial of climate change point of view."

When everybody shares this common vision of the future, "of science and our place in the cosmos, we'll move forward very, very quickly. That's my claim, based on history. Once things get going, things move really fast," Nye said. "And so I am very excited about the future. If there are engineers out there listening, I want you to come up with better transmission lines for electricity, better ways to store electricity, along with electric vehicles, electric trucks and some new kind of airplane propulsion. It's going to be fabulous."



Bill Nye shared a session with keynote speaker Ayana Elizabeth Johnson at the 10th annual State of NY Sustainability Conference on Dec. 3. | NYCSHE

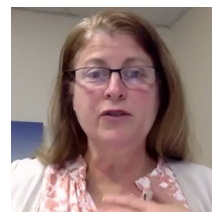
Policy Work



New York Sen. Rachel May | NYCSHE

there isn't enough research and teaching being done at the higher ed level, and not enough policy being done at the legislative level, where I hope to see more collaboration and more interdisciplinary collaboration so that we're bringing all the minds together, and the areas are reducing and eliminating waste, respecting our relationship to other species and the world around us, and questioning commodification."

Anne Reynolds, executive director of the Alliance for Clean Energy New York, said the Climate and Community Investment Act (*S 3616*) now in committee is probably the most aggressive in the country and is economy-wide, requiring 85% reduction in greenhouse gas



Anne Reynolds, ACE NY | NYCSHE

emissions from 1990 levels by 2050.

The state's Climate Leadership and Community Protection Act passed last year has very specific provisions for electricity — 70% from renewable sources by 2030. In contrast, its transportation provisions are very general, Reynolds said.

"The electricity portions are more specific and more detailed because New York state has so much experience there," she said. "For the last 20 years you all, if you live in New York, have had a charge on your electric bill that's been a dedicated source of revenue paying for a whole suite of programs related to energy efficiency ... and the state has had renewable energy goals since 2003 ... and increased to 30% by 2015, a goal we did not meet. That's important to know. We're aiming for 70% renewable energy, but we've never met the goals we set before, so we have a lot of work to do."

The clean transportation provisions are relatively weak because New York state has less experience in that area, Reynolds said. "There is not a dedicated source of revenue for transportation electrification, transportation alternatives, things that would reduce emissions."

"The Department of Transportation always is going to have the priority of keeping the roads and bridges safe, as they should, whereas the [Metropolitan Transit Authority] is always going to have the priority of keeping the trains

NYISO News

running on time in New York City,” she continued, arguing for the state to change the way it approaches the issue.

Map Your Magic

Shorna Allred, associate professor of natural resources and the environment at Cornell, introduced marine biologist Ayana Elizabeth Johnson and quoted from the anthology “*All We Can Save*,” which Johnson co-edited with Katharine Wilkinson.



Ayana Elizabeth Johnson | NYCSHE

“There’s a quote in your book that the climate crisis is not gender neutral, and that we have to really pay close attention to not just the science, but also to policy and justice,” Allred said.



Shorna Allred, Cornell | NYCSHE

climate change. That is intuitive, and there are

“I think a lot more about the flip side of that, about what are we missing as far as opportunities for solutions,” Johnson said. “It is no surprise that the people who are already marginalized in society bear the brunt of the impacts of

lots of numbers to back that up, whether it’s people who are exposed to pollution from coal-fired power plants or people who are dealing with the impacts of hurricanes, and often the burden is on women and communities to help their families.”

Johnson said she much prefers to focus on solutions than detailing the problem, which is overwhelming.

The Brooklyn native co-founded The All We Can Save Project and recently co-created a roadmap for including the ocean in climate policy, the *Blue New Deal*, working with U.S. Sen. Elizabeth Warren’s (D-Mass.) staff.

A contrarian, Johnson has a way of looking at things from a fresh perspective, saying, for example, that “even people who deny climate change are on board with most of the solutions,” so why waste time arguing with them?

She is working on a book called “What If We Get It Right?” that says it’s important to know what you’re aiming for and touts diversity of opinion as important too, because “people [who] go to Bill Nye for [information are different] from people who want to hear me.”

“I think the first thing to always remember is that we each have a different role to play, and I encourage people to actually sit down and map what are you, what is your magic, what are the special skills that you can bring to the table

“It is no surprise that the people who are already marginalized in society bear the brunt of the impacts of climate change. That is intuitive, and there are lots of numbers to back that up.”

—marine biologist Ayana Elizabeth Johnson

when it comes to accelerating the implementation of climate solutions,” Johnson said. ■

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NYISO News

Meshed OSW Tx Grid May Work Best, NY Officials Hear

Utilities Outline \$17 Billion in Local Tx Upgrades by 2030

By Michael Kuser

Preliminary analysis suggests that a mesh-and-backbone network design would be the best way to integrate offshore wind into the New York grid despite higher initial costs than a business-as-usual radial approach, likely offering more redundancy and potential savings down the line, state officials heard Nov. 23.

“That redundancy is what we’re attempting to quantify with the project availability analysis, so if there is an outage, if you are operating in a mesh system, for example, that outage may not be as severe than it otherwise would be with a radial connection,” Jake Frye, senior project manager at DNV GL, said in delivering the findings at the second transmission technical conference hosted this fall by the state’s Department of Public Service and the New York State Energy Research and Development Authority. (See [OSW Growth to Test New York’s Transmission Grid](#).)

“There are cost savings there; there’s a savings

in megawatt-hours that were not lost,” Frye said, adding that additional cost and availability analysis is nearly complete and will be available in a written report by the end of the year.

Norway-based DNV is collaborating with engineering firms PowerGEM and WSP to complete an OSW integration study for New York, one of three studies informing grid investment plans to be established by the Public Service Commission for distribution and local transmission upgrades, as well as for bulk system transmission investments (Case No. 20-E-0197). (See [NYPSC Launches Grid Study, Extends Solar Funding](#).)

Siemens presented its work on the zero-emission grid for the second study, which found that significant local transmission upgrades will be necessary to incorporate all planned renewables in New York. Siemens Consulting Manager Yan Du said his group identified 63% of the state’s total congestion constraints in New York City (Zone J), 12% in Westchester County (Zone I) and 8% on Long Island (Zone K).

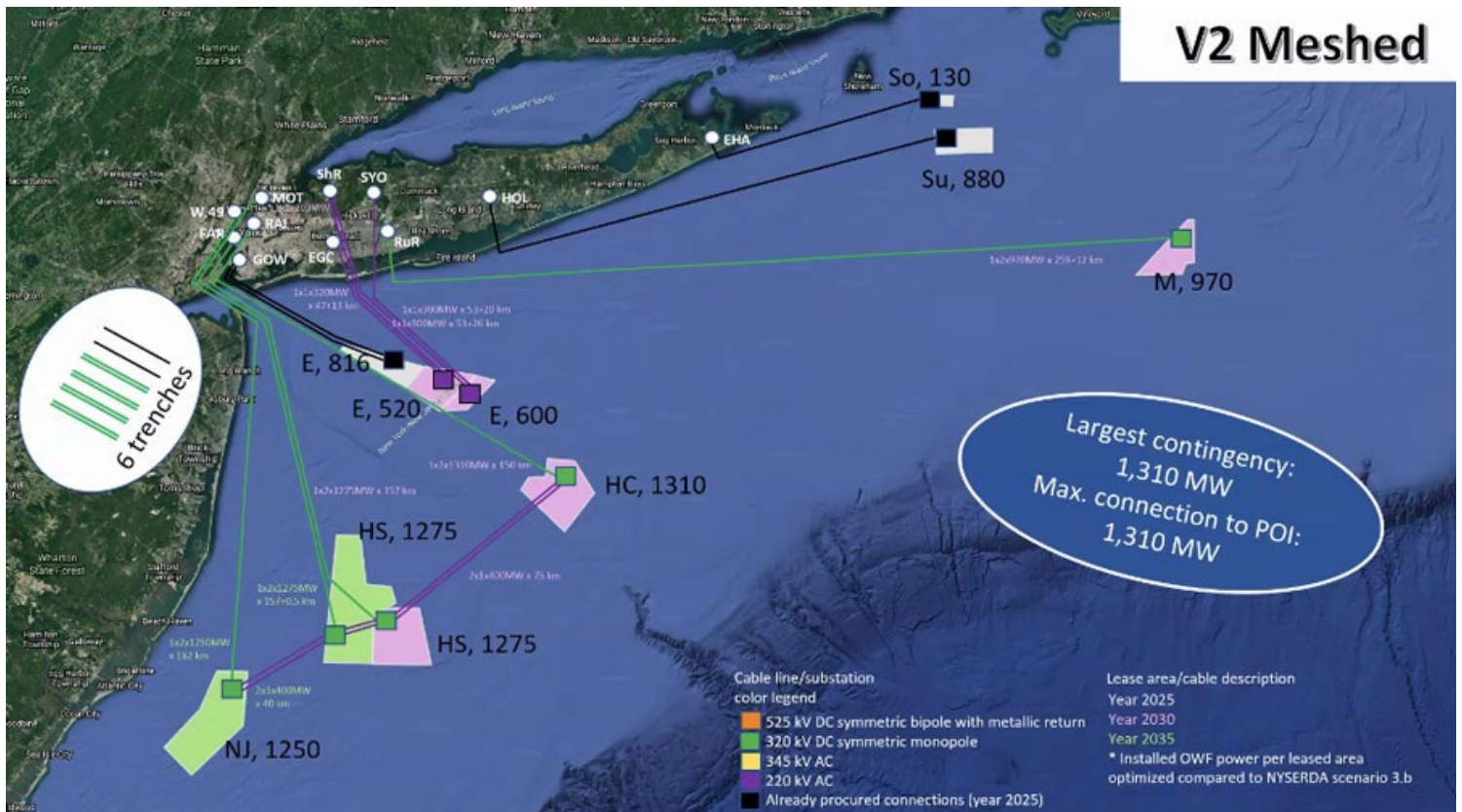
Further study will be required at every level, from the impacts of OSW on the downstate grid, to the exact cost and size of transmission upgrades, Siemens said.

“We are committed and seek the best input in achieving the most sensible, risk-minimizing and cost-effective path to achieving our goals quickly and reliably,” PSC Chair John B. Rhodes said.

Utility Local Transmission Studies

While every utility in the state has plans to upgrade its transmission system, all eyes tend to move southeast, as 6 GW of OSW will interconnect into New York City and 3 GW into Long Island. The state’s Climate Leadership and Community Protection Act (CLCPA) mandates procuring 9 GW of offshore wind energy by 2035.

The state’s investor-owned utilities on Nov. 2 jointly filed a [report](#) on transmission and distribution investment, and representatives from each company joined the technical conference



Consultants say the meshed grid design is the most flexible and can adapt to different OSW project locations and sizes, whereas other networked strategies are limited by uncertainty around availability of wind energy areas. | DNV GL, PowerGEM, WSP

NYISO News



to outline their policy recommendations and proposed projects.

The IOUs include Avangrid subsidiaries New York State Electric and Gas and Rochester Gas & Electric; Central Hudson Electric and Gas; Consolidated Edison and Orange and Rockland Utilities; and National Grid subsidiary Niagara Mohawk Power. They collectively proposed to undertake about \$7 billion in transmission and distribution upgrades by 2025 and another \$10 billion in projects for the following five years to 2030.

Con Ed has identified three immediately actionable projects to give renewable resources access to the load and unbottle load currently served by fossil generation, the utility's Section Manager Martin Paszek said. The projects will also enable compliance with the state Department of Environmental Conservation's "Peaker Rule," new NO_x regulations that go into effect May 1, 2023. (See *NY DEC Kicks off Peaker Emissions Limits Hearings*.)

The projects' total estimated cost is \$860 million for new 345/138-kV phase angle regulator-controlled feeders for the second Rainey-Corona, third Gowanus-Greenwood and Goethals-Fox Hills feeders, and a substation rebuild for the last, allowing an estimated 900 MW of renewables access to load.

Con Ed plans to file a petition with the PSC by the end of the year seeking approval to recover the costs and will provide each individual

Project Name	Projects (No.)	Estimated Project Cost	Estimated Project Benefit (MW) ¹⁰²
Central Hudson			
Transmission	6	\$152.1M	433
Distribution	12	\$137.0M	132
CECONY			
Transmission	3	\$860M	900
Distribution	8	\$1,130M*	418
LIPA			
Transmission	8	\$402M	615
Distribution	19	\$351M	520
National Grid			
Transmission	13	\$773M	1,130
Distribution	5	\$633M	367.1+
NYSEG/RG&E			
Transmission	16	\$1,560M	3,041
Distribution	8	\$229M	165.8
O&R			
Transmission	6	\$417M	500
Distribution	9	\$156M	308
Total	113	\$6,800M	8,162
Transmission Total	52	\$4,164M	6,619
Distribution Total	61	\$2,636M	1,543

* \$789 million of investment (reflecting 5 of 8 projects) have already received funding approval. Incremental Phase 1 distribution costs for CECONY are \$341 million.

The range of projects proposed by New York's investor-owned utilities for local transmission and distribution development in Phase 1, through 2025 | *Investment Working Group Report*

Project Name	Projects (No.)	Estimated Project Cost*	Estimated Project Benefit (MW)
Central Hudson			
Transmission	6	\$138M	766
Distribution	7	\$55M	222
CECONY			
Transmission	6	\$4,050M	7,686
Distribution	2	\$1,300M	360
LIPA			
Transmission	6	\$1,281M+	1,830
Distribution	8	\$167.2M	937
National Grid			
Transmission	13	\$1,371M	1,500
Distribution	7	\$510M-\$1,206M	1,162-2,141+
NYSEG/RG&E			
Transmission	11	\$780M	943MW
Distribution	5	\$125M	88.3MW
Total	71	\$9,777-\$10,428M	15,494-16,473
Transmission Total	42	\$7,620	12,725
Distribution Total	29	\$2,157-\$2,853M	2,769-3,748

* In general, the Phase 2 projects included by the Utilities are in early stage development, without completed, detailed designs and/or engineering. Therefore, costs provided in this figure should be considered conceptual estimates.

The range of projects proposed by New York's investor-owned utilities for local transmission and distribution development in Phase 2, through 2030 | *Investment Working Group Report*

project's cost estimate for inclusion in the petition. Further, the company asked that the PSC "consider the significant regional environmen-

tal benefits these three immediately actionable projects provide."

The utility is also asking the commission to approve up to \$4 billion for the second phase of six projects to create points of interconnection, including two new "NYC Clean Energy Hubs," several new feeders and two rebuilt area stations, and that the PSC allocate the costs statewide on a load-ratio-share basis.

The Long Island Power Authority (LIPA) and PSEG Long Island submitted a list of projects through 2025 and another list of Phase Two "conceptual" projects specifically identified to deliver 3,000 MW of OSW into Long Island. They were considered for their ability to increase the transmission transfer capability on LIPA's system, said Hao Fu, PSEG transmission planning engineer.

"Under peak-load conditions, transmission headroom is available to deliver offshore wind power to load centers, and under light-load conditions, total load demand will be much less than total offshore wind output," Fu said. "As a result, more power will flow in the east-to-west direction on the transmission system, which will create thermal constraints."

Written comments on the overall plan are due at DPS by Jan. 18. ■

NYISO News



NY Renewable Siting Hearings End on Mixed Note

By Michael Kuser

New York officials on Nov. 30 concluded two weeks of public hearings on draft *regulations* for the siting of renewable energy resources, with comments ranging from impassioned pleas to save the planet to skepticism that the state even cares what people think about its plans to speed up development of wind and solar.

The budget *bill* in April created the Office of Renewable Energy Siting (ORES) to help the state meet the ambitious clean energy goals outlined in the Climate Leadership and Community Protection Act (CLCPA), especially the mandate for it to get 70% of its electricity from renewable sources by 2030. (See *Cuomo Proposes Streamlining NY's Renewable Siting.*)

"The reforms that Gov. [Andrew] Cuomo and the legislature agreed to last April in the Accelerated Renewable Energy Growth and

Community Benefit Act couldn't have been more timely or more necessary," said Joe Martens, director of the New York Offshore Wind Alliance, testifying on behalf of the Alliance for Clean Energy New York. The state's leaders "recognized immediately that the climate and renewable energy targets in the CLCPA simply could not be met if the permitting process for siting large-scale renewable energy projects took five to 10 years, and that's how long it was taking under the former Article X process."

The new siting law (in *section 94-C*) makes the expectations and conditions for permit approval clear and well known early in the process, Martens argued, and provides for local input to ensure that local requirements and conditions are factored in. It only allows local requirements to be overridden if they are "unreasonably burdensome."

"Despite claims to the contrary, eminent

domain cannot be used to site a renewable energy facility."

Blake Radtke, operations manager of EDP Renewables' 78-MW Arkwright Summit Wind Farm in Fredonia, said that since coming online in 2018, the project has already paid \$1 million to local landowners and more than \$780,000 to local governments.

"With that in mind, I would like to highlight a common theme I have been hearing from my site's landowners over the last several months," Radtke said. "With so much uncertainty surrounding COVID and the resulting economic impacts many of them faced, the benefits and financial certainty provided by the wind farm for them has been a much needed counterbalance. ... Renewable energy creates good-paying jobs for New Yorkers."

Opposing Voices

State Sen. George Borrello (R) opposes the regulations because "New York state is trampling on our state constitution's home-rule provisions and right of local self-governance." In casting aside these principles to remove obstacles to renewable energy projects, he said, the state is ignoring the wishes of residents to preserve the natural beauty of their region, ignoring studies, public hearings and zoning laws passed locally to limit the spread of such projects.

"We've performed our due diligence; we've exercised our rights as outlined in Article X; ... [and] the new regulations will strip us of those rights," Borrello said. "These rules are designed to fast-track renewable energy projects by removing localities and their vetting processes from decision-making."

As an example of what can go wrong with fast-tracking such projects, Borrello mentioned the state having had four wind turbines installed along the State Thruway in Chautauqua and Erie counties in 2014.

"These turbines went up relatively quickly, and after a few years, all four failed," Borrello said. "The French company that manufactured the turbines has since gone out of business. The installer and others involved claim no responsibility for the failure. The turbines still sit there, towering over the Thruway and useless, except as a reminder of the millions in wasted taxpayer dollars."

"There's an inadequate review of the environmental impacts," said Ginger Schroder, a Cattaraugus County legislator and an attorney.



The Marble River Wind Farm along the Canadian border in Clinton County, N.Y. | NYSEERDA

NYISO News



ney serving as counsel to three towns in the Alle-Catt Wind Farm case before the state Siting Board. (See *NY Regulators Approve 340-MW Alle-Catt Wind Farm*.)

“The draft regulations don’t allow for meaningful identification, assessment or mitigation,” Schroder said. “There’s improper reliance on secrecy to avoid public scrutiny, which has been the calling card of New York state to all renewable projects.” She said the regulations fail to provide access to project details, applications, case documents or even docket lists.

“While I applaud that you’re hosting all these public comments and sessions, I really do not believe, having had my experiences in the Article X process, that New York state really cares what anyone has to say about this, especially anyone who’s critical of the regulations or anyone who will stand in the way of the state’s very aggressive and unrealistic goals for large-scale renewable development.”

Supportive, but...

Audrey Friedrichsen, an environmental attorney speaking on behalf of Scenic Hudson, said her organization supports the goals of the CLCPA and the siting law, but the draft regulations could compromise watersheds and other vital habitats.

Friedrichsen encouraged ORES to develop a stringent standard for when developers will be allowed to get a waiver from the uniform requirements and instead have a site-specific condition.

“The purpose of the uniform conditions is to drive projects to be better sited and designed from inception, so the use of too many site-specific conditions should be avoided,” Friedrichsen told *RTO Insider*.

June Summers, president of Genesee Valley Audubon Society, said her organization supports the development of responsibly sited renewable energy facilities and other infrastructure, but “we do not want to see expedited renewable energy projects at the expense of our environment and birds.” The society suggests using the Department of Environmental Conservation’s mitigation ratio of 3 acres of replacement habitat for birds and bats for every 1 taken, she said.

Kate Kremer, vice president of environmental advocacy group Save Ontario Shores (SOS), criticized the constant noise produced by wind turbines in quiet rural areas and quoted a study her organization commissioned by Rand Acoustics that found the proposed numerical standard would not protect people from the

adverse health effects of the sound.

“A 45-dBA [decibels] limit is more appropriate for louder residential urban areas; however, it is unreasonably high for quiet rural areas,” Kremer said. “Germany now produces over 100,000 GWh every year with wind turbines that have a nighttime noise limit of 35 dBA. If Germany can be successful using this criterion, then so can New York.”

Kremer said that her organization also has been disappointed by the response from ORES, such as receiving formatted responses to email queries that do not address the issues raised.

“And we have been told that, unlike the document website at the Department of Public Service, people who want information on these projects are going to need to use the extremely slow Freedom of Information Act process,” Kremer said. “Given the rapid pace of the ORES siting process that is anticipated, and the advances of website information generally, the failure to have a single, publicly accessible location for all project documents is surprising and shows that faster siting, according to ORES, is also including less access and very little transparency.”

The deadline for [comments](#) is Dec. 7. ■



Rooftop solar panels in Brooklyn | NYSERDA

NYISO News

NY Utilities Diverge on Managed EV Charging

By Rich Heidom Jr.

New York's six local distribution companies split over whether to adopt "passive" or "active" approaches to managing electric vehicle charging in proposals submitted to the New York Public Service Commission last week (18-E-0138).

The PSC ordered the companies on July 16 to submit proposals for managed charging programs for mass market customers. (See *NYPSC Approves \$700 Million for EV Chargers.*)

Orange and Rockland Utilities and Central Hudson proposed passive, or behavioral load control programs, such as time-of-use (TOU) rates to affect charging patterns. Consolidated Edison has been running a passive program since 2017.

National Grid's Niagara Mohawk Power is proposing active managed charging, also known as direct load control.

Avangrid's New York State Electric and Gas (NYSEG) and Rochester Gas and Electric (RG&E) are proposing use of both.

Niagara Mohawk said an active managed charging program will produce greater benefits than a passive program, including "avoiding timer peaks, shifting an even greater portion of EV charging off-peak, and anticipating other managed charging use cases envisioned to support a clean energy future."

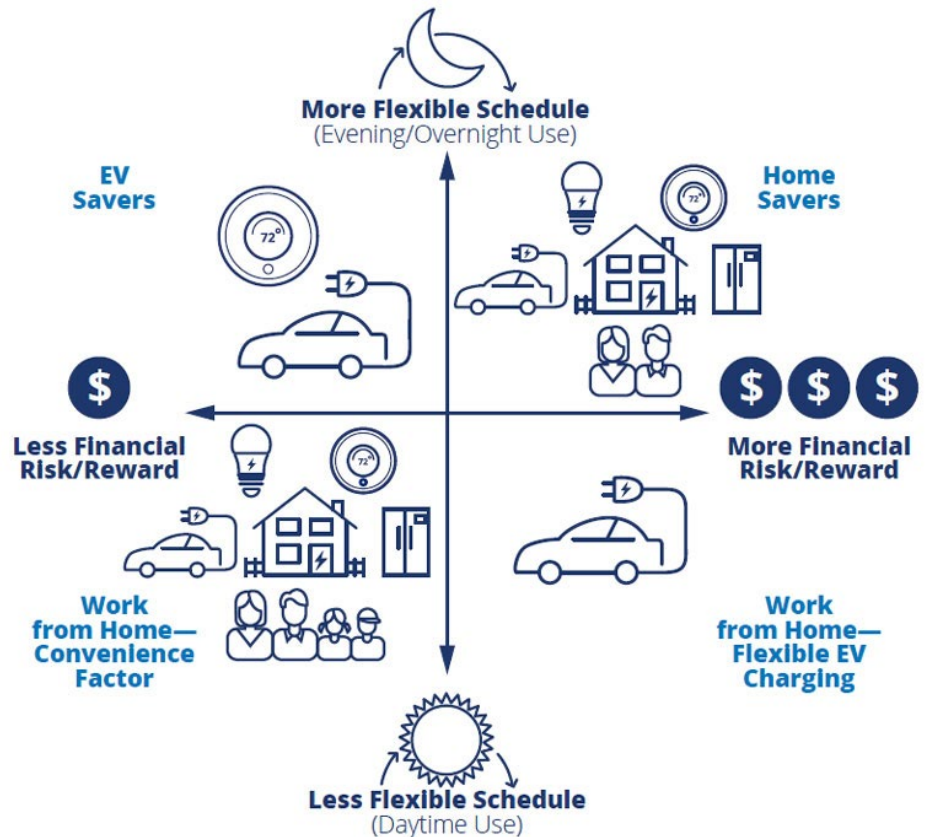
The utilities also differed over use of on-vehicle telematics — an onboard tracking system that sends, receives and stores telemetry data — or networked Level 2 (L2) chargers.

Level 1 chargers supplied with most EVs connect to a typical residential 120-volt outlet and can deliver about 4 miles of charge per hour depending on the amperage rating of the circuit, enough to meet the needs of an EV driver whose round-trip commute is less than 30 miles daily.

L2 chargers, which require a 240-V outlet, are five times as powerful, providing 25 mph of charging, but a charger and installation can cost about \$1,400.

NYSEG, RG&E

NYSEG and RG&E said they prefer data collection via telematics because it is cheaper than networked L2 chargers and allows collection of charging data, and the ability to initiate DR events, regardless of where the car is located



Illustrative EV customer types, as identified by the Smart Electric Power Alliance | *Smart Electric Power Alliance*

within their service territories.

The companies also said residential L2 chargers can force distribution system upgrades due to their greater power requirements. "Typical residential L2 chargers have power ratings of approximately 7 kW, while a typical residential transformer is rated for approximately 25 kW and can serve five to 10 households. Wide scale deployment of unmanaged residential L2 charging would generate the need for the upgrade of, or installation of, additional transformers and potentially feeder upgrades depending on loading conditions," they said.

The two utilities, which have almost 1.3 million electric customers, *proposed* three choices for EV drivers.

The "basic" level would require participants to provide the companies with limited demographic and charging behavior information, to enroll in their EV TOU rates, and to receive behavior prompts to charge during off peak periods. They would receive a \$25 annual incentive.

Drivers choosing the "intermediate" option

agree to allow the utilities to receive charging data via a telematics device they install in their EV or through their vehicles' on-board telematic systems in return for a \$50 annual incentive. They can receive an additional \$50 per year if at least 90% of their charging occurs during off-peak hours. They must agree to enroll in demand response but are not required to respond to any event called by the companies; those that do would receive a \$20 incentive for each event they opt-in to.

"Advanced" level participants will enroll in active managed charging in which they determine the level or state of charge required and the times their vehicle is available for charging. The companies' managed charging algorithm will combine the charging power requirements and session duration to determine how much power to deliver each participant and when. Interaction between participants and the utilities will be automated through a web-based portal or mobile app. Incentives would be based on the energy and time requirements of each participant, ranging from \$24 to \$70 annually.

The companies based their proposal in part

NYISO News

on NYSEG's OptimizEV pilot, which began in March with 35 participants, equal to 10% of the EV owners in the company's smart meter footprint in 2017.

The companies said initial results of the program indicate that managed charging can avoid the "timer peak" — when demand spikes in the first minutes of off-peak pricing under TOU rates. They proposed an \$11.8 million budget for 2021-2025.

O&R, Central Hudson

Orange and Rockland (O&R), which has less than 233,000 electric customers in the state, *proposed* enrolling 100 participants per year in a three-year program costing about \$800,000 as a supplement to its existing TOU rates.

It proposed a \$150 enrollment bonus and up to \$500 annually for participants who charge their EVs during off-peak periods: \$5/month for using company-provided hardware or software to monitor charging behavior, \$0.10 per kWh of charging during off-peak hours, and \$20/month when they avoid charging during peak hours (2:00 pm to 6:00 pm) on summer weekdays.

Fortis's Central Hudson also proposed building on the passive managed charging programs it has offered since 2019, a whole home TOU rate and an EV meter TOU rate.

The new program would require customers to procure a networked home charger allowing them to schedule their charging and participate in DR programs. They would receive a

bill credit for charging during off-peak hours based on the difference between the average energy rate and the off-peak rate. The company said it would fund the credit through its revenue decoupling mechanism.

It also said it is considering the addition of active managed charging within the non-wires alternatives (NWA) program it began in 2016, which uses distributed energy resources including demand response to defer or eliminate infrastructure upgrades. "Primary considerations will be coincidence of baseline charging loads with locational peaks, magnitude of available curtailment, and cost of implementation and customer incentives," it said.

The utility said it would not set "hard targets" for the initiative because of the limited number of registered EVs within its territory — 1,162 battery electric vehicles (BEVs) and 1,343 plug-in hybrid EVs (PHEVs) — and the recent decline in new EV registrations.

Consolidated Edison Company of New York

Con Edison's SmartCharge New York program rewards EV owners with "off-the-bill" incentives for charging during off-peak hours. Initially limited to light-duty EVs, it was expanded in 2018 to medium- and heavy-duty EVs.

The program uses onboard vehicle telematics, smart charging stations, submetering and the FleetCarma connected car device, which most light-duty participants in the program use. The device, which plugs into the onboard diag-

nostics port of the vehicle, collects charging data, charging rate and total energy consumed during each charging session. EV owners receive cash incentives via PayPal.

Con Edison, which has 3.3 million electric customers, paid EV owners using FleetCarma \$631,000 in incentives from Jan. 1 to Oct. 30 of this year, up from \$65,000 in 2017. Light-duty EVs using FleetCarma have grown to 2,342 from 416 in 2017.

Light-duty EV owners using FleetCarma receive a \$150 enrollment bonus, \$5/month for at least one charging event in Con Edison territory and \$20/month for avoiding summer peak charging.

The company *said* the flexibility of its program has resulted in increased enrollment. "For example, the program does not require the EV owner to install additional electrical equipment (such as a panel or meter) to participate in the program. SCNY participation is also not restricted to Con Edison account holders or home charging. Many Con Edison customers charge their vehicles at locations that are not associated with their Con Edison account and the person making the charging decision may be different from the one responsible for the electric bill. By allowing this flexibility, SCNY allows the company to manage EV load of any EV owner who charges in Con Edison's service territory."

It said it is considering new ways to enroll additional EV owners and lower per-vehicle acquisition costs, as well as new technologies for monitoring charging.

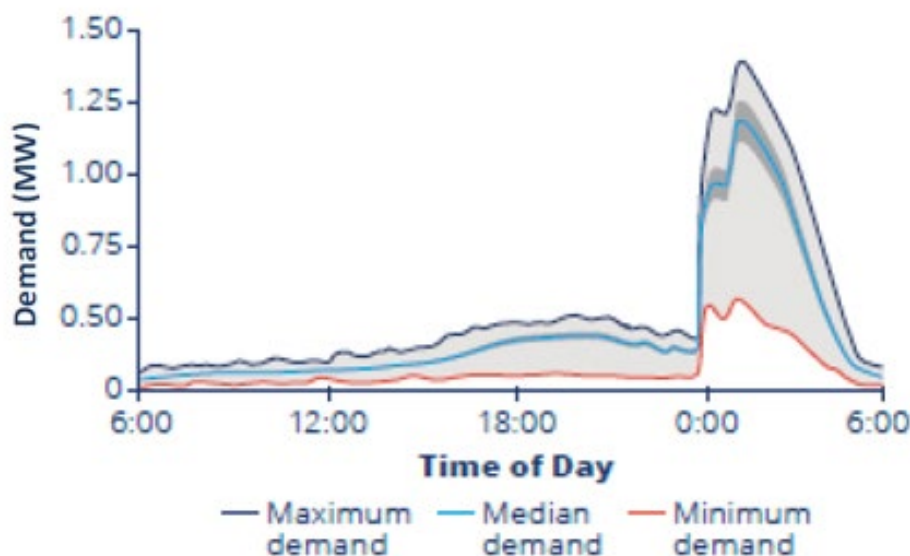
Niagara Mohawk

Niagara Mohawk, which has 1.7 million electric customers, *proposed* an active managed charging program to supplement programs it included in a rate case filing in July (Case #20-E-0380).

The new proposal would offer \$500 rebates for purchasing L2 chargers and include telematics-based charging, which it said, "is expected to increase program enrollment and reduce the program cost-per-enrolled customer."

It said most BEVs, including models from BMW, General Motors, Hyundai, Jaguar/Land Rover, Nissan, Tesla and Volkswagen/Audi, support active management.

The utility currently does only passive managed charging through its SC-1 variable time of use (VTOU) rate, which it said "has several hundred known EV drivers enrolled, a relatively small share of the total EVs in the company's



San Diego Gas & Electric experienced the "timer peak" phenomenon, when demand spikes in the first minutes of off-peak pricing under time-of-use rates. | *Smart Electric Power Alliance*

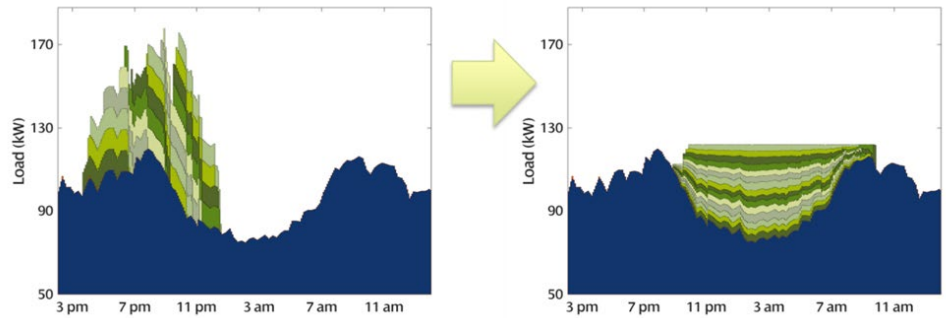
NYISO News

service area.”

National Grid’s affiliate in Rhode Island also has a passive managed charging program that provides enrollment incentives and per-kWh rebates. The company said preliminary results of an evaluation of the Rhode Island program showed a statistically significant increase in off-peak charging between participants that received off-peak rebates versus those that did not.

“For BEVs and PHEVs, there was a persistent amount of on-peak charging that participants who received the off-peak rebates still did not shift off-peak,” the company continued. “These results suggested, among other things, that for future programs and rate designs, the company should investigate technologies and incentives to mitigate and manage any timer or rebound peaks induced from time of use rates (e.g., charging peaks at 9:01 P.M. as the off-peak window begins).”

Niagara Mohawk’s proposal would provide EV owners using networked L2 chargers or vehicle-based telematics a flat monthly price for at-home off-peak charging: \$20 for up to 225 kWh or \$25 for 325 kWh of off-peak charging. In addition to the \$500 rebate for installa-



A pilot program by New York State Electric and Gas showed that uncoordinated EV charging (green left) resulted in a much higher peak demand than the usual baseline demand (orange). NYSEG’s OptimizEV program (right) is intended to coordinate EV charging, filling in the valley of the overnight baseline load. | Alexeenko & Bitar, 2019, Cornell University

tions of new L2 chargers, it will offer \$150 to participants using telematics or an existing networked L2 charger.

The company would manage at-home charging during the off-peak hours (11:00 p.m. to 7:00 a.m.) by default, requiring a customer to override the utility schedule to charge during on-peak hours at home.

Including both L2 chargers and vehicle telematics is essential to broad participation

because “neither has universal market coverage,” the company said. “Telematics provide greater present-day market coverage; however, networked L2 chargers provide a pathway for nearly any EV driver to participate.”

The company proposed a \$3.2 million budget for fiscal years 2022-2025, saying it “is sized to support nearly 20% of the EVs on the road under a sales trajectory that meets the company’s portion of the state’s” goal of 850,000 EVs by the end of 2025. ■

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PJM News

PJM MIC Briefs

Stability Limits Review

PJM's Market Implementation Committee advanced manual language to the Markets and Reliability Committee regarding a stability limits capacity constraint proposal despite the objections of stakeholders who attempted to overturn the decision.

Joe Ciabattoni, PJM manager of interregional market operations, [reviewed](#) proposed updates to Manual 3: Transmission Operations; Manual 11: Energy & Ancillary Services Market Operations; and Manual 28: Operating Agreement Accounting. He also reviewed proposed [Operating Agreement](#) revisions to reflect the capacity constraint and opportunity cost packages that were endorsed at the September MIC meeting. (See "Stability Limits Endorsed," [PJM MIC Briefs: Sept. 2, 2020](#).)



Joe Ciabattoni, PJM | © RTO Insider

The proposals were the result of several months of discussion at the MIC on potential changes to how PJM curtails generating output in order to maintain stability during maintenance outages. Generating units must sometimes be reduced below their normal economic max limit if a planned or unplanned transmission outage presents stability problems that could result in damage to the units. (See "Stability Limits in Markets and Operations," [PJM MIC Briefs: May 13, 2020](#).)

Current rules require the RTO to implement a thermal surrogate to reflect the stability constraint in the day-ahead and real-time markets and to bind the constraint, affecting the unit's dispatch.

The capacity constraint proposal was put forward by PJM and the Independent Market Monitor and endorsed by the MIC with 64% support. It addresses the allocation of limits to multiple units by stating that the limit will apply to the sum of the output of the affected units plus ancillary service megawatts. Ciabattoni said the units would be dispatched in economic merit order up to the stated stability limitation.

If a unit chooses not to remedy a stability limitation identified during the planning process, its operating restrictions — as documented in its interconnection service agreement — would be invoked prior to those for other units, Ciabattoni said.

Lost opportunity cost (LOC) credits would not be paid for any reduction required to honor the stability limit. Similarly, LOC is not paid for economic megawatts of a resource that cannot produce because of a ramp limitation.



Paul Sotkiewicz, E-Cubed Policy Associates | © RTO Insider

The opportunity cost proposal, presented by J-POWER and endorsed with 58% support, was fundamentally the same as the PJM-Monitor package except for providing compensation for LOCs. Paul Sotkiewicz of E-Cubed Policy Associates said payment for LOC is permitted by section 3.2.3 (f) of the Attachment K Appendix to the Tariff.

Ciabattoni said the proposed [Manual 3](#), [Manual 28](#) and [Manual 11](#) language for the capacity constraint package clarifies that LOC will not be paid to the generator owners for reductions related to stability. It also includes [Tariff](#) language removing LOC eligibility from section 3.2.3 (f).

The alternate opportunity cost proposal had similar language in the three manuals but kept the Tariff language regarding LOC in place.

MIC Chair Lisa Morelli ruled that the manual language for both the capacity constraint and opportunity cost packages will move on to the MRC meeting on Dec. 17 for a first read.



Lisa Morelli, PJM | © RTO Insider

Sotkiewicz made a request that the packages be voted on again at the MIC before being moved to the MRC. He said a September vote was "extremely close" and that PJM had stated "unequivocally" that Tariff and OA changes would be unnecessary in the capacity constraint proposal.

Morelli said it would be "extremely unusual" to vote again on packages already endorsed by the MIC.

Changes in Tariff and OA language would require a FERC filing and stakeholders may have voted differently on the packages with that knowledge, Sotkiewicz said, while the opportunity cost proposal did not require new OA or Tariff language.

Sotkiewicz registered a protest against Morelli's decision to advance the manual language to the MRC, asking for a new vote on the packages given that ahead of the previous vote the proposal's backers said there would be no need for Tariff or OA language changes. He said he believed the committee was not following the proper process under the rules of Manual 34.

"The vote was taken under a different set of assumptions about what was going to be required to make any changes," Sotkiewicz said.



Tom Hyzinski, GT Power Group | © RTO Insider

Tom Hyzinski of GT Power Group said he agreed with Sotkiewicz and that the addition of the Tariff language was an admission by PJM that the rules had to be changed as to not pay the LOC.

Stakeholders voted 63% against taking another vote on the packages, with 132 members voting "no" on Sotkiewicz's protest.

Sotkiewicz said he appreciated PJM crafting manual language for the alternative opportunity cost proposal with members able to make a final decision between the two packages at the MRC.

"I think this is another area where the stakeholder process has failed us, and we're going to have to revisit this," Sotkiewicz said.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, said advocates become frustrated when process issues take over substantive discussions at stakeholder meetings. He said the debate over the two packages was a "great example" of a process issue.

"The more we put in rules in the stakeholder process, it becomes a frustration when rules are used to frustrate a process," Poulos said.

FTR Bid Limits Changes

Stakeholders endorsed a manual revision establishing bid limits for financial transmission rights participants at the corporate entity level.

Brian Chmielewski, market simulation manager for PJM, [provided](#) an overview of updates to [Manual 6: Financial Transmission Rights](#), which address the enforcement of FTR auction bid limits.

PJM News

Chmielewski said the update included adding a bullet to Section 6.6 regarding “FTR Auction Business Rules” denoting the rule for FTR auction bid limits at the corporate entity level.



Brian Chmielewski,
PJM | © RTO Insider

The new bullet reads, “In all FTR auctions, for each applicable auction round, total quotes (inclusive of buy bids, sell offers, and self-scheduled bids) for each effective FTR holder are limited to 10,000 MWh for each available auction period.”

Chmielewski said the FTR group will communicate the changes to the FTR Center, PJM’s tool that market participants use for submitting bids into the auctions prior to it going live. The information will be presented at the Tech Change Forum on Dec. 15.

A final vote is scheduled for the January MRC meeting.

Sotkiewicz asked why a limit is being proposed and why it was set at 10,000 MWh.

Chmielewski said it’s been PJM’s policy to maintain a 10,000 MWh bid limit so that the

auction software would function properly. He said a limit had to be created to ensure the software would solve problems on time.

PJM has seen sub-accounts created in the last few years to get around the 10,000 MWh limit, Chmielewski said, with some corporate entities setting up multiple sub-accounts that are able to submit more bids and creating “inequities” among market participants.

Chmielewski said the concept was to memorialize the 10,000 MWh number in the manual language so it becomes a business rule everyone’s aware of and to also change the software so it won’t be possible to get around the limit by creating additional sub-accounts.

Sotkiewicz asked if it would be possible for PJM to look into further software solutions that would be able to handle higher limits and navigate through current programming constraints.

“With advanced software, don’t we think it’s time to move into the 21st century?” Sotkiewicz asked.

Chmielewski said PJM has committed to looking at stress testing the software and potentially increasing the limit.

UTC Uplift Changes

Stakeholders unanimously endorsed manual updates resulting from a recent FERC order addressing the allocation of real-time and day-ahead uplift to up-to-congestion (UTC) transactions.

Ray Fernandez, manager of market settlements development with PJM, *presented* the updates to *Manual 28: Operating Agreement Accounting* to conform with changes ordered by FERC regarding uplift charges on UTC transactions (*EL14-37*).

In its order issued in July, FERC determined that PJM’s current uplift allocation rules are unjust, unreasonable and unduly preferential because they do not allocate uplift to UTCs. (See *FERC Orders Uplift Charges on PJM UTCs*.)

PJM was directed by the commission to submit a replacement rate that revises the RTO’s current uplift allocation rules to allocate uplift to UTCs “in a manner that treats a UTC, for uplift allocation purposes, as if the UTC were equivalent to a [decrement bid] at the sink point of the UTC.”

Fernandez said UTCs will now be allocated for both real-time and day-ahead uplift. ■

— Michael Yoder

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PJM News



III. PIRG Challenges ComEd on Bribery Scandal, EIMA

By Michael Yoder

The Illinois Public Interest Research Group is calling on Exelon to divest itself from Commonwealth Edison in the wake of the bribery scandal that has ensnared the company and the powerful House Speaker Michael Madigan (D) over the passage of the 2011 Energy Infrastructure Modernization Act (EIMA).

In a report issued Dec. 1, “*Guaranteed Profits, Broken Promises: How ComEd and Exelon turned utility regulation on its head*,” the nonprofit organization examined the impact of EIMA on Illinois ratepayers. The report also delves into claims ComEd initially made to pass the legislation and continues to make defending its effects on the company and its regulator, the Illinois Commerce Commission.

Federal officials in July said bribes by ComEd aided in the passage of EIMA, which approved a formula rate mechanism, and the 2016 Future Energy Jobs Act (FEJA), which authorized subsidies for Exelon’s Clinton and Quad Cities nuclear generators. (See [ComEd to Pay \\$200 Million in Bribery Scheme](#).)

Abe Scarr, director of Illinois PIRG and co-author of the report, said ComEd has continued to push the narrative that EIMA has been beneficial to consumers, while the evidence



Illinois PIRG Director Abe Scarr | *Illinois Commerce Commission*

has shown that the law has provided “financial windfalls” for ComEd and Exelon without delivering the promised benefits.

“Customers and the public were harmed by the formula rate law — both in terms of higher delivery rates

and in terms of a failure to realize or maximize the potential benefits of the smart grid and other investments ComEd made since the law was passed,” Scarr said. “Illinois policymakers need to take action to right these wrongs and to ensure utilities like ComEd cannot amass so much political influence in the future.”

Background

In 2011, ComEd angled to convince Illinois lawmakers to allow it to make billions in smart grid investments, switching to a formula ratemaking process allowing the company to recover its costs more quickly.

According to the U.S. Justice Department, some of ComEd’s persuasion came in the form of bribes to Madigan, the chair of the state Democratic Party and the most powerful official in the state. Federal officials said the

scheme involved ComEd paying Madigan’s associates through jobs and internships and the appointment of a Madigan ally to the company’s board of directors.

In return for the alleged bribes, federal investigators said ComEd gained support for EIMA and later for FEJA, which provided Exelon’s nuclear plants a 10-year, \$2.35 billion ratepayer subsidy. (See [How ComEd Got its Way with Ill. Legislature](#).)

When the Justice Department announced ComEd’s *deferred prosecution agreement* in July, Scarr was one of the most vocal opponents, saying the scheme confirmed long-held fears that EIMA and FEJA were put forward through corruption at the expense of ratepayers in Illinois. Scarr said ComEd “was in crisis” in the decade before the passage of EIMA as the company suffered through reliability problems stemming from mismanagement.

In a statement, ComEd noted that “the deferred prosecution agreement does not contain any allegations that consumers were harmed by legislation passed in Illinois. In fact, the bipartisan legislation that was passed — EIMA and FEJA — resulted in substantial benefits for ComEd’s customers, including reliability that has improved more than 70% since 2012 to record levels.”



Exelon’s Byron Generating Station’s two nuclear reactors in Illinois produce more than 2,300 MW.

PJM News



Scarr later challenged ComEd officials at a contentious hearing of the ICC in late July, saying the corruption surrounding the company required a “comprehensive audit” to determine if alternative investments to EIMA would have yielded better results. (See [ComEd on Hot Seat at ICC Hearing.](#))

Former ComEd CEO Anne Pramaggiore and three others were indicted last month in the alleged scheme. (See [Ex-ComEd CEO, Officials Charged in Ill. Bribery Scheme.](#))

Report Findings

The 111-page report said EIMA has proven to be an “unquestionable success” for the companies, creating a “profit machine” that went above what was originally proposed.

Between 2013 and 2019, the report said, ComEd earned \$4.7 billion more than what it would have made if the revenue requirement from its 2011 formula rate case been in place over the same period.

Over an eight-year period, the report said, ComEd’s authorized profits grew by 47%, and its rate base, the value of its assets the company earns a profit off of, increased by 84%.

The report found that if EIMA’s regulatory framework continues without any changes and announced spending by ComEd remains in place, the utility’s authorized profits will reach almost \$1 billion per year by 2023.

“Nine years after EIMA’s passage, the record is clear: EIMA delivered guaranteed, record profits and other benefits to ComEd and its parent company, Exelon Corp., while leaving ComEd customers and the public with broken promises,” the report said.

EIMA delivered revenue and profits to ComEd

that are far beyond what was “necessary” to fund infrastructure upgrades, the report said. Instead of a 10-year smart meter deployment that peaked at 500,000 meters per year, according to the legislation, ComEd completed the smart meter deployment in six years with a peak of more than 1 million meters per year.

“ComEd’s energy efficiency programs, which grew significantly under the legislation, have enabled customers to save more than \$5 billion on their bills since 2008,” the utility said in its statement. “In 2019, ComEd completed — ahead of schedule — the installation of 4.2 million smart meters that give customers more control over their energy use, enable quicker response times during outages, contributing millions of dollars in storm cost savings, and provide access to money-saving programs.”

But the report said the accelerated deployment of smart meters, which required more financial resources than originally planned, demonstrated that EIMA gave ComEd more resources than necessary to complete the upgrades.

In 2019 ComEd customers paid 37% more for delivery service than they did in 2011, the report said, with EIMA’s “customer protection policy” not protecting customers by design. It said a mandated report on rate impacts was deliberately timed to obscure EIMA rate increases.

Scarr said he was most surprised to find out how the financial benefits to ComEd and Exelon will continue even after the EIMA investments are almost over, leading to almost \$1 billion in annual profits by 2023.

“EIMA was a radical and unwelcome inversion of traditional utility regulation, which aims to ensure and maximize the public good through

the creation of the opportunity for private profit,” the report said. “EIMA, on the other hand, guaranteed ComEd and Exelon’s private profit while failing to adequately ensure the public good.”

ComEd countered that “the average residential bill is lower than it was nearly a decade ago, and ComEd has requested delivery rate decreases in five of the last 10 years; regulators must review and must approve every dollar of investment that ComEd seeks to recover.”

Recommendations

The report makes several recommendations for Illinois legislators who have raised questions regarding the passage of EIMA and FEJA and their links to the alleged corruption.

Exelon should be forced to divest from ComEd or from Exelon Generation to address conflicts of interest in its ownership of both the nuclear power plants and ComEd, the report said.

It also suggests bans on political contributions by investor-owned utilities and using ratepayer, rather than shareholder, money to make charitable contributions.

The report also calls for the restoration of “effective regulation” of ComEd’s assets through an audit of the company’s grid to determine its actual value and to prevent overpayment by ratepayers.

“The most immediate action the legislature can take is to end formula ratemaking, as the governor has outlined in his energy principles,” Scarr said. “There is a general expectation that a broader energy/utility bill will come together in the 2021 legislative session, so I think they have the opportunity to address all of the recommendations we make, and we will be calling on them to do so.” ■

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PJM News



PJM PC OKs RTEP Rules for SATA

By Michael Yoder

Stakeholders endorsed PJM's proposed rules for how storage should be considered in the Regional Transmission Expansion Plan (RTEP) process at last week's Planning Committee meeting.

The PJM proposal, which includes criteria to be used in evaluating storage as transmission assets (SATA) to address reliability, market efficiency, operational performance and public policy, passed with 58% approval, including 91 "yes" votes. In a follow-up nonbinding poll, stakeholders endorsed the proposal over maintaining the status quo with 51% support, or 90 "yes" votes.

Jeffrey Goldberg of PJM *reviewed* the RTO's package, saying no changes were made since it was presented at last month's PC meeting for a first read. (See [PJM Moves Closer to Endorsing SATA](#).)

The package establishes requirements to ensure implementation maintains system reliability consistent with NERC standards. The SATA evaluation approach also seeks to ensure there are no adverse impacts to the generation interconnection queue, Goldberg said.

The package only focused on SATA in Phase 1 of the stakeholders' discussions, he continued. They will take up the issue of dual use for storage in Phase 2.

"We want to point out that SATA is a generator at times; it's a load at other times, and it can be modeled as different types of components," Goldberg said.

SATA Background

Michele Greening of PJM's stakeholder affairs *reviewed* the work completed at the SATA Special Planning Committee sessions that began in June after stakeholders approved the issue charge in May. (See [SATA Issue Charge Moves Forward in PJM](#).)

Phase 1 of the effort explored existing transmission planning criteria, including the performance measurement methodology and where there were gaps in planning.

PJM included a *draft* version of associated Operating Agreement language for informational purposes at the PC meeting. A first read of the proposed solution package and the supporting OA language is scheduled for the Market and Reliability Committee meeting Jan. 27.



| 8minute Solar Energy

Stakeholder Discussion

Sharon Segner, vice president of LS Power, asked if PJM was looking to amend Tariff language along with the OA in the package.

PJM attorney Pauline Foley said the RTO was attempting to pair the definitions of generating facilities and SATA with the Tariff language. She said the definitions will be contained in the Tariff.

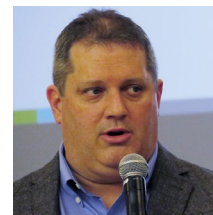
Foley said stakeholder requests to PJM prompted the RTO to include the draft OA language for the PC meeting.

PC Chair Dave Souder said PJM will welcome feedback on the OA language going into discussions and the first read at the MRC. Souder said PJM plans to schedule another SATA working group meeting to talk through the concepts and language proposed for the OA.

"We have time to solicit feedback and modify that in advance of the MRC," he said.

Carl Johnson of the PJM Public Power Coalition said it wasn't clear if the components in the PJM package would apply to supplemental projects as they do to reliability projects. Johnson said stakeholders needed clarity on the design components.

PJM's Aaron Berner said the SATA discussions related to mitigation and reliability issues, not to supplemental projects. He said the intent of the SATA discussions was about how PJM



Aaron Berner, PJM | © RTO Insider

would evaluate projects in the RTEP as potential solutions to reliability violations.

Berner said if there was any confusion around the proposed language, it could be modified before a vote at the MRC.

Bruce Campbell, director of regulatory affairs for CPower, asked if the PJM package will accommodate an aggregation of storage resources as outlined in FERC Order 2222. (See [FERC Opens RTO Markets to DER Aggregation](#).)

Berner said the dual use aspect of SATA, which is relevant to Order 2222, will be discussed in Phase 2.

Campbell asked if there was any intent of PJM to review the market components of SATA with members of the Market Implementation Committee. He said he remains a "bit uncomfortable" with the concept that a SATA resource could be active in markets.

Berner said the implications of SATA on markets have been discussed by PJM staff and will play a role in Phase 2 discussions. PJM said that Phase 1 reliability requirements must be established to ensure Phase 2 dual use does not adversely impact reliability. SATA models will appear in the base case in standby and be represented in sensitivity cases as both a generator and a load. ■



Bruce Campbell, CPower Energy Management | © RTO Insider



Carl Johnson, PJM Public Power Coalition | © RTO Insider

PJM News



PJM Operating Committee Briefs

Microgrid Rules Endorsed

PJM stakeholders unanimously endorsed new rules related to public distribution microgrids at last week's Operating Committee meeting.

Natalie Tacka, an engineer in PJM's applied innovation department, *reviewed* the proposed *changes* to Manual 14D: Generator Operational Requirements. Tacka said work on the issue first began last year in the former Distributed Energy Resources Subcommittee (DERS) and continued into the new DER and Inverter-Based Resources Subcommittee (DIRS).

A microgrid is defined as a system of generating facilities and load that can operate both while connected to and off the main grid, Tacka said. PJM is looking to define a public distribution microgrid as one that contains a PJM generating facility that can generate while connected to and "islanded" from the broader grid and uses public utility distribution wires.

Tacka said a public distribution microgrid would not include any NERC bulk electric or transmission facilities. The electric distribution company would determine if the microgrid is wholesale or retail when islanded.

The Manual 14D changes feature new definitions, including one for a microgrid and a public distribution microgrid, along with provisions for operations in island mode like telemetry and notification requirements and outage reporting.

Tacka said minor updates were made to the manual language after a first read held at last month's OC meeting.

Stakeholders also unanimously endorsed revisions to *Manual 11* and *Manual 18* related to the business rules of public distribution microgrids at the Market Implementation Committee meeting Wednesday.

The Manual 11 revisions included provisions for reflecting islanded conditions in resource availability for energy and ancillary services, Tacka said, while the Manual 18 language adds clarification for performance assessment interval treatment of public distribution microgrids serving as capacity resources.

All three manual changes now move on to the Markets and Reliability Committee for a first read at its Dec. 17 meeting and PJM seeking endorsement at the January meeting.

COVID-19 Update

Paul McGlynn of PJM provided an *update* on the RTO's operations plan in response to the

COVID-19 pandemic, saying it is looking to institute more restrictive measures as the number of cases rises across Pennsylvania and the region.

McGlynn said PJM has decided to push back its return-to-campus plan to May 31. In-person stakeholder meetings will not resume before July, McGlynn said, and will continue to be held virtually.

PJM's Annual Meeting will also be held virtually in May. McGlynn said the RTO expects to deal with the impacts of the pandemic well into 2021.

"When you hear about it every day, it's easy to lose track or not appreciate the rate of changes in some of what's going on," McGlynn said.

PJM staff have been "doubling down" on social distancing efforts and cleaning protocols in place since they were implemented in March, McGlynn said. Additional cleaning is being conducted in the control rooms, McGlynn said, and changes were made to the air filtration systems.

McGlynn said strict social distancing policies are in place in the control rooms, and staff have been further spread out to limit contact. He said the real-time reliability engineers have been moved off the control room floor and on to the mezzanine level of the Valley Forge, Pa., campus to enhance social distancing.

PJM Senior Engineer Bilge Derin *presented* an administrative change to *Manual 1* Attachment F, a temporary attachment added in April that outlines requirements for non-traditional control room setups during the pandemic. The attachment includes language on communications, redundancy, and cyber and physical security.

The attachment was set to expire on Dec. 31, Derin said, but the change will extend the measures until June 30, 2021.

McGlynn said PJM is also conducting discussions with the Electric Sector Coordinating Council over distributing a COVID-19 vaccine to critical personnel when a vaccine is available.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, asked if any consideration is being given to sequestering control room staff on the campus as it was



Paul McGlynn, PJM | @ RTO Insider

done in spring at the height of the pandemic.

McGlynn said there are "active discussions" going on by PJM staff about another possible sequestration. He said dispatchers were originally sequestered for around 10 weeks in the spring.

"I think it's likely to be driven based on the data and the numbers of infections we are seeing," McGlynn said.

SRCS Sunset Proposal, SOS Charter Review

Brian Lynn of PJM *reviewed* a proposal to sunset the System Restoration Coordinators Subcommittee (SRCS), which was originally created in 2012 but has not met since February 2019.

Lynn said the SRCS previously addressed unique responsibilities among PJM subcommittees, including administering, coordinating and debriefing restoration drills conducted within the RTO footprint. It also served as point for system restoration-related issues, made recommendations for changes to Manual 36 and conducted an annual review of each member company's restoration manual as required by NERC standards for how they will respond to system disturbance conditions or a blackout.

Lynn said PJM staff have acknowledged that the subcommittee's listed responsibilities are all important, but all of its work are currently supported by other groups. The sunset of the SRCS would reduce duplicative work and meetings, he said.

Much of the subcommittee's work is now conducted at the Dispatcher Training Subcommittee, the System Operations Subcommittee (SOS) and the PJM Transmission Operations Department, Lynn said.

The OC will be asked to endorse the proposal at its Jan. 13 meeting.

Paul Dajewski of PJM also *reviewed* the proposed charter *update* for the SOS. The updates involved minor changes as part of the annual review process.

PJM removed a reference to the SRCS because of the sunset proposal. The changes also include referring to "user groups" as "forums" and the addition of the eDART XML Forum as a group established to assist the SOS in carrying out its responsibilities.

The OC will vote on the changes at its next meeting. ■

— Michael Yoder

PJM News



PJM PC/TEAC Briefs

Planning Committee

Critical Infrastructure Stakeholder Update

PJM officials last week postponed a Planning Committee vote on the RTO's proposals for mitigating and avoiding critical infrastructure designations under NERC rules, saying they needed more time to consider potential language changes in response to FERC's order last month on the issue.

PJM attorney Pauline Foley reviewed the commission's Nov. 19 order rejecting arguments raised in a rehearing request of its March order approving the Transmission Owners sector's critical infrastructure mitigation plan (ER20-841). (See *FERC OKs PJM TOs' Critical Tx Process.*)

Foley said PJM is reviewing the impacts of the commission's order on the proposed packages for avoidance and mitigation. FERC rejected several arguments that it erred in its order, including the determination that CIP-014 mitigation projects are supplemental projects subject to local planning by TOs.

Dave Souder, director of operations planning, said some changes to the PJM package could be needed to make sure it reflects FERC's feedback. Souder said PJM plans on completing the review of the packages within a week.



Dave Souder, PJM | © RTO Insider

The PC heard a first read of the RTO's package at last month's meeting, which [followed 11 Critical Infrastructure Stakeholder Oversight \(CISO\) sessions.](#) (See "Critical Infrastructure Stakeholder Update," *PJM PC/TEAC Briefs: Nov. 4, 2020.*)

The issue originally came to a head last year when incumbent TOs asked for feedback on a proposal establishing a process for vetting transmission system enhancements designed to reduce the number of assets identified under NERC's CIP-014 standard. Fewer than 20 of them exist within the PJM footprint.

Mike Herman of PJM [reviewed](#) the RTO's proposal to address avoidance of future CIP-014 facilities, including a first read of associated language in *Manual 14B* and *Manual 14F*. Herman conducted a first read of PJM's avoidance and mitigation [packages](#) last month.



Linden VFT's exterior | Joseph Jingoli & Son

The changes to Manual 14B include the addition of a new subsection describing the process related to maintaining reliability. It also added avoidance to the list of transmission planning activities.

The RTO would add text to Manual 14F detailing the process by which it may modify a proposal submitted through the competitive planning process. It would also add resilience to the list of reliability criteria evaluated in a proposal window in both manuals.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, said his members have indicated they would not support PJM's package without the mitigation and avoidance components being voted on together.

"We've always seen them together as a package," Poulos said.



Sharon Segner, LS Power | © RTO Insider

"We're very cognizant of making sure that we get what we pay for," DeLosa said.

Sharon Segner, vice president of LS Power, urged PJM to pay close attention to FERC Commissioner Richard Glick's dissent in the Nov. 19 order in which he said CIP-014 projects "have the potential to benefit the region as a whole" and "should be

planned by PJM." Segner said changes at FERC following President-elect Joe Biden's inauguration could throw some of the commission's

decisions into question, including planning of CIP-014 facilities.

New Jersey BPU State Agreement Approach

Joe DeLosa, of New Jersey Board of Public Utilities staff, [briefed](#) stakeholders on the state's [request](#) for PJM to integrate its offshore wind goals into the RTO's Regional Transmission Expansion Plan (RTEP) process under the "state agreement approach." The move would make New Jersey the first state to use the approach since it was approved by the FERC under Order 1000. (See *NJ Asks PJM to Seek Bids for OSW Tx.*)

The approach allows states to pursue transmission solutions to meet public policy needs, while the costs of the upgrades are allocated to state ratepayers. (See *PJM Dusts off 'State Agreement' Tx Approach.*) DeLosa said New Jersey officials understand that bearing the cost is a definitional requirement of the approach, but he pointed out that the BPU's agreement to execute a study agreement with PJM has not committed the state to pay anything right now.

"We're very cognizant of making sure that we get what we pay for," DeLosa said.

The BPU wants to foster potential transmission expansion beyond New Jersey, he said, opening facilities to other parties if they want to help fund the upgrades. DeLosa said the state is guarded against "free riders" taking

PJM News



advantage of transmission capacity funded by New Jersey ratepayers.

Segner said she has been following the developments in New Jersey with “excitement and interest” and was particularly pleased to see the BPU’s focus on cost-containment provisions in the PJM Tariff. She said it was also exciting to see New Jersey embracing the competitive windows in Order 1000.

She asked if operational control of the transmission facilities would be turned over to PJM after they were completed.

DeLosa said the BPU envisions them as open-access PJM transmission facilities.

Stakeholders asked about the overall timeline for the state agreement approach.

DeLosa said the timeline is still under consideration and that the BPU is cognizant of PJM’s RTEP timelines.

“We are looking to slot ourselves into one of the existing RTEP cycles,” DeLosa said.

Planning Committee Charter

Stakeholders unanimously endorsed the committee’s charter by acclamation vote in an annual review.

PJM’s Souder *reviewed* the charter, saying no changes were being considered to the existing language. He said PJM received no stakeholder feedback for recommended changes, and RTO staff had no suggested changes.

Transmission Expansion Advisory Committee

Public Policy Objectives in RTEP

Stakeholders are asking for more discussions to take place in the Transmission Expansion Advisory Committee in 2021 regarding state public policy requirements and objectives across PJM territory.

Segner presented a *proposal* regarding the consideration of public policy objectives in RTEP studies and analyses. She said LS Power sees public policy planning as a major issue in 2021 and that it’s time for PJM and its members to discuss planning the grid of the future.

LS Power officials looked at the PJM Operating Agreement language, Segner said, and began examining actions that could be done in 2021 under existing language to start planning for public policy. She said the OA defines public policy objectives as referring to requirements and initiatives of state or federal entities that have not been codified into laws or regulations but may have impacts on long-term planning considerations.

Segner said the proposal requests specific TEAC agenda items, including providing the opportunity for stakeholders to submit public policy objectives. The proposal also calls for TEAC discussions on “public policy planning sensitivity studies, modeling assumption variations and scenario planning analyses related to public policy objectives and multi-driver plan-

ning” considered by PJM in the 2021 RTEP.

“There’s an opportunity with the start of the 2021 RTEP for there to be a greater focus and more in-depth discussions in the TEAC,” Segner said.

John Brodbeck, senior manager of transmission at EDP Renewables North America, said he was supportive of Segner’s proposal. He said that when Order 1000 was first developed, PJM made the decision not to include interconnecting regions in the planning process, a decision that would have potentially excluded the OSW discussion currently happening in New Jersey.

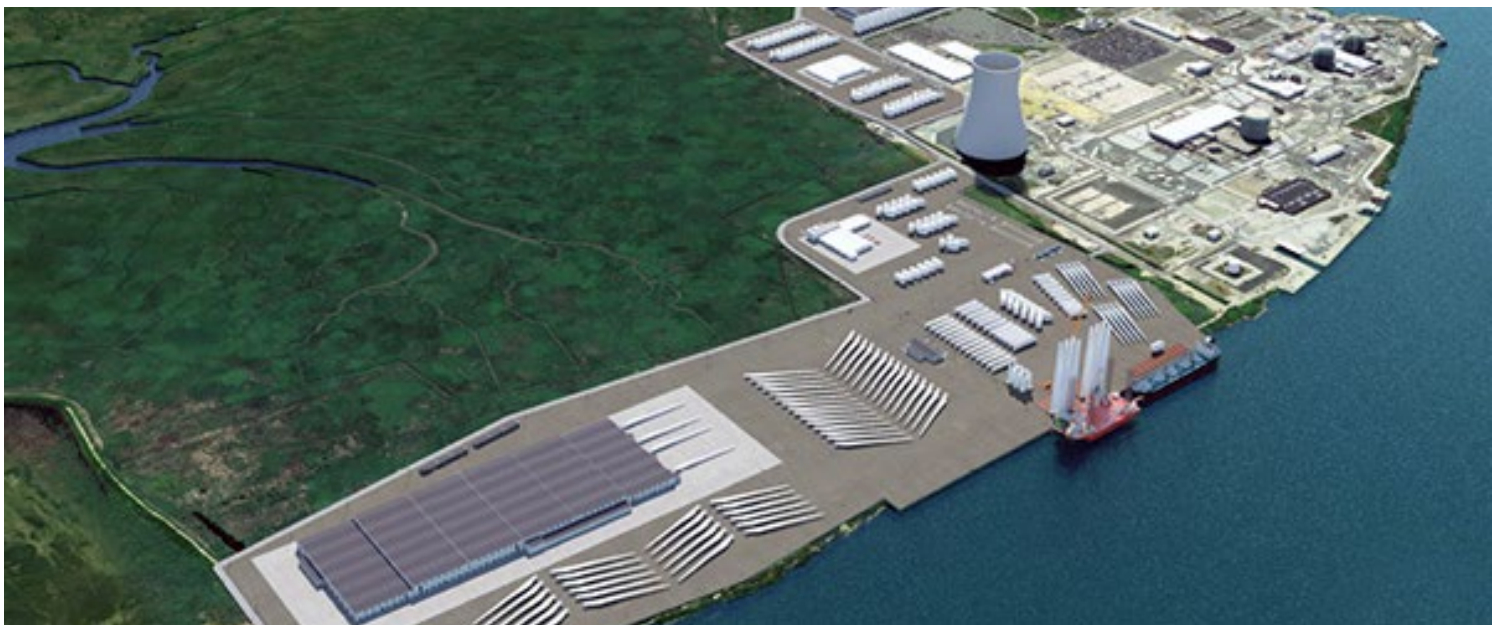
Brodbeck said expanded TEAC discussions could be an opportunity for stakeholders to look at the different criteria that go into public policy.

“We do need to bring in some more issues to the planning process in PJM,” Brodbeck said.

Ed Tatum of American Municipal Power said he was also supportive of the proposal and that the OA clearly states the different issues that should be discussed in the TEAC. However, Tatum said the TEAC is a “non-decisional” committee and was intentionally set up that way so stakeholders would not be voting on project planning.

“PJM is the planner, and I think that authority was recognized,” Tatum said. ■

— Michael Yoder



Rendering of proposed New Jersey Wind Port located at Lower Alloways Creek | New Jersey Board of Public Utilities

SPP News

SPP WEIS Stakeholders OK Final Test

By Tom Kleckner

SPP's Western Interconnection stakeholders last week voted to move forward with parallel operations, the final test before the Western Energy Imbalance Service (WEIS) market's planned February launch.

RTO will conclude a series of market trials that began in June. WEIS members tested the connectivity between their systems and SPP's before moving into structured and unstructured testing of dispatch instructions.

The Western Area Power Administration's Rocky Mountain Region abstained from the vote, saying it had to "work things out contractually."

"We've got to finish strong," SPP's David Kelley, director of seams and Tariff services, told the Western Market Executive Committee (WMEC) during its meeting Nov. 30. "We've been strong to this point. There's a lot of work to do. I'm confident we'll meet that challenge."

SPP has yet to receive FERC approval for its WEIS Tariff. After its initial filing was rejected this summer, the RTO submitted a second version on Oct. 1, asking for a reply by Dec. 1 (ER21-3, ER21-4). (See [SPP Responding to WEIS Tariff Protests](#).)

On Wednesday, SPP held a meeting for new members on the RTO's integration process. Staff discussed the confidentiality agreements necessary to participate in some future meetings and fielded comments by some of the Western utilities evaluating WEIS membership.



David Kelley, SPP | © RTO Insider

04 - D WRR13 Recommendation Report - Word

Steve Johnson (Host) Dave Neumayer Tom Christensen Tim Vigil Daniel Harless

4.3 SUPPLY ADEQUACY ANALYSIS

4.3.1 PURPOSE

SPP will perform a Supply Adequacy Analysis to ensure that each Balancing Authority participating in the WEIS Market and the Market Participants within those Balancing Authority Areas meet upward and downward supply adequacy. The Supply Adequacy Analysis will occur on day-ahead, hour-ahead, and intra-hour time horizons.

4.3.2 INPUTS

SPP will use the most recently updated Resource Offers, Resource Plan, Energy Schedules, and Ancillary Service Plan to determine maximum and minimum supply available for each period being analyzed. SPP will use the latest Ancillary Service Plan to determine the amount of Ancillary Services being carried for each period. The most recently updated load forecast projections will be used to determine the load forecast obligations for each period. SPP will use the latest State Estimator model, topology, and potential operating constraints for the forward time points in deliverability portion of the analysis.

4.3.3 FORMULAIC DESCRIPTORS

4.3.3.1 UPWARD SUPPLY ADEQUACY

A Market Participant is supply adequate in the upward direction when the following relationship is true:

$$\text{Resource Capacity Maximum} + \text{Imports} > \text{Load} + \text{Exports} + \text{Reserve Obligation Up}$$

WHWG Deleted: have sufficient generation in their operating plan to meet the load and Ancillary Service obligations of both the Market Participants and Balancing Authority.

Daniel Harless Deleted: both

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WEIS market participants review edits to one of several revision requests. | SPP

WMEC Approves 6 WRRs

The WMEC remanded back to the Western Markets Working Group a WEIS revision request (WRR) providing further guidance on service flow constraints (SFCs) following concerns raised by SPP's Market Monitoring Unit.

The proposed change ([WRR16](#)) would add a list of SFCs as an appendix to a business practice (BP). The MMU pointed out that "on-the-fly" SFCs cannot be represented in real time in an appendix.

"We have concerns about duplicative or misleading information," the MMU's Ian Wren said. "Why have an appendix at the outset when we know it will never be accurate?"

Kelley said including the list in an appendix was an effort to provide transparency and meet the Tariff's requirements. "We just committed in the Tariff to make it publicly available," he said.

The MMU and staff agreed the concerns could be addressed by posting the SFC list online.

The WMEC asked the working group to eliminate WRR16's reference to the appendix. Staff will research all WEIS governing documents, including outstanding revision requests, to remove any other references to the appendix.

The committee approved six other WRRs. The measures cleared unanimously with the ex-

ception of WRR13 and WRR14; the Municipal Energy Agency of Nebraska abstained from both votes.

- [WRR10](#): ensures the WEIS market's dispatch of resources does not violate an operating instruction when resources are deployed for ancillary services (AS) by limiting the instruction's upper limit, reduced by the resource's upward AS.
- [WRR11](#): cleans up language from previous market designs or carried over from the Integrated Marketplace's protocols and accidentally left in.
- [WRR12](#): adds language describing marginal losses and the loss-adjustment factor to align with [WRR8](#).
- [WRR13](#): removes the supply adequacy analysis's undersupply description and documents the real-time operating constraint to be activated when a participating balancing authority has not resolved an energy obligation deficiency, aligning the WEIS protocols with [WRR7](#).
- [WRR14](#): recognizes the market economic dispatch's physical and non-physical constraints and defines the term "market operator."
- [WRR15](#): adds WEIS BPs to the WRR process, allowing stakeholders to create, modify and delete BPs. ■

SPP News



Tri-State Continues Focus on Renewable Energy

G&T Cooperative Files Resource Plan with Colorado Commission

By Tom Kleckner

Tri-State Generation and Transmission Association continues to emphasize its environmental bona fides, but on its own terms.

The Colorado-based cooperative filed its first electric resource plan (ERP) with the Colorado Public Utilities Commission on Nov. 30, building on the *Responsible Energy Plan* it unveiled last year. (See [Tri-State to Retire 2 Coal Plants, Mine.](#))

The 20-year, \$21.3 billion *plan* would reduce Tri-State's CO₂ emissions by 80% from 2005 levels by 2030 (20A-0528E). The plan's preferred scenario would add more than 1.8 GW of renewable capacity by 2030 — more than doubling Tri-State's currently contracted solar and wind resources — and 225 MW of standalone battery storage.

"We do not have to commit to a path at this time," CEO Duane Highley said in a [statement](#). "There will be time for emerging technologies to become competitive before we have to make acquisition decisions."

At the same time, Tri-State pushed back against a recent preliminary order by the Colorado's Air Quality Control Commission (AQCC) directing three coal-fired power plants, including Tri-State's Craig Station, to close by the end of 2028, two years earlier

than the cooperative planned.

Highley *said* Tri-State had "responsibly" set a voluntarily retirement date for Craig Station by the end of 2029, when it intends to have added 2 GW of renewable resources.

"It must be noted that Tri-State, the other utilities and the state's professional staff all testified that accelerated plant closures were unnecessary to achieve visibility goals and exceed requirements to achieve reasonable progress toward achieving visibility improvements under the regulations," he said. "The [AQCC's] unprecedented preliminary final action to require the early closure of Craig Station rejected the recommendation of the state's professional staff."

The agency issued the order under the Clean Air Act's Regional Haze Rule and to meet the state's greenhouse-reduction targets (26% reduction over a 2005 baseline by 2025, 50% by 2030 and 90% by 2050). The AQCC will make a final decision during its Dec. 16-18 meetings.

Closing Craig and a second coal plant by 2030, as Tri-State announced in January, would cut more than 1.1 GW of coal-fired generation out of its fuel mix. Some Colorado environmental groups have [pointed out](#) the cooperative will still draw 23% of its energy in the next decade from coal-fired resources elsewhere in its four-state

footprint.

Under Tri-State's preferred ERP scenario, renewables will account for 59% of its generation mix by 2030. That amount of renewables will require the company participate in a Western RTO, Highley said. The company is among several Western entities evaluating membership in SPP, where wind energy penetration levels are approaching 75%. (See [Western Utilities Eye RTO Membership in SPP.](#))

"One of the great attributes of SPP is its reach across 14, 15 states. [It's] been able to integrate more renewables in a bigger way than thought possible," Highley said during a virtual press conference last month alongside Colorado Gov. Jared Polis. It was the second time this year he has joined forces with the Democratic governor to highlight Tri-State's effort in meeting the state's greenhouse gas emission-reduction targets.

"There are hours of getting 80% renewable service [in SPP]. We're going to need that same coordination as we build out our renewables," Highley said, pointing to SPP's presence in both the West and East. "There's a better market in the West if we can get [renewable energy] across that border between the Eastern and Western grids. SPP is in a better situation to manage that." ■



The Kit Carson Windpower facility | *Tri-State G&T*

Company Briefs

SCANA, Dominion to Pay Civil Fine in Fraud Case; Ex-CEO Admits Fraud



SCANA and its new parent company, Dominion Energy,

last week reached an agreement to pay the U.S. Securities and Exchange Commission a \$25 million civil fine in relation to a fraud case dealing with the failed V.C. Summer nuclear plant, according to public records filed in U.S. District Court.

Under the settlement, which must be approved by a federal judge, neither SCANA nor Dominion would admit any fault in the multibillion-dollar business failure. However, neither company could publicly claim it is innocent of any wrongdoing alleged by the SEC.

In its complaint, the commission depicted SCANA and its two top executives as carrying out a scheme for nearly three years to prop up the company's stock and hide the truth about the impending collapse of the nuclear project.

The companies' agreement came a week after former SCANA CEO Kevin Marsh agreed to plead guilty to federal conspiracy fraud charges, go to prison for at least 18 months and forfeit \$5 million in connection with the defunct company's \$10 billion project failure.

Marsh helped lead a two-year coverup of the financial trouble that jeopardized the success of the nuclear project and the financial health of SCANA, according to records and evidence in the case. The coverup enabled Marsh and other SCANA officials to continue collecting salaries and bonuses and deceive stockholders, investors and regulatory officials about the state of the company and the project.

SCANA, with the permission of regulators who were kept in the dark, raised rates nine times to help pay for the project. In all, customers paid an additional \$2.2 billion in monthly bills over five years.

More: [The State](#)

Daimler, PGE Announce Heavy-duty Electric Truck Charging Site



Portland General Electric and Daimler Trucks North America last week

announced the co-development of "Electric Island," a public charging site for medium-

and heavy-duty electric commercial vehicles that is expected to be the first of its kind in the U.S.

The site, which is currently under construction in Portland, Ore., is designed to support up to nine vehicles with charging levels around 1 MW. It is expected to be operational by the spring of 2021.

More: [Portland General Electric](#)

GM Backs out of Nikola Stake



General Motors last week said it was no longer taking an 11% stake in electric vehicle company Nikola and was pulling all technological

support for the project.

Nikola has since released updated terms between the companies, which no longer calls for the electric and hydrogen-powered pickup truck called the Badger. GM spokesman Jim Cain said the revised agreement will help Nikola produce its commercial trucks and help GM commercialize its fuel cell technology.

More: [The Associated Press](#)

Invenergy Begins Construction on Country's Largest Solar Project



Invenergy on Nov. 18 confirmed the construction of

the 1,310-MW Samson Solar Energy Center in northeast Texas, which when completed will be the largest solar project in the country.

The center will provide power for AT&T, Honda, McDonald's, Google, Home Depot, and the cities of Bryan, Denton and Garland. It will be built in five phases over the next three years and is expected to be completed by 2023.

More: [Wichita Falls Times Record News](#)

OGE Names Buckler CFO

OGE Energy last week announced it has named W. Bryan Buckler chief financial officer, effective Jan. 1. Buckler will replace Steve Merrill, who is retiring.

Buckler comes to OGE from Duke Energy, where he has served in various capacities since September 2006, most recently as vice president of investor relations.

More: [OGE Energy](#)

PSEG to Take 25% Stake in Ørsted New Jersey Offshore Wind Project



Public Service Enterprise Group last week said it

has entered into an agreement with Ørsted North America to acquire a 25% stake in the 1,100-MW Ocean Wind project off the coast of New Jersey. Finances of the deal have not been disclosed.

The project site is located about 15 miles off Atlantic City. Depending on permitting, development and construction, and a final investment decision on the part of PSEG and Ørsted, the facility could be operational by late 2024.

The companies expect to finalize the deal in the first half of 2021.

More: [Renewables Now](#)

Tellurian Withdraws Application to Build Permian Gas Pipeline

U.S. LNG developer Tellurian last week told FERC it wants to withdraw its application to build the Permian Global Access natural gas pipeline in Texas and Louisiana. The filing came a day after the company said CEO Meg Gentle would be leaving.

The \$4.2 billion, 625-mile pipeline was designed to transport up to 2.3 Bcfd of gas from the Permian shale basin in West Texas and eastern New Mexico to southwest Louisiana near where Tellurian wants to build the Driftwood LNG export plant.

More: [Reuters](#)

Vestas Launches Venture Capital Fund



Wind turbine manufacturer Vestas last week

announced it has launched its own venture capital unit.

Vestas Ventures will focus on four areas: long-duration storage and other grid flexibility technology; "power-to-X" technologies to use renewable electricity to produce carbon-neutral fuels; wind energy technologies; and sustainability and advanced materials.

While the company chose to focus on those four segments to concentrate the impact of its venture investments, it has not set any limitations on how it might spread investments across the sectors and intends to conduct a global search for the right targets.

More: [Greentech Media](#)

White Stallion Energy Files for Bankruptcy

Coal company White Stallion Energy filed

for Chapter 11 bankruptcy last week and will terminate all 260 of its employees.

White Stallion cited the distress of the COVID-19 pandemic on the coal market

as severely impacting the company. The company owns four mines in Indiana and two in Illinois.

More: [Evansville Courier & Press](#)

Federal Briefs

Bill to Preserve Existing Nuclear Plants Clears Senate Committee



The Senate Environment and Public Works Committee last week approved the American Nuclear Infrastructure Act of 2020, which seeks to strengthen the nuclear fuel supply chain, incentivize commercial deployment of new reactor designs and create a credit program to preserve existing reactors at risk of premature shutdown.

Among the bill's major provisions is a targeted federal credit program, backed by appropriated funds through 2029, to preserve nuclear reactors that are at risk of premature shutdown owing to economic reasons. It also grants the Nuclear Regulatory Commission the authority to establish an "international nuclear reactor export and innovation" branch, and allows certain foreign entities to receive licenses if the commission determines the entities do not pose defense or public threats.

The bill has been placed on the Senate legislative calendar, but it is unclear whether the chamber will act on it this year.

More: [POWER Magazine](#)

GOP Picks McMorris Rodgers for Energy and Commerce



House Republicans last week appointed Rep. **Cathy McMorris Rodgers** (R-Wash.) to lead the party on the Energy and Commerce Committee, making her the first woman to hold a leadership role at the committee that has authority

over the nation's health care, technology,

environmental and energy policies.

Rodgers beat out Reps. Michael Burgess (Texas) and Bob Latta (Ohio) to win the position. She will replace retiring Ranking Member Greg Walden (Ore.).

The House Republican Steering Committee also selected Rep. Bruce Westerman (Ark.) for the top spot on the Natural Resources Committee.

More: [POLITICO](#)

Lujan Grisham Turns down Interior Post



New Mexico Gov. **Michelle Lujan Grisham** (D) turned down an offer to serve in President-elect Joe Biden's cabinet as interior secretary, a source said.

Grisham was believed to be interested in the position of Health and Human Services secretary given her work on health care. But later on Sunday, Biden announced he would nominate California Attorney General Xavier Becerra for that post.

More: [Santa Fe New Mexican](#); [The Hill](#)

NRC Approves Sale of Three Mile Island



The Nuclear Regulatory Commission last week approved the sale of Three Mile Island's Unit 2 to EnergySolutions, which will be charged with completing the decommissioning process that began after a partial meltdown in 1979.

Earlier this year, FirstEnergy, the plant's

previous owner, estimated that it would cost \$1.4 billion to dismantle the plant versus the \$900 million it set aside for the decades-long process.

In addition to approving the sale, the commission also approved emergency planning exemptions requested by Exelon, which held that responsibility for both units. It means Exelon will no longer contribute funding to local governments and the Pennsylvania Emergency Management Agency. It also halted off-site radiation monitoring and maintenance of early warning systems.

More: [PennLive](#)

Vineyard Wind Decision Delayed Until 2021

The Bureau of Ocean Energy Management once again delayed its decision on the Vineyard Wind offshore wind project last week and pushed its permitting decision back from Dec. 18 to Jan. 31, 2021.

A final decision on the 800-MW facility had initially been expected by Aug. 16, 2019, but BOEM announced that month that it planned to withhold the final environmental impact statement while it studied the wider impacts of the offshore wind sector. And while executives initially hoped the project would become operational in 2022, they now say that won't be the case until 2023 at the earliest.

More: [WBUR](#)

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State Briefs

CALIFORNIA

Oakland, San Jose Ban Natural Gas in New Buildings

The cities of Oakland and San Jose last week voted to ban natural gas hookups in new buildings.

San Jose became the largest city to ban natural gas in commercial buildings when its city council voted 8-3 to pass the resolution. However, hospitals, manufacturing plants, industrial facilities and energy storage companies that use natural gas to provide fuel can still do so in the event of a blackout. The city's goal is to eliminate natural gas in the next decade, but that change needs to account for how easily the city and businesses can adopt and construct new energy systems.

The Oakland City Council also unanimously voted to ban natural gas in newly constructed apartment and commercial buildings. Councilman Dan Kalb said the city can't meet its climate goals without shifting away from natural gas use.

More: [San Jose Spotlight](#); [San Francisco Chronicle](#)

CONNECTICUT

PURA Overhauls Rules for Rate Increases

EVERSOURCE The Public Utilities

Regulatory Authority last week unanimously approved new rules for Eversource Energy and United Illuminating that it says will help prevent dramatic increases in bills, ensure rates more accurately reflect costs and decrease the likelihood companies overcharge consumers.

Eversource rates that took effect July 1 surprised customers, as their monthly bills increased by hundreds of dollars in some cases. In response to a flood of complaints, the agency suspended the new rates and investigated.

PURA Chair Marissa Gillett said, "The authority uncovered a number of concerning aspects with respect to the implementation of the rate adjustments" during its investigation. The distribution rates in effect before July 1 will remain in place until May 1. The rulings will not affect the other component of bills, such as electricity supply charges related to power plants.

More: [The Associated Press](#)

ILLINOIS

House Republicans Call on Madigan to Resign



After four former Commonwealth Edison officials pleaded not guilty last week to charges that they engaged in a yearslong bribery scheme aimed at influencing Illinois House Speaker **Michael**

Madigan, some House Republicans have called on Madigan to resign.

Although Madigan has not been charged and has denied any wrongdoing, his support within the House Democratic caucus has eroded since his appearance as "Public Official A" in July's agreement and appears to no longer have the 60 pledged votes in the House of Representatives to support him.

In a 50-page indictment that was unsealed on Nov. 18, prosecutors allege the four defendants engaged in a conspiracy to award no-work jobs and lobbying contracts to close associates of Madigan as part of an effort to maintain his support for legislation that benefited ComEd.

More: [Capitol News Illinois](#)

IOWA

Greenbacker Renewable Energy Proposes Wind Farm Upgrade



Greenbacker Renewable Energy last week proposed a \$40 million to \$45 million upgrade to its recently purchased Elk Wind Farm in Delaware County.

The company would keep all existing infrastructure on the ground, including access roads, underground power lines, concrete foundations and steel towers, but replace the 17 turbines' 100-meter blades with 127-meter ones. It would also like to replace the Nordex turbines with General Electric models.

Greenbacker hopes to have a formal request for supervisors in the coming months.

More: [Manchester Press](#)

Kossuth County Approves Ledyard Wind Project

The Kossuth County Board of Supervisors

last month approved the application for the Ledyard Windpower wind farm before its moratorium on new applications went into effect.

The wind farm will consist of 56 turbines that will each generate between 4.2 and 5 MW.

More: [Radio Iowa](#)

MICHIGAN

Acme Approves Solar Farm



Acme Township trustees last week unanimously approved a 9-MW solar farm proposed by Prism Power Partners.

The developers will build the Trailside Solar array on 50 acres and will be required to follow stringent regulations to protect nearby wetlands and Yuba Creek.

The solar panels and support structures will not exceed a height of 16 feet at maximum tilt and will be set back at least 50 feet from property lines and rights of way, as well as 200 feet from residential dwellings, Prism said.

More: [The Ticker](#)

Grand Rapids Approves Solar Project

The Grand Rapids City Commission last week approved a solar array at the Lake Michigan Filtration Plant.

The installation will generate about 10% of the plant's annual power needs and result in an estimated savings of \$1.2 million over a 24-year period.

Grand Haven Township zoning and planning officials still need to sign off on the project.

More: [MLive](#)

NEVADA

PUC Approves NV Energy's Solar-plus-storage Projects

The Public Utilities Commission last week

approved NV Energy's plans for three new large-scale solar-plus-storage projects that will total 478 MW of new generation and 338 MW of storage.

The three Clark County projects are the Dry Lake Solar Project (150 MW output, 100 MW storage), the Boulder Solar III (128 MW, 58 MW) and the Chuckwalla Solar Project (200 MW, 180 MW). With the projects, NV Energy will have achieved its 1,000-MW storage target set in regulation.

All projects are expected to be operational by the end of 2023.

More: [Solar Industry Magazine](#)

State Releases Climate Strategy

The state last week released its "State Climate Strategy," which calls for reaching net-zero greenhouse gas emissions by 2050. Along the way the state aims to reduce emissions by 28% by 2025 and 45% by 2030.

According to the strategy website, the state is currently on track to reduce greenhouse emissions by 24% by 2025 (4% short of the 28% goal) and 26% by 2030 (19% short of the 45% goal). Therefore, new mitigation-focused policies, programs, investments and regulations are needed to put the state on the path toward reaching net-zero emissions by 2050.

The strategy lays out four key metrics for evaluating climate policies: emissions-reduction potential, climate justice, economic implications and implementation feasibility.

More: [KLAS](#)

NEW YORK

State Agrees to Reduce RGGI Cap by 30%

The Department of Environmental Conservation and New York State Energy Research and Development Authority last week adopted regulations to strengthen the Regional Greenhouse Gas Initiative (RGGI). The regulations put the state in line with other RGGI members in reducing the carbon dioxide emissions cap by 30% from 2020 to 2030. The changes also expand the program to cover peaking units above 15 MW, a reduction from the current 25-MW threshold. The emissions reductions support the Climate Leadership and Community Protection Act's requirement to reduce greenhouse gas emissions 85% by 2050.

More: [New York Governor's Office](#)

State Generated the 4th Most Electricity from Renewables in 2019

The state last year generated the fourth highest amount of electricity from renewables, according to the U.S. Energy Information Administration's Electric Power Monthly.

The state's 39.4 million MWh of renewable electricity lagged behind only California, Texas and Washington and accounted for 30% of its total electricity generation. Hydroelectricity was the primary source of renewable generation (31 million MWh) and accounted for 78%. Wind (4.5 million MWh) accounted for 11%.

More: [Renewables Now](#)

NORTH CAROLINA

Regulators Approve Scaled-back Vehicle Charging Pilot for Duke



The Utilities Commission last week approved a scaled-back version of Duke Energy's proposed \$76 million pilot program to install electric vehicle charging stations across the state, saying the company failed to demonstrate that a full pilot program was needed.

Duke spokesman Randy Wheelless said the plan will cost about \$25 million and calls for charging stations in public places and apartment complexes, as well electric school buses.

More: [WFAE](#)

OHIO

AEP Nonprofit Gave \$700K to Groups Linked to HB6 Scandal



IRS documents filed last month show that Empowering Ohio's Economy, a nonprofit funded by American Electric Power, donated \$550,000 in 2019, \$50,000 in 2018 and \$100,000 in 2017 to Generation Now, which federal prosecutors allege was the primary vehicle for funneling bribes to former House Speaker Larry Householder to pass House Bill 6.

Prosecutors allege an unnamed company, identified through descriptions as former FirstEnergy subsidiary FirstEnergy Solutions, funneled more than \$60 million in bribe money to Generation Now to elect pro-Householder Republicans to the House of Representatives so he could return as

speaker and help pass HB6. The allegations have led to FirstEnergy firing several senior executives, including its CEO.

AEP supported the bill but has said it was not involved in the alleged scheme. Empowering Ohio is designed to promote the state for business and tourism, according to its tax filing. It has given to charity organizations and political groups. "Obviously, knowing what we know now, we wouldn't have made the donations," said J.B. Hadden, an Empowering Ohio board member.

More: [Dayton Daily News](#)

SOUTH DAKOTA

PUC Approves Wild Springs Solar Project

The Public Utilities Commission last week approved a construction permit for the 128-MW Wild Springs Solar Project in Pennington County.

The \$190 million solar facility, which will be the largest in the state, will span nearly 1,500 acres of privately owned land and include about 340,000 solar panels. It is expected to be completed by the end of 2022.

"It's extremely interesting and very exciting to see this type of renewable energy project being developed in South Dakota," PUC Chairman Gary Hanson said. "Ten to 20 years ago, solar energy wasn't considered a viable option for our state because we didn't have the right [political] climate for it."

More: [KNBN](#)

VIRGINIA

Appalachian Power Rate Increase Denied by SCC, Will Appeal



The State Corporation Commission last month denied Appalachian Power's request to raise residential rates by \$10/month, saying the company had earned a profit within its authorized range from 2017 to 2019.

The utility claimed its earnings were lower and needed to raise rates to maintain service and stay competitive in the market. A part of the case hinged on an attempt by Appalachian to include the costs of the early retirements of several coal-fired power plants in 2015 to offset its earnings in 2019, to which the Attorney General's Office called the practice "unconscionable" and urged the SCC to deny the increase.

The next day, Appalachian filed a notice with

the SCC saying it would appeal the ruling.

More: [The Roanoke Times](#); [The Roanoke Times](#)

Dominion Pulls Plug on Power Plant Plans

Dominion Energy last week announced it has canceled its plans for a \$200 million, 500-MW combustion turbine power plant at Berry Hill.

“We no longer believe it is possible to build the units planned in Pittsylvania County despite the economic and reliability benefits for our customers. We plan to conduct a further reliability study to determine how best to move forward to maintain the around-the-clock service our customers need,” Dominion spokesperson Jeremy Slayton said.

More: [Danville Register & Bee](#)

Northam to Appoint Navarro to SCC



Gov. **Ralph Northam** announced last week that he will appoint Angela Navarro, formerly the deputy commerce secretary, to fill a vacancy on the State Corporation Commission.

Navarro will take the place of Mark Christie, whom the U.S. Senate confirmed to become a FERC commissioner last week. Christie has said he will take his oath on Jan. 4. (See related story, [Senate Confirms Christie, Clements to FERC.](#))

The General Assembly elects the SCC’s commissioners, but the governor can appoint a commissioner to fill a vacancy when it is not in session. The legislature will need to confirm the appointment in next year’s regular session.

More: [Richmond Times-Dispatch](#)

WISCONSIN

Jefferson County OKs Solar Farm

The Jefferson County Planning and Zoning Committee last week approved a conditional use permit for a 75-MW Crawfish River solar farm under contract to Alliant Energy.

The project is one of six that Alliant has proposed to purchase as part of a \$900 million investment in solar generation.

Construction is scheduled to begin next year with operations beginning in 2022.

More: [Wisconsin State Journal](#)

PSC Approves MGE Rate Freeze, Gas Increase

The Public Service Commission last week unanimously voted to approve a one-year rate structure negotiated by Madison Gas and Electric, consumer advocates and the University of Wisconsin-Madison.

MGE customers will pay 4.1% more for natural gas next year but will not see a change in electricity rates. The gas raise is expected to cost the average residential customer about \$27 more next year.

The electric rate freeze was made possible by lower fuel costs, sales growth and continued savings from the 2017 federal tax reform bill.

More: [Wisconsin State Journal](#)

PSC Approves Kenosha Solar Farm

The Public Service Commission last week unanimously voted to authorize construction of Invenergy’s 200-MW Paris Solar Energy Center.

The commission approved the project as a merchant plant, which means the costs will

not be passed on to ratepayers. However, Invenergy is said to be looking for a buyer.

Construction is scheduled to begin next year and is expected to become operational in 2022.

More: [Wisconsin State Journal](#)

Regulators Appeal Ruling in Conflict-of-interest Case

The Public Service Commission filed an appeal with the 7th U.S. Circuit Court of Appeals last week on behalf of Chair Rebecca Valcq and former Commissioner Mike Huebsch, who are named as defendants in the conflict-of-interest case brought by Driftless Area Land Conservancy and the Wildlife Federation.



The commission is challenging a ruling by U.S. District Judge **William Conley**, who found the plaintiffs have standing to argue their constitutional due process rights were violated when the

PSC authorized construction of the \$492 million Cardinal-Hickory Creek transmission project. The groups claim Valcq and Huebsch had perceived conflicts of interest that tainted the decision, which ultimately gives the utilities the right to take private property via eminent domain. The plaintiffs have asked the court to invalidate the decision and nullify the construction permit.

Valcq spent 15 years as an attorney for WEC Energy Group, the majority owner of American Transmission Co., which is a part of the project. Huebsch, who left the commission in February, served on MISO’s Advisory Committee.

More: [Wisconsin State Journal](#)

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