RTO Insider

Your Eyes and Ears on the Organized Electric Markets

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Optimism Rising on EVs as Sales Hit 1 Million Mark

Utilities, Enviros, Carmakers Join EEI Celebration

By Rich Heidorn Jr.

Joe Halso, Sierra Club | © *RTO Insider*

WASHINGTON — The Sierra Club, which has spent eight years battling utilities with its Beyond Coal campaign, would seem an unlikely participant in a program by the utilities' trade group. But Sierra Club attorney Joe Halso was on stage at the Newseum on Friday, taking part in the Edison Electric Institute's program *celebrating* the U.S. reaching its 1 millionth electric vehicle.

The Electric Power Research Institute *predicted* earlier this year that EVs and other electrification efforts could result in load growth of 24 to 52% by 2050. So, on this issue, environmentalists and utilities have common interests.

"There's a role for utilities to play obviously in the electric [vehicle] future," Halso said. "I think also in a world … with either flat or declining load growth, a strategic opportunity to electrify 250 million vehicles must look pretty good to utilities."

EEI CEO Tom Kuhn | © *RTO Insider*

Indeed it does. EEI CEO Tom Kuhn said the alignment of the morning's speakers — representing consumers, automakers, policymakers, utilities and charging companies — is "incredibly exciting."

"And so I think we're here not just to celebrate this milestone of 1 million vehicles, but also to celebrate the collaboration that got us here," Kuhn said. "I've always said the things that change a market … are technologies, public policies and customers. And we've got all three of them, finally."

Amid the celebration — yes, there was a cake — there were also sobering reminders of both the importance of EVs to addressing climate change and the obstacles that could prevent the technology from meeting its potential. Here's the highlights of what we heard.

EEI's celebration of the 1 million EV milestone included a cake. | © *RTO Insider*

Signs of Progress

Participants in Friday's celebration cited numerous signs of progress in addition to the 1 million milestone:

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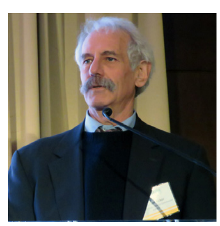
CPUC Expands Probe into PG&E Practices After Deadly Fire

By Robert Mullin

California regulators will open a new phase of an investigation into Pacific Gas and Electric's troubled safety practices as the utility faces allegations that its equipment was responsible last month for igniting the Camp Fire, by far the deadliest wildfire in the state's history.

Public Utilities Commission President Michael Picker announced the development Thursday after a turbulent start to what was meant to be a routine voting meeting. A group of raucous protesters briefly shut down proceedings before being removed from the commission's San Francisco hearing room.

The first phase of the commission's examination focused on the breakdown of safety practices leading to the September 2010 PG&E natural gas pipeline explosion that killed eight people and destroyed 38 homes in San Bruno. Picker said the next phase will look into the "corporate governance, [and] the structure and operation of PG&E to determine the best path forward for Northern California



Michael Picker | © *RTO Insider*

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In this week's issue

Corrections

Because of a layout error, an article in last week's newsletter, *Connecticut Likely to OK Millstone for Zero-carbon RFP*, did not include all of its final sentence. The sentence should have said, "Replacing 100% of Millstone's output with zero-carbon resources would cost Connecticut ratepayers approximately $5.5 billion, the DEEP said."

—

RTO Insider incorrectly stated in last week's issue that FERC nominee Bernard McNamee was approved by the Senate Energy and Natural Resources Committee on Nov. 27 on a party-line vote. McNamee was supported by one Democrat, Joe Manchin of West Virginia. (See *McNamee Advances to Senate Floor*.)

CAISO/WECC News

CPUC Expands Probe into PG&E Practices After Deadly Fire

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to receive safe, affordable, reliable electric and gas service.

"As I reviewed the [San Bruno] report, I found myself asking, 'How can we do that better? What's the role of the CPUC? How can PG&E actually pursue these duties and do it more safely? Is there a different model to ensure that we have safe and reliable gas and electric service?'" Picker said.

While the cause of the Camp Fire remains under investigation, PG&E filed a *report* with the CPUC on the day the fire started saying it had experienced an outage on a 115-kV line and observed damage to a transmission tower near the fire's ignition point. At Thursday's meeting, Picker said, "The details of the fire are still unfolding."

Aftermath of Camp Fire in Butte County, Calif. | *California Governor's Office of Emergency Services*

Picker had signaled the move to expand the safety probe earlier in the month as the Camp Fire raged through Butte County in the northern part of the state. (See *Destructive Fire Drives Down PG&E Stock*.) Independent reports on prior deadly incidents criticized PG&E's safety practices as "dysfunctional" or lacking clarity, he noted.

"This is the kind of thing that keeps me awake at night," Picker said.

PG&E critics packed Thursday's meeting, which featured an extended public comment period in which more than 30 residents spoke out against the company, urging the CPUC not to orchestrate a bailout. They pointed to Picker's recent conference call in which he told Wall Street analysts that it would not be good public policy to allow the utility to go bankrupt. (See *Camp Fire Prompts Talk of PG&E Bailout of Breakup*.) Picker's comments helped halt a sharp slide in the company's share price, which had fallen by more than 62% in the course of a week.

Some speakers at the meeting aimed their anger directly at the CPUC — and Picker in particular.

"The commission's disregard for the welfare of California has never been more blatant than when President Picker made a statement of the commission's intent to rescue PG&E … while bodies from the Camp Fire were still being counted — and are still being counted," said Barbara Stebbins of the California Alliance for Community Energy.

Picker defended his efforts to buttress PG&E, saying, "To operate the grid in a safe manner, PG&E has got to be able to borrow money, raise capital and sign contracts."

A handful of speakers from Bay Area chapters of the Democratic Socialists of America called for PG&E to be converted into a publicly owned utility, blaming the company's safety failures on its drive for profits.

Other speakers called for the arrest and prosecution of PG&E executives, who they said were ultimately culpable for the Camp Fire, which leveled the town of Paradise. At least 88 people died and nearly 200 area residents remain missing from the fire that began Nov. 8. Speakers also pointed to the 17 fires last year that investigators have already blamed on PG&E.

Janice Murota, a retired physician, told commissioners, "Not only do we not hold PG&E executives responsible personally for the deaths and the destruction, but we're expected to bail them out financially. … Please don't hold us on the hook to cover their liability and their costs. It's just too much money."

The public comment period concluded with several protesters unfurling a banner and chanting, "This meeting cannot continue until PG&E admits its crimes." Picker at that point asked for a five-minute recess to allow protesters to chant before being cleared from the room. One protester could be heard yelling, "We'll be back!" before exiting.

No 'Firm Conclusions'

Once the dust settled, the CPUC voted to approve a *decision* requiring PG&E to adopt 60 safety recommendations laid out in an independent *assessment* of the utility's "safety culture." The CPUC commissioned the assessment by NorthStar Consulting Group in response to the San Bruno disaster.

In 2011, an independent review panel cited a "dysfunctional culture" at PG&E as the main factor contributing to the explosion. NorthStar noted that before the San Bruno incident, "the goals of [PG&E's] enterprise risk management process were disconnected from the reality, decisions and actions throughout the company."

While NorthStar credits PG&E for increasing its focus on safety, Picker noted the firm's report found the company does not have a "clear vision" for its safety program.

Among the report's "critical" recommendations to PG&E and the CPUC were:

- Development of a comprehensive safety strategy, with associated timelines and deliverables, resource requirements and budgets, personnel qualifications, clear delineation of roles and responsibilities, action plans, assignment of responsibility for initiatives, and associated metrics to assess effectiveness.
- Greater coordination among PG&E's lines

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CAISO/WECC News

Western States to Tackle Wildfires, Renewables, EIM Told

By Hudson Sangree

Panelists at the Western EIM's Regional Issues Forum in Phoenix on Nov. 28 talked about the response to California wildfires and the failure of state ballot measures on renewables in 2018. How lawmakers may respond in 2019 was a major topic of discussion. | © *RTO Insider*

PHOENIX — California legislators will struggle with wildfire liability and prevention in 2019, while lawmakers in Washington and Nevada could debate clean energy and utility-choice plans after voters in those states rejected related ballot measures, panelists told the Western Energy Imbalance Market's Regional Issues Forum (RIF) on Wednesday.

In California, "it's fair to say the legislative session will be dominated by the wildfire issue," Sacramento utility attorney Tony Braun said as part of a panel on state policy developments and impacts on markets. "The wildfire issues, which are energy issues, are going to take all the air out of the room."

California lawmakers were sworn in Monday, when bills can also be introduced for the start of the 2019/20 legislative session. Already there's been talk of bills that could either help Pacific Gas and Electric remain solvent or break it up after the devastation of the Camp Fire in Butte County, the state's deadliest wildfire. (See *Camp Fire Prompts Talk of PG&E Bailout or Breakup*.)

State Assemblyman Chris Holden (D), chairman of the Assembly Utilities and Energy Committee, has indicated he may introduce a bill as early as this week that would fix last year's wildfire measure, *SB 901*, to allow PG&E to issues bonds to pay for wildfire damage. (See *California Wildfire Bill Goes to Governor*.) State Sen. Jerry Hill (D) has said he's looking into a measure that would break up the state's investor-owned utilities or make them public.

PG&E has become a prime suspect in the Camp Fire following its report to the California Public Utilities Commission of equipment failures near the fire's ignition points. It potentially faces billions of dollars in liability for the fire that has killed at least 88 and destroyed the town of Paradise, Calif., population 27,000.

One question, Braun noted, is where Governor-elect Gavin Newsom stands on wildfire issues. "Little has been revealed," Braun told the audience, but he said he expects Newsom to remain on a "similar trajectory" as outgoing Gov. Jerry Brown, who supported efforts to provide liability relief for PG&E.

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CPUC Expands Probe into PG&E Practices After Deadly Fire

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of business and its corporate safety department to increase consistency, improve efficiencies, minimize operational gaps and facilitate sharing of best practices.

- A non-punitive system for reporting actual and potential safety incidents to the CPUC to encourage transparency and sharing of lessons learned among all California utilities.
- Adding a performance-based ratemaking mechanism with a safety element to the PG&E general rate ruling approved last year, which runs through 2019.
- Development of an implementation plan for NorthStar's recommendations, to be submitted to the CPUC.

Picker acknowledged that the NorthStar report did not address the 2017/18 fires being attributed to PG&E.

"I don't have any firm conclusions [about the fires]. That's why we're opening the next phase" of the investigation, Picker said.

He likened the CPUC's response to PG&E's situation — including efforts to maintain investor support — to remodeling an airplane in mid-flight: "We can't just crash the plane to make it safer. We have to keep flying at the same time.

"I recognize the public's growing interest in the future of PG&E, and while everything's on the table, I want the public to understand that this is going to be a deliberative process and it involves actors other than the CPUC," Picker said, noting the involvement of the California legislature, capital markets and a federal monitor appointed last year to oversee PG&E's progress on safety measures.

"The NorthStar report had very specific recommendations but also raised some key fundamental questions," Commissioner Liane Randolph said. "The fact that they were seeing differences in the effectiveness of the safety based on different parts of the company ... just raises some key questions about the management of the company and how the safety culture is handled throughout the enterprise and whether it's even possible to have all the enterprises have an equal amount of safety."

Commissioner Clifford Rechtschaffen said it was important to reiterate the ambitions of a safety culture.

"It's about promoting a mindset, practices and institutionalizing processes that promote and prioritize continuing, ongoing safety improvement. There's no such thing as being good enough ... [but] always looking for how can we do better, how can we make our processes safer — not just [by] meeting compliance but going beyond compliance." ■

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Washington and Oregon

In Washington state, a ballot measure failed in November that would have placed a fee on the state's carbon emissions, with the revenues used to fund environmental programs. *I-1631* went down with 56% voting against it after a costly fight between petroleum interests and environmentalists. (See *High Failure Rate for Western Ballot Measures*.)

Lawmakers have shown little interest in trying to legislate a similar plan, said Therese Hampton, RIF chair and executive director of the Public Generating Pool, which represents 10 consumer-owned utilities in Washington and Oregon. Hampton briefed the RIF meeting Wednesday on Washington's policy plans.

Therese Hampton, chairwoman of the Regional Issues Forum and executive director of the Power Generating Pool, moderated a panel on state policy developments.| © *RTO Insider*

After November's election, she said, Democrats will hold larger majorities in both houses of the State Legislature and are likely to pursue ambitious carbon-free energy goals. "We fully expect they will pursue a 100% clean-energy standard" like that adopted in California last year, Hampton said.

Elysia Treanor, with Portland General Electric, said Democrats in Oregon now hold a supermajority in both houses and Democratic Gov. Kate Brown will return to office. The coming legislative session will be six months long, giving lawmakers time to negotiate and possibly pass a cap-and-trade bill, she said.

A similar bill failed in 2018, when lawmakers met for only 35 days and didn't have time to work out such a complex issue, she said.

"In [20]19, it's now a priority," Treanor told the RIF.

Arizona and Nevada

Clean-energy measures in the desert Southwest played out differently in 2018 and will likely do so again in 2019, panelists said.

In Arizona, voters overwhelmingly rejected *Proposition 127* in November. The measure would have required the state's power providers to generate at least half their annual electricity sales from renewable resources by 2030.

The western EIM's Regional Issues Forum heard briefings on state policy developments and CAISO's 2019 policy initiatives at its Nov. 29 meeting in Phoenix. Members included (left to right): Carl Linvill, Valerie Fong, John Prescott and Kristine Schmidt. | © *RTO Insider*

The race became a high-priced battle between competing interests. California billionaire Tom Steyer, whose environmental advocacy group NextGen America backed the proposal, and Arizona utilities, including Arizona Public Service, spent more than $50 million in the fight.

Nevada voters went the opposite direction from their Arizona neighbors by approving new renewable energy mandates in the form of *Question 6* by a vote of 59% to 41%.

The measure, also backed by Steyer and NextGen, would amend the state constitution to require utilities that sell electricity to retail customers to source at least 50% of their energy from renewables by 2030.

Constitutional amendments in Nevada must be voted on in two consecutive elections, so the ballot measure will be taken up again in 2020.

With regard to another ballot measure, Question 3, Nevadans allowed NV Energy to keep its electricity monopoly in the state by 67% to 33%.

The measure would have required the legislature to provide for the "establishment of an open, competitive retail electric energy market that prohibits the granting of monopolies and exclusive franchises for the generation of electricity." It would have allowed customers to exit NV Energy and obtain electricity from others without paying an exit fee.

Las Vegas casinos, which have had to pay hefty exit fees, helped finance the measure.

Question 3 was approved by 72% of voters in 2016, when NV Energy didn't contribute. But this time the utility, owned by billionaire Warren Buffett, reportedly spent $63 million to defeat the measure, while supporters doled out $21 million. That made it the most expensive ballot measure in state history, with a combined $100 million in contributions over two election cycles.

Question 3 supporters vowed to continue their efforts to let Nevadans choose their energy provider.

David Rubin, a senior attorney with NV Energy, told the RIF meeting audience that he wouldn't be surprised to see that happen.

"It's certainly possible those proponents of Question 3 will seek to revisit legislatively what failed on the initiative side" when the legislature reconvenes in February, Rubin said.

He said a major difference between Arizona and Nevada regarding renewable standards is that Nevada doesn't have any nuclear generation, while Arizona is home to the nation's largest nuclear power plant, the Palo Verde Generating Station.

Opponents of Prop. 127 in Arizona argued that passing the renewable standards ballot measure would have threatened the economic viability of Palo Verde. The opposition was led by Palo Verde co-owner APS, which spent millions to defeat the measure while arguing Arizonans could pursue clean energy plans that weren't forced on them by a California billionaire.

"We've said throughout this campaign there is a better way to create a clean energy future for Arizona that is also affordable and reliable," Donald Brandt, CEO of APS' parent company Pinnacle West Capital, said after Prop. 127's defeat.

"As the nation's largest producer of reliable emission-free energy, Palo Verde is the anchor of Arizona's clean energy future," Brandt said. "Any serious plan to reduce carbon emissions has to include nuclear energy and Palo Verde."

Where Arizona will go with those plans remains to be seen. ■

CAISO/WECC News

FERC OKs Extension of Most Aliso Canyon Measures

Gas Scalars Rejected

By Hudson Sangree

FERC last week approved the extension of most of CAISO's proposals to address reliability concerns posed by the Aliso Canyon natural gas storage facility, whose capacity has been limited since a massive methane leak in 2015.

The commission's Nov. 26 order approved extension of six of the seven Tariff provisions, rejecting the continuation of gas price scalars used to calculate commitment cost caps and default energy bids for generators served by Southern California Gas and San Diego Gas & Electric (*ER18-2520*).

CAISO asked FERC in September for expedited approval to renew *Tariff provisions* first put in place in June 2016 and subsequently refined and extended. CAISO's most recent update, called Phase 4, proposed extending the temporary provisions for another year beyond their expiration dates of Nov. 30 and Dec. 16, 2018. (See *CAISO Seeks to Extend Aliso Canyon Rules*.)

The provisions include a measure allowing the ISO to enforce constraints on the maximum amount of natural gas that can be burned by generators served by the two gas providers. The constraints were based on limited supply anticipated by CAISO during specific hours.

The provisions also allow CAISO to suspend or limit the ability of scheduling coordinators to submit virtual bids if it's determined virtual bidding could undermine reliability or grid operations.

The ISO's Department of Market Monitoring did not support the extension of the price scalars, arguing that they have not been useful tools for managing high prices.

FERC agreed, writing that "CAISO's use of the gas price scalars over the past year were not effective and adversely affected the market through weakened market power mitigation and increased bid cost recovery for the period that they were active.

"We find DMM's analysis regarding the market impacts of the gas price scalars to be persuasive," the commission said, declining to extend the provision.

The damage to Aliso Canyon, once the state's largest natural gas reservoir, poses challenges to generators and regulators alike.

The Aliso Canyon gas storage facility was closed in October 2015 after inspectors discovered a massive methane leak. | *California Department of Emergency Services*

Despite objections from local residents and Los Angeles County officials, SoCalGas resumed injections into the facility in July 2017 to comply with a state directive to maintain sufficient gas inventories to support gas and electric reliability. (See *Aliso Canyon Resumes Injections*.)

The California Public Utilities Commission in May authorized a temporary increase in the volume of injections to support summer grid operations but maintained a policy of allowing withdrawals only as a last resort. (See *CPUC OKs Temporary Increase in Aliso Canyon Injections*.) ■

FERC Rejects Baja Power Bid to Guarantee Parent's Debt

By Hudson Sangree

FERC last week rejected Baja California Power's request to guarantee debt its parent company took on to purchase independent power producer InterGen's Mexican assets (*ES18-58*).

Baja Power owns and operates a 6-mile segment of a 12-mile, 230-kV line that connects generating facilities near Mexicali, Mexico, with CAISO at San Diego Gas & Electric's Imperial Substation.

The company asked FERC for permission under Section 204 of the Federal Power Act to guarantee the debt Cometa Energia took on to acquire the InterGen assets, which includes six combined cycle generating plants totaling 2,420 MW. Cometa's total debt for the purchases could exceed $1 billion, FERC said. Cometa is a subsidiary of Actis, a private equity firm based in the U.K.

Baja Power argued that it was the only one of Cometa's 36 subsidiaries that hadn't signed on as a guarantor, and that its guarantee of Cometa's debt was in keeping with its performance as a public utility.

FPA Section 204 generally requires applicants to show that acting as a guarantor "will not impair [a public utility's] ability to perform" as a public utility, the commission said.

Mexicali combined cycle plant | *Saavi Energia*

"The commission typically bases its finding that proposed issuances of securities will not impair an applicant's ability to perform service as a public utility in part upon the applicant's demonstration that it will have an interest coverage ratio that is 2.0 or higher," it said.

Baja Power did not submit an interest coverage ratio, however, "because Baja Power has no income," FERC said. "Further, it did not submit any additional evidence that it would have the means to perform utility service if it is granted authorization to act as a subsidiary guarantor of its parent Cometa.

"The arguments presented by Baja Power indicate why a lender would find it desirable to have a subsidiary guarantor, such as Baja Power, step in to the shoes of the actual borrower, Cometa, but there is no demonstration that a guarantee by Baja Power is necessary or appropriate for, or consistent with, the proper performance by Baja Power of utility service and that a guarantee will not impair its ability to perform that service," the commission concluded in denying the application. ■

ERCOT NEWS

ERCOT CEO: Solar Growth ‘an Interesting Challenge’

By Tom Kleckner

Bill Magness | © *RTO Insider*

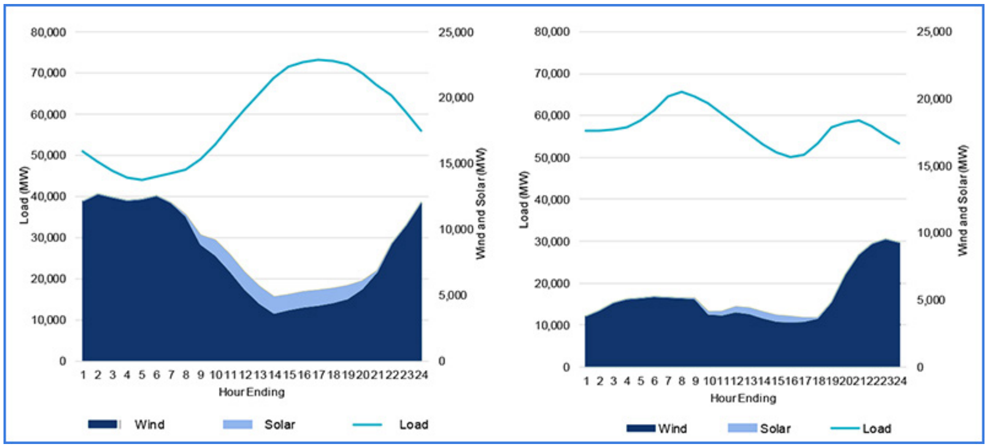
HOUSTON — ERCOT CEO Bill Magness said utility-scale solar “is the next big thing coming at us from the supply side,” giving the grid operator just one more challenge to consider.

Noting that solar and wind generation generally complement each other, Magness told a recent Gulf Coast Power Association luncheon that solar “tends to fill the gap during the [late-morning, low-wind hours as load ramps up] … before coastal wind picks up later in the afternoon.”

“[Solar] will continue to accentuate the challenge other types of resources find in having to run economically,” Magness said. “It’s an interesting challenge as we go forward.”

Solar was expected to provide nearly 2 GW of capacity to meet ERCOT demand this winter, but the grid operator’s *interconnection queue* tells a different story for the future. There, 32.2 GW of solar projects are in various stages of the study process, nearly equal to the 40.2 GW of wind projects under study. Together, solar and wind account for 86.8% of the 83.4 GW of the proposed projects in the queue. (Wind is providing almost 22 GW of capacity this winter.)

“It’s all gas, wind and solar. There are no other resources coming along,” Magness said. None of the 1.8 GW of battery storage resources in the queue have a signed interconnection agreement.



Pattern of load, wind and solar on peak days | *ERCOT*

“Our solar is very different from [that of] California. California has a lot of solar, but it’s primarily rooftop,” he said. “We’ve seen the real growth in utility-scale. Rooftop is coming, but the big chunks are coming on the utility side.”

ERCOT projects it could have as much as 5 GW of solar energy on the system by 2021, as developers continue to take advantage of the expiring tax credits. Most of those projects have been sited in West Texas, where the irradiance is best.

“As wide an expanse as Texas is, east to west, it’s a different picture in how solar will react than in California,” Magness said. “We’re having to do a lot of work figuring these things out, just as we did with wind.”

ERCOT CEO Bill Magness updates the Houston GCPA luncheon audience on latest developments at the ISO. | © *RTO Insider*

He said staff will have to start forecasting solar energy, as they did with wind.

“It was something we didn’t really need to do,” Magness said. “There was never a need to forecast generation. You turned it on; you turned it off. We’re getting better and better with the use of those tools.”

Also of concern to ERCOT is the growth of distributed energy resources, which can include gas or diesel technologies and storage assets, all connected to the distribution system. The grid operator has seen a growth rate of 62% in DERs over the last three years, although the current grand total is only about 1.3 GW of capacity.

“For ERCOT, it’s a question of visibility,” Magness said. “If we don’t know it’s out there, we can’t get it in the system model.”

Staff have spent considerable time recently working with transmission and distribution providers to map some of the 93 existing registered DERs and to map all registered DERs to system load. The goal is to capture DERs’ capabilities and capacity “to where they make sense in the models.”

“If you have generation that runs on the system and wants be in the market, you want it to run in the right time and at the right place,” Magness said. “We welcome megawatts of all kinds. We’re just being sure we’re able to see [DERs] and they send the right price signals to make the most effective market.”

He pointed to ERCOT’s performance in the face of slim reserve margins this summer, when it met record demand multiple times without having to take emergency measures or call on additional resources, as an example of the energy-only market’s effectiveness. (See *ERCOT SHs Debate Need for Changes Following Summer*.)

“Most of the capacity we saw was self-committed. We didn’t need to intervene that many days,” Magness said. “The incentives in the energy-only market are aligned when you keep running in the peak season. We saw the energy-only market work as designed.” ■

ERCOT News

ERCOT Technical Advisory Committee Briefs

TAC Approves Increase in Far West Load Forecast Methodology

ERCOT's Technical Advisory Committee last week endorsed a staff suggestion to increase by 50% the boundary thresholds used to project future loads in Far West Texas.

During the committee's last meeting of 2018, stakeholders unanimously approved the recommendation, which, assuming Board of Directors approval, raises the Far West weather zone's boundary threshold from 5% to 7.5%.

The change would allow ERCOT to nearly double the Far West load from its current 3.6 GW to 6.9 GW in 2027, and support 500 MW of growth for 2019-2021 without supporting documentation. The growth has been fueled by the Permian Basin's rich petroleum reserves, the largest in the U.S. Production has nearly doubled in the last three years, to 3.4 million barrels/day.

Staff said it has been challenged in keeping up with the load growth. The grid operator adjusted its 2019 forecast by 200 MW to keep up with the rapidly increasing demand, and it foresees about a 500-MW increase over the 2018 summer peak (consistent with a similar increase as compared to 2017).

"We've understated the Far West load the last two cycles," said ERCOT's Calvin Opheim, manager of load forecasting and analysis. He told the TAC the ultimate goal is to produce more realistic projections.

Permian production has been hampered recently by a lack of sufficient pipeline infrastructure. Falling oil prices have also made production less economical, leading some stakeholders to question the need to increase forecasts.

"Our concern is whether [the suggested change to the forecast process] results in building transmission for speculative load," Golden Spread Electric Cooperative's Mike Wise said. He referenced a recent ERCOT regional transmission study that forecasted increased load based on rising oil prices.

"We thought all this load was coming on, but approximately 80% was canceled," Wise said. "You've got these loads out there, but we don't want to build unnecessary transmission. I'm concerned about building transmission ahead of speculative load, then having a *V8 moment* later on when the load does not materialize."

"We have a tremendous amount of holes punched in the ground," Morgan Stanley's Clayton Greer said of the Permian Basin region. "The capital's been expended, but there's no way to get it to market. When production increases, there'll be a dramatic increase in load. They wouldn't be punching holes if they were speculative. The holes are in the ground, and extraction is going to happen."

Oncor's Martha Henson (foreground) prepares to deliver the Protocol Revision Subcommittee's report.

Morgan Stanley's Clayton Greer

ERCOT Senior Manager of Transmission Planning Jeff Billo said the grid operator will conclude a major load study next June that could predict "the next piece of infrastructure we need."

Reliant Energy Retail Services' Bill Barnes noted that a two-year revision to the planning guide (*PGRR042*) gives staff flexibility while establishing a methodology for setting their load forecasts.

"Having ERCOT understand load growth is a good thing," Barnes said.

Stakeholders Tweak Ancillary Service Methodology

Stakeholders endorsed staff's recommendation to not change how ERCOT computes regulation and responsive reserve service as part of its 2019 ancillary service methodology, after first removing a 1,375-MW floor on non-spin quantities during peak hours.

The Wholesale Market Subcommittee and Reliability and Operations Subcommittee (ROS) have both suggested removing the floor during the hours ending 7 a.m. through 10 a.m. The Lower Colorado River Authority and Luminant were among the TAC members asking that the floor be maintained, saying it would provide more reliability insurance with the growth of volatile wind generation.

ERCOT News

However, a motion to remove the floor passed with 71% of a roll call vote. The committee then endorsed staff's recommendation, with two abstentions.

"I'm a little amazed we're trying to preserve a floor that's not necessary and that's just increasing costs for no good reason," Greer said. "I thought the goal the last couple of years was to get rid of artificial floors and artificial inefficiencies in our market, and to try and do things in a more analytical way."


ERCOT's Sandip Sharma

Sandip Sharma, ERCOT's manager of operations planning, said the 1,375-MW floor has been in place since the nodal market went live in 2010. The grid operator removed a 2,000-MW cap on non-spin reserves in 2016 but left the floor unchanged.

"If you look at the numbers with and without the floor, it's really not a big difference," Sharma said, noting the number can be as high as 200 MW across summer peak hours. "Most of the other months, where there's a higher risk of wind forecast error and net load ramp variability, we're actually procuring more than what the floor is."

Citigroup Energy's Eric Goff said that during the summer months, non-spin deployment "generally" means generating units are turned on and made available for security-constrained economic dispatch (SCED) at a price floor.

"In the summer, when we do have [non-spin deployment] below the floor, we see this generation offered into SCED at a different cost than it normally would," Goff said. "So it has nothing to do with reliability at all."

TAC Confirms New ROS Leadership

Stakeholders confirmed new leadership for the ROS, which develops, reviews and maintains operating guides and planning criteria.

Tenaska's Boone Staples was approved as the ROS chair, and Southern Power's Tim Hall as vice chair.

Stakeholders Take on 31 Change Requests

Having not met since September and facing a year-end deadline to push through change requests, the committee considered 31 proposed Nodal Protocol revision requests (NPRRs) and other changes.


TAC Chair Bob Helton, with ERCOT COO Cheryl Mele, kicks off November's meeting.

The TAC approved NPRR889, which adds the newly defined term "settlement-only generator" to replace "non-modeled generator," after making several desktop changes. Stakeholders modified the definition of "settlement-only transmission generator" to include those units connected to the system with a rating of 10 MW or less and registered with the Texas Public Utility Commission as a "power generation company."

The NPRR introduces new terms to clarify the distinction between transmission-connected resources and distribution-connected resources, and reorganizes various terms for resources that describe the status, services provided and/or technology used by resources.

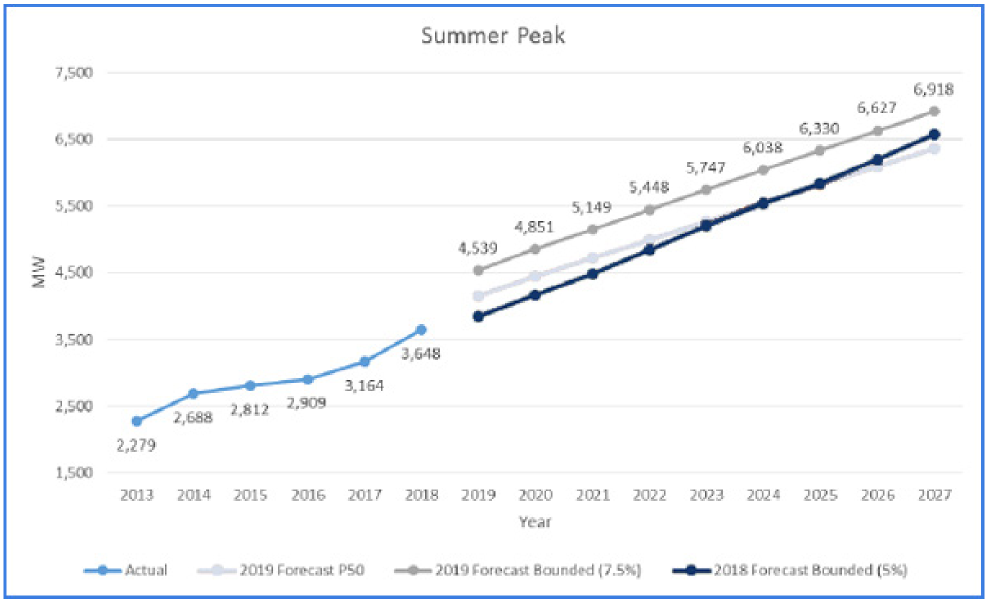
Stakeholders agreed to table two other revision requests for a month and allow their further consideration. South Texas Electric Cooperative's Clif Lange asked for more time to "discuss internally" with staff the co-op's reliability concerns about NPRR871. The proposed change addresses the review process for transmission projects funded by customers or resource entities, using language pulled from NPRR837's initial filing to allow for a standalone review. NPRR837 was approved in July.

The committee also tabled NPRR850, referring the proposal to the Credit Work Group and Market Settlements Working Group. The change would lay out principles for staff and market participants to follow during a market suspension and restart, and specifies how settlements will occur during a suspension.

The TAC approved 14 other NPRRs, a Load Profiling Guide revision request (LPGRR), two changes to the Nodal Operating Guide (NOGRRs), three Other Binding Document revisions (OBDRRs), four changes to the Planning Guide (PGRRs), a Retail Market Guide change (RMGRR), two revisions to the Resource Registration Glossary (RRGRR) and a system change request (SCR):

- NPRR878: Prescribes ERCOT's posting of an emergency response service obligation report for transmission and/or distribution service providers to the market information system certified area.
- NPRR879: Proposes that intermittent renewable resources (IRRs) carrying ancillary service (AS) responsibilities receive a SCED base point calculated using the resource's five-minute intra-hour forecast and adds generation resource energy deployment performance metrics to score performance during those intervals. The change corrects the unit of measure for some billing determinants and also contains administrative edits.
- NPRR881: Reduces the residential validations requirements from an annual process to a triennial market event.
- NPRR882: Updates the definition of initial synchronization and interconnecting entity to include certain types of facility equipment changes and clarifies fee language related to generation interconnection or change requests (GINRs).
- NPRR884: Introduces various systems changes needed to manage cases when ERCOT issues a reliability unit commitment instruction to a combined cycle generation resource that is already qualified scheduling entity-committed for an hour. The resource will operate in a configuration with greater capacity for that same hour.
- NPRR887: Creates a new market information system certified area posting that provides insight into the potential risk associated with each counterparty's default uplift charges.
- NPRR892: Places a $75/MWh floor on energy

ERCOT News



Far West Texas load forecast comparison | *ERCOT*

on units carrying non-spinning and responsive reserves and/or regulation-up service concurrently to ensure the non-spin capacity is priced above the floor.

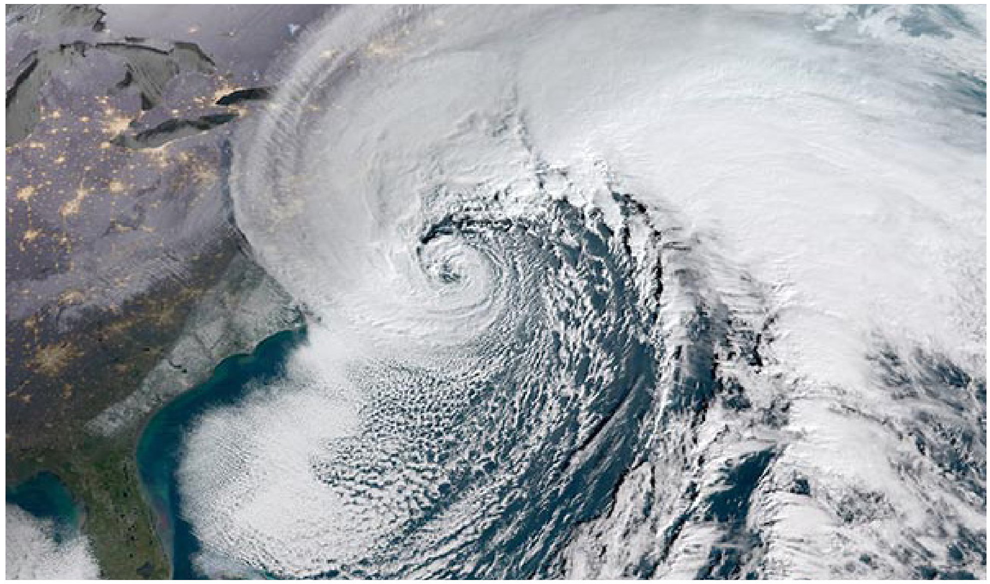
- *NPRR893*: Clarifies the effective fuel index price (FIP) used in market activities executed prior to the operating day's index publication because the current FIP definition does not address the timing around receiving the data and when it can feasibly be used by market applications. The NPRR also incorporates the OBD "*System-Wide Offer Cap and Scarcity Pricing Mechanism Methodology*" into the Protocols.
- *NPRR894*: Corrects the formula for allocating unaccounted for energy (UFE) to UFE categories by removing its obsolete components referring to distribution voltage level non-opt-in entities.
- *NPRR895*: Removes the current exclusion for IRRs that are not wind-powered generation resources in calculating the real-time AS imbalance payment or charge. Photovoltaic generation resources (PVGRs) are currently excluded in both the methodology for implementing the operating reserve demand curve (ORDC) to calculate the real-time reserve price adder and the process for settling the real-time AS imbalance payment or charge.
- *NPRR897*: Adjusts the black start service procurement and testing process timeline, adds a weather limitation disclosure form and aligns the load-carrying test procedure with actual practice.
- *NPRR898*: Allows the electronic return of ERCOT-polled settlement metering site certification documents to the transmission and/or distribution service provider.
- *NPRR899*: Creates a new process by which qualified market participants can request to opt out of receiving digital certificates and having to appoint a user security administrator (USA); clarifies ambiguous requirements certificate holders must meet to receive and continue to hold digital certificates; and clarifies that a USA may be responsible for managing access to certain ERCOT computer systems that do not require digital certificates. The NPRR also revises forms to give new applicants the ability to opt out of receiving digital certificates as long as they meet the necessary qualifications. Allows a qualified market participant that has previously opted out to opt back in.
- *NPRR901*: Proposes a new resource status code ("EMRSWGR") for switchable generation resources operating in a non-ERCOT control area to provide additional transparency for operations and reporting.
- *LPGRR065*: Related to NPRR881, this change reduces the residential validations requirements from an annual process to a triennial market event and removes unnecessary load profile model approval process language.
- *NOGRR178*: Clarifies language relating to automatic load shedding.
- *NOGRR182*: Harmonizes the transmission operator emergency operations plan submittals with *NERC Reliability Standard EOP-011-1* by clarifying that TOP plans should be received by Feb. 15 as part of the annual effort to review them within 30 days.
- *OBDRR006*: Aligns language with NPRR884's protocol changes.
- *OBDRR007*: Changes the ORDC's methodology to consider curtailed PVGRs in determining the ORDC price adders.
- *OBDRR009*: Revises the online and offline capacity reserves for ERCOT out-of-market actions related to DC ties.
- *PGRR065*: Documents and clarifies existing processes by including transmission project information and tracking report and data requirements.
- *PGRR066*: Creates an inactive status for GINR projects that won't be listed in ERCOT's monthly generation interconnection status report but will retain the interconnection request numbers. The PGRR also defines a process that can be used to cancel interconnection requests that have failed to meet requirements.
- *PGRR067*: Describes how wind and solar facility equipment changes are treated throughout the generation interconnection process and clarifies language for GINR-related fees.
- *PGRR068*: Lays out the process for adding a DC tie to ERCOT's planning models and associated requirements, related to the Texas PUC's directive to determine how best to model the proposed Southern Cross DC tie in its planning cases (Project *46304*). (See "Staff's Determination on DC Tie Flows, Pricing Gets OK," ***ERCOT Board of Directors Briefs: Oct. 9, 2018***.)
- *RMGRR155*: Related to NPRR889, the change uses the new term settlement-only distribution generator (SOG) to replace references to non-modeled generator and registered distributed generation.
- *RRGRR018*: Also related to NPRR889, uses the SOG term to replace glossary references to non-modeled generator.
- *RRGRR019*: Adds a modeling designation for switchable generation resources (SWGRs) to the resource asset registration form, indicating that SWGRs can potentially operate in another control area.
- *SCR797*: Allows ERCOT to automatically share current operating plans with a transmission service provider (TSP) upon request by that TSP. ■

— Tom Kleckner

ISO-NE News

ISO-NE Forecasts Adequate Resources for Winter

By Michael Kuser



Satellite image of a blizzard rapidly deepening off the Northeastern U.S. at 8:45 a.m ET on Jan. 4, 2018 | *National Oceanic and Atmospheric Administration*

ISO-NE on Wednesday said it expects to have sufficient capacity on hand this winter to meet load, which it forecasts will peak at 20,357 MW in normal weather conditions or 21,057 MW in extreme cold.

The region contains 4,500 MW of natural gas-fired generating capacity at risk of not being able to get fuel when needed, the RTO estimates.

"Last winter demonstrated just how much the weather can impact power system operations, not just in terms of consumer demand for electricity, but in the ability of generators to access fuel," Peter Brandien, ISO-NE vice president for system operations, said in a statement.

During a two-week cold snap that started the day after Christmas in 2017, the region burned 2 million barrels of oil, more than it would in an entire year of more temperate weather. Shortages of natural gas continue to be a major concern for the grid operator.

Extreme cold weather constrains natural gas pipelines' ability to deliver fuel for gas-fired plants and can also impact oil and LNG deliveries and generation from renewable resources, ISO-NE said. (See *Familiar Winter Story: ISO-NE Braces for Gas Shortages*.)

New initiatives by the RTO include forecasting the region's available energy supplies for the next 21 days and providing a market mechanism to ensure that limited fuel supplies are used when they are most valuable for system reliability and cost-effectiveness.

Earlier in November, Mark Karl, ISO-NE vice president for market development, said the RTO is looking to create a new "energy inventory reserve constraint" to optimize the use of limited energy over more extended periods compared with how markets are currently designed to optimize energy over the course of an operating day. (See *New England Talks Energy Security, Public Policy*.)

The grid operator on June 1 integrated price-responsive demand into its markets and its new Pay-for-Performance *rules*, which provide for enhanced incentives in the form of bonus payments and institute financial penalties, ensuring resources are ready to meet their obligations to provide energy and reserves or reduce demand if needed. (See *ISO-NE Begins Real-time Dispatch of Demand Response*.)

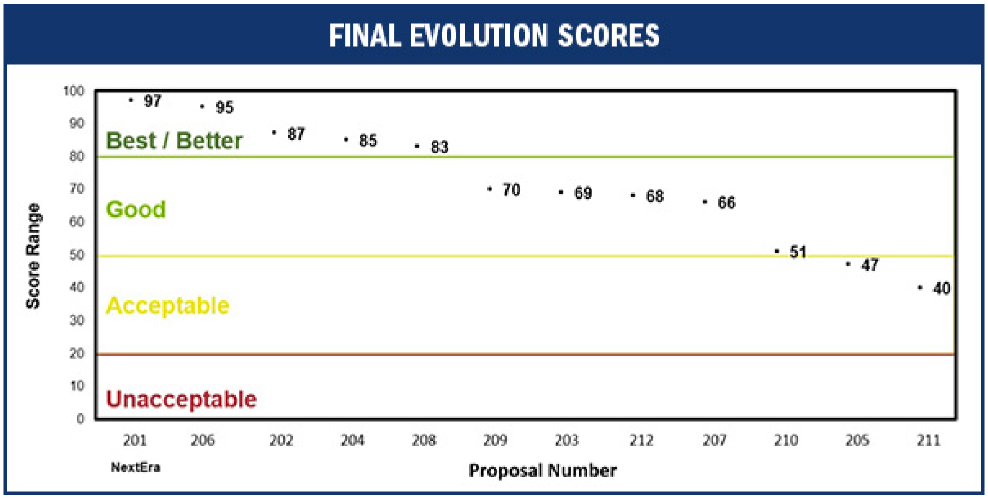
The 2018/2019 winter outlook forecasts availability of 32,300 MW of resources with capacity supply obligations from the Forward Capacity Market, and total resources of 34,415 MW. The winter 2017/2018 peak demand of 20,631 MW occurred on Jan. 5, 2018, during the 5 to 6 p.m. hour.

The all-time winter peak in New England of 22,818 MW occurred on Jan. 15, 2004, while the all-time peak demand of 28,130 MW occurred on Aug. 2, 2006. ■

MISO NEWS

NextEra Wins Bid to Build MISO's 2nd Competitive Project

By Amanda Durish Cook



MISO scoring of proposals | *MISO*

CARMEL, Ind. — MISO said last week it has selected NextEra Energy Transmission Midwest to construct the Hartburg-Sabine junction 500-kV project in East Texas, wrapping up months of evaluation.

The announcement for MISO's second-ever competitively bid transmission project comes more than a month ahead of a year-end deadline for a decision. RTO studies concluded the project will alleviate longstanding congestion issues and import limitations near the Texas-Louisiana border.

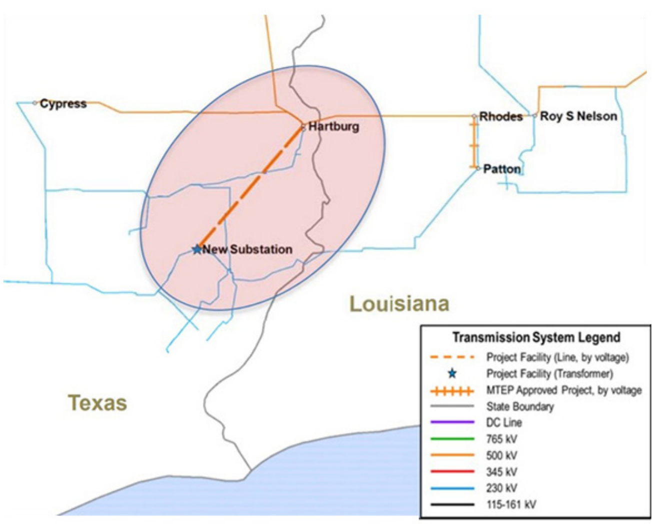
NextEra proposes to spend $115 million to build a new 23-mile 500-kV transmission line, four short 230-kV lines and the new Stonewood 500-kV substation, which will connect the longer line with the existing Hartburg substation to the southwest. The company estimates the project will have a 2.2:1 benefit-cost ratio and be in service by June 1, 2023. NextEra Transmission Midwest is a subsidiary of Juno Beach, Fla.-based NextEra Energy.

MISO issued the request for proposals in early February with a July 20 deadline for developers' proposals. The RTO in September said it was evaluating 12 complete proposals. (See *MISO Evaluating 12 Proposals for 2nd Competitive Project*.)

"NextEra's proposal offers an outstanding combination of low cost and high value, with best-in-class cost and design, best-in-class project implementation plans and top-tier plans for operations and maintenance," MISO said in its ***selection report***. The RTO's Tariff requires it to evaluate proposals based on cost and design (35% consideration), project implementation (30%), operations and maintenance (30%) and transmission planning participation (5%).

NextEra's proposal scored 97 out of a possible 100 points, with other developers scoring between 40 and 95 points, the lowest still within the "acceptable" range. MISO's competitive development rules prohibit it from revealing how rejected proposals were ranked.

The RTO said that while all developers had the "necessary capabilities to design, finance, construct, operate and maintain the project," there were "meaningful distinctions among the proposals with respect to specificity, certainty, risk mitigation, cost, quality of design and overall value."



Hartburg-Sabine map | *MISO*

Project proposals ranged in benefit-cost from 1.37:1 to 2.34:1 and cost $95.4 million to $133.9 million for 19.9 miles to 24.5 miles of 500-kV transmission line. MISO's most recent estimate put the project cost at $122.4 million. Annual transmission revenue requirements in the proposals ranged from $88.2 million to $166.3 million. NextEra submitted an estimated annual transmission revenue requirement of $95 million.

"MISO was impressed by the quality and depth of all proposals for this project — and we congratulate NextEra on their merit-based selection as the developer," Aubrey Johnson, MISO executive director of system planning and competitive transmission, said in a ***statement***. "NextEra's proposal reflects the best overall balance of cost and value in the development and completion of this important project for the region.

"With developer selection complete, MISO will work closely with NextEra, state regulators and other stakeholders to support successful, on-time completion of the project," Johnson said.

MISO's Board of Directors approved the Hartburg-Sabine project belatedly in February, still part of the RTO's 2017 Transmission Expansion Plan (MTEP 17). Approval was delayed because of stakeholder concerns over the cost estimate and a late Tariff change to separate Texas and Louisiana into their own zones for cost allocation. (See *MISO Board Approves Texas Competitive Tx Project*.)

The Hartburg-Sabine project comes two years after MISO's first competitively bid effort, MTEP 15's $49.8 million Duff-Coleman 345-kV project in southern Indiana and western Kentucky. LS Power won selection with a $49.8 million proposal. That ***project*** will be under construction throughout 2019 and 2020 and in service no later than Jan. 1, 2021. (See *LS Power Unit Wins MISO's First Competitive Project*.) ■

MISO News

Stakeholders Press MISO on Storage Role

By Amanda Durish Cook

CARMEL, Ind. — Storage is glaringly absent from MISO's potential plans to manage a possible 40% renewable penetration on the grid, stakeholders told the RTO last week.

During a Nov. 28 workshop to discuss its ongoing findings on the impact of increased renewable integration, MISO suggested using computer-optimized transmission buildout and more pronounced ramping from remaining conventional generation to respond to a 40% renewable resource mix.

MISO in October said it would need to take significant steps to reinforce its grid to handle a 40% penetration comprising 75% wind and 25% solar. The RTO said it found a possible "inflection point" at 40% and that it would be difficult to operate within system limits at that point. (See *Study: MISO Grid Needs Work at 40% Renewables*.) Its multiyear study seeks to determine what the grid needs to maintain the planning reserve margin, operate within the physical limits of the system and support voltage and frequency.

MISO's renewable penetration currently stands at about 10%. Findings issued in October indicate the RTO could reliably absorb a 20% renewable penetration without damaging frequency response. (See *MISO: 20% Renewable Limit for Adequate Frequency Response*.)

But at 40% renewables, MISO has found that renewable curtailment becomes more pronounced during shoulder months, though wind curtailment would occur in every hour during an average day, except in summer. It would also confront significant stability issues.

During the Nov. 28 workshop, MISO policy studies engineer Maire Boese said the RTO will likely need to rely on transmission solutions to keep the majority of the renewable energy deliverable to load at the 40% level.

"We want to make sure energy reaches load instead of seeing it be curtailed or not dispatched," Boese said.

Transmission planning can also become more influenced by computing power and mathematic modeling, MISO concluded.

Yifan Li, of MISO's policy studies group, said that even with the modeling process, "engineering judgment and human experience" are still the driving factors behind selecting transmission project candidates, although that is changing.

"We're getting to a point where we can seek some help from computers … to find transmission solutions," Li said.

Such an automated process led MISO to identify about 80 potential new transmission candidates, down from a pool of about 11,300, he said. The additional transmission would cut down on curtailments and make renewables more deliverable to load, MISO said in October.

The expansion includes 266 miles of circuit at 200 kV or less, 763 miles of 230-kV circuit, 1,373 miles of 345-kV circuit, 316 miles of 500-kV circuit, 267 miles of 765-kV circuit and 408 miles of HVDC line. The transmission solutions do not include a new line linking MISO Midwest with MISO South.

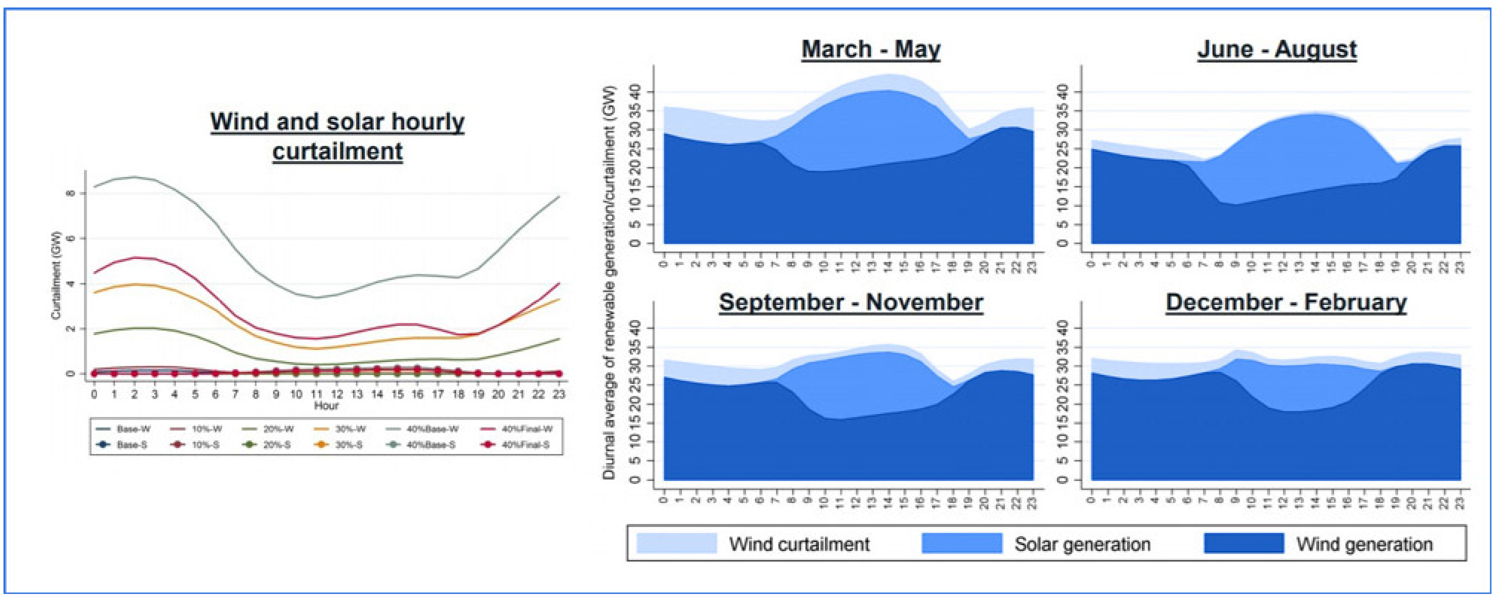
With new transmission, 38.4% of the 40% renewable penetration would be deliverable, as opposed to 34.7% without the solutions, MISO determined. Curtailment of a 40% renewable mix would fall from 18.2% to 9.6% on average.

A 40% renewable mix would also place more ramping responsibility on thermal units, the RTO found.

Where's the Storage?

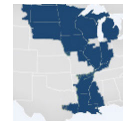
At the workshop, LS Power's Pat Hayes asked if MISO has studied what levels of storage would be helpful at different points of renewable penetration.

"So far, we haven't found a strict need for storage," Policy Studies Manager Jordan Bakke said. "Storage really hasn't been found to be needed in the areas we've studied so far. … When we looked at the issues and we looked at the solutions, the solutions were pretty straightforward."



Possible transmission siting at 40% renewables | *MISO*

MISO News



Bakke said MISO so far recommends "extracting more flexibility from the current fleet, rather than building something else."

MISO said as renewable penetration increases, the number of thermal units online increases during off-peak hours despite a decrease in average output. The RTO would especially rely on online coal and combined cycle gas units for ramping in the morning and evening.

Not an Economic Analysis

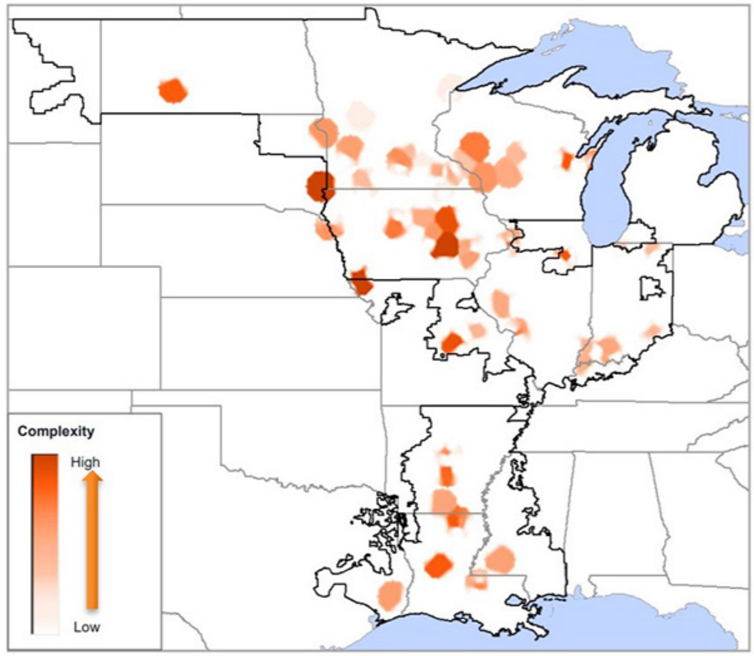
Veriquest Group's Dave Harlan said MISO might consider developing incentives to keep remaining thermal units online if they're needed for ramp capability.

But Bakke said the study is exclusively focusing on the physical needs of the system rather than monetary outcomes. MISO's study does not contemplate whether conventional generation could economically survive in a landscape with 40% renewable penetration.

"The purpose is not to talk about the money issues," he said.

Boese said coal asset owners may have to investigate whether their units can handle the more frequent ramping MISO has forecasted. "Less megawatts of coal are available with more ramping," she said. "That's something to keep in mind if you're a generation owner."

"There's something like a feedback loop here," said consultant Roberto Paliza, adding that MISO was failing to answer a key question by not investigating whether conventional generation could economically withstand being needed for more pronounced ramping but less run-time overall. He said the RTO was neglecting to find out if the assistance would be there when needed to facilitate renewable penetration.



Wind curtailment at 40% renewables | *MISO*

But other stakeholders said MISO's conventional generation solution to combat increasing curtailment conspicuously leaves storage out of the conversation.

Clean Grid Alliance's Natalie McIntire said it seemed that MISO was looking only to existing conventional generation to manage renewable variability and that storage could also cover ramping flexibility.

Bakke said MISO forecasts very little curtailment from overgeneration, and that curtailment largely correlates to wind delivery issues at night.

Stakeholders responded that storage could hold the wind energy until morning. For that to be useful, Bakke said the storage would have to be locally sited and not general system storage.

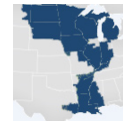
Multiple stakeholders asked MISO for another analysis that includes assistance from storage and at what point an influx of storage produces diminishing returns.

Bakke said going forward, MISO would gauge storage solutions in the final phase of the study. He said MISO staff hear "loud and clear" that stakeholders would like to see how both renewables and storage interact on the grid.

Harlan also criticized MISO's report for only showing averages of system conditions with renewable penetration. He said to properly plan resources, stakeholders need to see the most extreme scenarios that can occur.

MISO staff asked for more written stakeholder feedback on the analysis so far. They said stakeholder suggestions will shape the scope of the study's third and final phase, which will begin in early 2019.

Bakke said the third phase of the study will either examine renewable penetrations beyond 50% or investigate penetrations up to the 50% benchmark more thoroughly. ■



MISO NEWS

FERC Approves Revised TMEP Cost Allocation

By Amanda Durish Cook

FERC last week accepted MISO's revised cost allocation proposal for the RTO's relatively new category of smaller interregional transmission projects with PJM.

The new cost allocation affects targeted market efficiency projects (TMEPs) between MISO and PJM and became effective Nov. 28 (*ER18-2514*). MISO made the allocation revisions as part of a larger update to its cost allocation as the five-year Entergy transition period — which limits cost sharing of transmission projects in MISO South — expires at the end of this month.

Facility	Upgrade	Transmission Owner(s)	Benefit ($M)	Cost ($M)	Interregional Cost Split
Marblehead 161/ 138 kV Transformer	Terminal equipment (disconnect switch and bus conductor)	Ameren (IL)	12.4	0.18	100% MISO
Gibson - Petersburg 345 kV Line	Terminal equipment (switches, breakers, relays, bus work)	Duke/ IPL	19.5	4.3	93% MISO/ 7% PJM

2018 TMEPs | *MISO*

MISO's share of TMEP costs is currently allocated to transmission pricing zones based on each zone's share of the relative positive congestion contribution, measured by the TMEP candidate study. (See ***FERC OKs MISO TMEP Cost Recovery Schedule***.)

MISO made three complex changes to its cost-sharing formula while still preserving the premise that TMEP costs flow to benefiting transmission pricing zones.

The RTO had been calculating TMEP benefits by using a calculation of the nodal congestion contribution for each load node. Now it will include generator nodes in determining congestion benefits, rather than considering only load nodes. The two nodes will be aggregated to calculate the net benefits of the upgrade to each transmission pricing zone.

MISO will also discontinue its practice of applying the formula to all five-minute dispatches in the real-time market. The formula will now apply only to hours in the day-ahead market in which a reciprocal coordinated flowgate will experience congestion.

FERC said MISO's proposal will simplify the TMEP cost allocation process.

"We find that the proposed revisions will better define the beneficiaries of avoided congestion as well as allocate the costs of TMEP upgrades more accurately, while removing undue complexities from the calculation of benefits," FERC said.

The calculation will not account for the contract path on SPP's transmission that connects MISO Midwest with South. Regulators in South had called for a stakeholder process to determine the impacts of the contract path on cost allocation.

But MISO said an analysis showed accounting for the contract path "indicated minimal change to the cost allocation."

MISO and PJM have so far recommended seven TMEPs, five that received approval in 2017 and two up for approval this month from the RTOs' respective boards of directors. The combined projects will cost under $25 million and are expected to reap about $132 million in benefits. (See ***MISO, PJM Endorsing 2 TMEPs for Year-end Approval***.) ■

MISO News

Stakeholders Critical of MISO Resource Availability Filing

By Amanda Durish Cook

CARMEL, Ind. — MISO stakeholders are skeptical of a year-end Tariff filing intended to guarantee the RTO will have access to additional megawatts by spring through stricter outage rules and load-modifying resource (LMR) requirements.

The RTO last month announced it will focus on three short-term fixes it can roll out early next year to increase availability of 5 to 10 GW of additional supply. (See ***MISO Pivots to Near-term Resource Availability Fixes***.) The proposed changes include stricter LMR obligations, more advanced notice of planned outages by members and firmer planned outage requirements.

Speaking at a Nov. 29 Reliability Subcommittee meeting, MISO Executive Director of Market Development Jeff Bladen said the RTO thinks it needs the incremental ***changes*** to give it time to work on long-term fixes throughout 2019. MISO will publish a straw proposal on longer-term solutions in the first quarter of next year.

Without the smaller changes, MISO could confront a serious emergency and face changes dictated by an outside entity, Bladen said.

Several stakeholders have criticized MISO for what they call a rush to a Tariff filing before the end of the year. Some pointed to the absence of an emergency driving the FERC filing and asked what the RTO could accomplish without a Tariff filing.

"Anytime you do these very forced Tariff changes … these rushes are extraordinarily expensive [for load-serving entities] to accommodate," Madison Gas and Electric's Megan Wisersky said during a Nov. 16 workshop on the project.

But staff said upcoming maintenance seasons pose a real risk.

Bladen said MISO has spent more than a year detailing the growing disparity between resource availability and need.

"I think there's general consensus that we are facing real issues that we have to take real action on," Bladen said, adding that he hasn't heard stakeholders refute the position that MISO could face a reliability threat in spring.

"This community has agreed that there's a problem," he said.

The MISO Reliability Subcommittee met Nov. 29. | © *RTO Insider*

Bladen noted that each of MISO's most recent maximum generation events have become more difficult to manage. "We really run the risk of reliability challenges becoming more than just challenges. … We really are not in a position to sit on our hands."

LMR Testing and Data

Dustin Grethen | © *RTO Insider*

Dustin Grethen of MISO's market design team said the RTO is planning to require annual tests of demand response resources that physically curtail load. LMRs that opt out of the real power test would be subject to triple monetary penalties for nonperformance. MISO currently requires LMRs to replace their undelivered energy at corresponding LMPs. The new rule would not apply to behind-the-meter generation, which is already required to perform a generation verification test.

"What we want to make sure is that all resources can be relied on for the amount they say is available through the MISO Communication System," Grethen said.

The RTO will propose a two-year transition to the rule for LMRs operating under non-retail tariff contracts, which is intended to allow time to renegotiate contracts.

"We have contracts in place. It's going to take time," Grethen acknowledged.

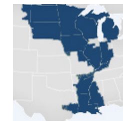
For its part, MISO has pledged to convert anticipated emergencies to a declared event at least two hours prior to emergency conditions. Grethen said MISO will issue LMRs scheduling instructions hours in advance based on the resources' notice requirements but will declare the emergency or cancel the call for emergency-only resources two hours in advance. Even canceled calls will count as one of five required responses per year, and emergency DR will still be eligible to recover shutdown costs.

Stakeholders said MISO was heaping more penalties on a class of resources that already have more requirements than the average resource. Some said the move risks driving away LMRs.

"We're definitely asking for more than we have in the past," Grethen said.

The RTO is also looking to require more information from LMRs that will sell their capabilities after clearing in the upcoming capacity auction in spring. Those resources will have to provide their seasonal availability based on expected load output and retail tariffs and the shortest reasonable notification time for eliciting a response. MISO will require supporting documentation of availability if an LMR is not

MISO News



available within two hours for at least nine months out of the year. DR personnel would also have to participate in at least one LMR drill per planning year if they have not successfully met a call to curtail load or submitted results from a real power test.

"MISO is not looking to assign a notice time. We're trying to get an idea of your best reasonable notice time. Tell us with documentation," Grethen said.

Coalition of Midwest Power Producers CEO Mark Volpe criticized MISO's use of the term "survey" to describe the new information requirement.

"'Survey' implies optional," Volpe said, asking what deadlines MISO is planning to impose.

MISO Director of Resource Adequacy Coordination Laura Rauch said data submittal will become part of annual LMR asset registration. For the upcoming planning year, MISO plans to defer LMR registration from the beginning of February to March 1.

Brian Helms | © *RTO Insider*

Century Aluminum's Brian Helms asked if MISO would improve its outdated Communication System to allow for easier input of LMR data.

Rauch said the RTO will not have the system in time for the new LMR requirements but promised improvements in the nonpublic platform soon.

Helms said MISO may not realize that when his aluminum smelter is called up for load reduction for four hours during the summer, he deals with the fallout and monetary implications for months afterward.

"At what point is it not worth registering my LMR anymore?" Helms said. "How do you explain these requirements to outsiders? We want to provide reliability to the grid, [but] there needs to be some kind of balance."

He said there are more reliability benefits and megawatts to be extracted from outage coordination, not LMR requirements. More stringent outage rules are the second piece of MISO's near-term resource availability filing.

Outage Planning

MISO is weighing additional penalties for planned outages that are not scheduled in a timely manner. It plans to label short lead-time planned outages that occur during maximum generation events as "forced" outages, which will count against a resource's capacity accreditation.

The RTO wants resources to provide 120 days' notice for planned outages, with only one "limited adjustment" to the outage schedule allowed up to 60 days before the outage. The new notice requirement will supplement existing outage coordination requirements and not affect MISO's required three-year lead time for nuclear units or two-year lead time for other units. MISO will also provide a safe harbor clause from the 120 days when an outage is rescheduled at the RTO's request.

Matt Sutton | © *RTO Insider*

"We've received a lot of feedback, anywhere from 'do not proceed' to 'require more,'" MISO engineer Matt Sutton said.

He said the "limited" outage scheduling adjustment MISO will allow must not exceed seven days and can apply to either the length, start date or end date of an outage. However, Sutton said generation owners are not allowed to make such adjustments when it moves the outage from a low-risk to a high-risk period based on the volume of supply available in MISO's public maintenance margin forecasting tool. The 120-day requirement would begin in earnest on June 1, 2019, in time for the 2020/21 planning year. In the meantime, MISO is requiring that owners request any spring outages no later than Feb. 1 to qualify for safe harbor.

But some stakeholders said the 120-day requirement does not consider the forecasting updates and weather volatility that create high-risk situations with little notice. Some said generators could inadvertently move outages to higher-risk periods.

"Please think about the behavior you're driving with this activity," Xcel Energy's Kari Hassler urged.

Other stakeholders asked the RTO to separate the maintenance margin for MISO Midwest and MISO South, which is more affected by generator outages.

Staff said they were considering creating stakeholder focus groups to hear more suggestions on improvement to outage coordination processes and tools.

MISO is accepting more feedback on its short-term filing through Dec. 13 and is targeting a Tariff filing by Dec. 21. In response to stakeholder requests, the RTO has scheduled a Dec. 7 conference call to discuss more finalized Tariff language before the filing. ■

NYISO NEWS

NYISO Plan Revises Treatment of Carbon-free Resources

By Michael Kuser

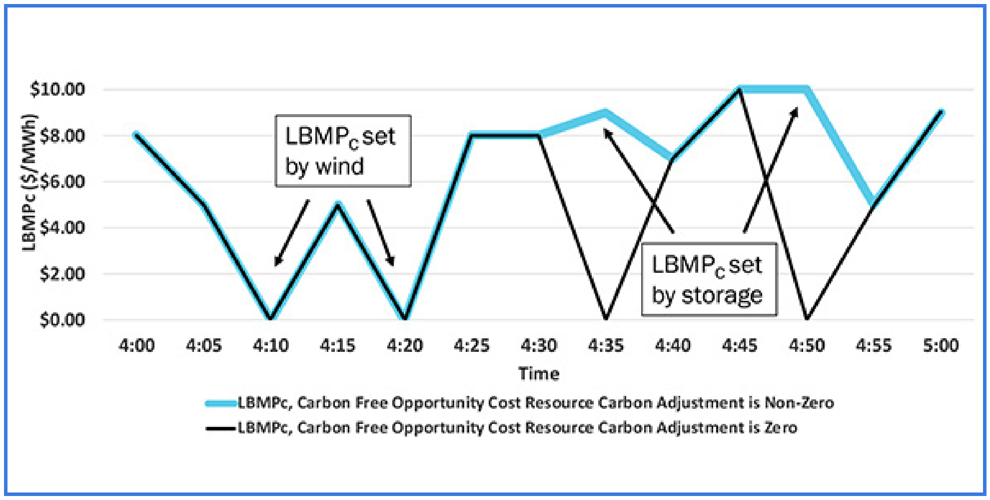


Illustration of Potential LBMPc Volatility | *NYISO*

RENSSELAER, N.Y. — NYISO said last week it would revise its carbon pricing proposal to enhance the bidding treatment for carbon-free resources and help prevent carbon leakage within its market.

Stakeholders requested the change, which will allow carbon-free resources bidding their opportunity costs to use an estimated carbon bid adjustment to better reflect the impact of carbon pricing when those resources set the locational-based marginal price (LBMPc).

Ethan D. Avallone, NYISO senior energy market design specialist, *told* the Integrating Public Policy Task Force (IPPTF) the ISO previously proposed using a carbon bid adjustment of $0 for opportunity cost resources when calculating the LBMPc. As a result of stakeholder feedback, however, the grid operator will now use a non-zero bid adjustment when carbon-free opportunity cost resources represent the marginal resource setting the price during an interval.

Opportunity cost resources represent those carbon-free resources able to store energy and structure their bids to achieve delivery schedules during the most economic periods of the day, Avallone said. In periods of the day with lower prices, the bids of such resources therefore reflect the estimated opportunity cost of profit from periods of the day with higher prices.

NYISO determined that setting the LBMPc at $0 when a carbon-free resource bidding opportunity cost was on the margin would cause leakage of emissions because external resources not bidding that cost could be selected instead for dispatch based on price, regardless of their emissions profile, Avallone said. This could lead to increased imports during periods when internal opportunity cost resources are on the margin.

The LBMP is expected to increase slightly under carbon pricing to reflect the emissions of the marginal unit, and carbon-free opportunity cost resource bids are likely to increase as a result of carbon pricing in some hours.

Avallone noted the ISO would still use the net social cost of carbon to determine the carbon reference level for a CO2-emitting generator subject to the Regional Greenhouse Gas Initiative that functions as the marginal resource. (See *NY Task Force Talks LBMPc, Residuals, Hedge Effects*.)

"This is essentially one update, dealing with carbon pricing and the calculation of LBMPc [with] opportunity cost resources ... and will lead to export/import transaction flows that more appropriately reflect what flows would have been absent carbon pricing," Avallone said.

Calculation Issues

Michael DeSocio, the ISO's senior manager for market design, said there is an unrelated effort at the ISO regarding energy storage resources that deals with opportunity cost reference levels that requires a few more steps before implementation.

"The ISO is still developing how it's going to deal with opportunity cost in the storage effort," DeSocio said. "That has yet to be designed. There are going to be implications from that design on how we best incorporate this feature into that design."

More specific details on how the ISO will model opportunity cost depend on completing the market design, he said.

"We may be getting too deep when talking about RGGI or carbon content," said Warren Myers, director of market and regulatory economics at New York's Department of Public Service. "The constrained optimization we want to do is to do what we can with respect to import-export pricing to maintain the current marginal comparison about flows."

The opportunity cost resource's bid is already based on its opportunity cost projection and will change with carbon pricing because that will change its opportunity cost, he said.

"So their bid was not known with precision before; they weren't going to bid zero; they were going to bid their opportunity cost," Myers said. "Now they're going to bid something other than their prior opportunity cost, so we would like to have an estimate of how much their opportunity cost is going to change so we can try to maintain current import-to-export cost comparisons as if there weren't carbon pricing."

Importer Concerns

External resources would receive the full increase in the ISO's LBMP from carbon pricing during hours when a carbon-free resource bidding opportunity cost is on the margin, and those increased revenues would occur regardless of the resource type backing the transaction, whether carbon-emitting or not.

Howard Fromer, director of market policy for PSEG Power New York, suggested it might be more fair to external resources for the ISO to provide them with an estimate of the LBMP rather than making them guess.

DeSocio explained why the ISO thought it makes more sense for those trading on the border to assume the associated risks.

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NYISO News

New York Plans for Wind Energy, Related Jobs

By Michael Kuser

LIVERPOOL, N.Y. — While offshore wind has dominated the energy agenda in the Northeast this year, New York officials are taking care to nurture the economic potential of onshore wind as well.

Alicia Barton | © RTO Insider

"In New York, new turbine technologies and cost reduction mean that land-based wind opportunities for the state are growing," Alicia Barton, head of the New York State Energy Research and Development Authority, said last week at a summit hosted by the New York State Laborers' Organizing Fund (NYSLOF).

Barton cited a recent NYSERDA clean energy *report* showing "the sector growing at a rapid rate, last year at 4%, about double the overall employment growth rate in the state," with wind farms accounting for an average of 32 workers per project.

"We see the success of land-based wind projects really paving the way for future wind development," Barton said. "This is exciting not only for our ability to attract that type of investment, but it is making a significant contribution to our ability to deliver a cleaner future for New York communities."

One summit participant asked how NYSERDA enforced local content and labor provisions in the state's renewable energy contracts, such as requiring developers to pay the prevailing wage to workers.

Barton said that NYSERDA is not involved in some projects built by out-of-state developers, but compliance on state contracts so far has been very good.

The New York State Laborers' Organizing Fund held a meeting on wind energy near Syracuse on Nov. 27. | © RTO Insider

"There are probably 20 proposed windmill projects in our area," said New York Upstate Laborers' District Council leader Sam Capitano. "Some of the developers here we have relationships with, some we do not ... these jobs are important to our area, and ... our labor market is challenged right now."

Sam Capitano | © RTO Insider

Harrison Watkins | © RTO Insider

Harrison Watkins of NYSLOF noted the importance for labor to participate in the planning process for renewable energy projects.

Barton said her agency also is "very excited about the new frontier in wind, which is offshore wind energy."

NYSERDA will soon issue the state's first offshore wind solicitation in consultation with the New York Power Authority and the Long Island Power Authority. The agency will announce the award in the second quarter of 2019 and, if needed, issue a second solicitation next year to meet the 800-MW goal.

Philosophical Issues

Anne Reynolds | © RTO Insider

"Ideally it would take two years from project proposal to final permitting," Anne Reynolds, executive director of the Alliance for Clean Energy New York, said regarding onshore projects. "Remember, only one project so far has passed all the way through the Article 10 process, and that's the Cassadaga wind project, so it's hard to say what the average time is." (See *Overheard at ACE NY 2018 Fall Conference*.)

NYISO News

The New York Public Service Commission on Nov. 15 granted a certificate of public convenience and necessity for the 126-MW Cassadaga wind project in Chautauqua County, southwest of Buffalo on the shores of Lake Erie (Case *18-E-0399*).

New York in 2011 revised Public Service Law *Article 10* to unify siting reviews of new or modified electric generating facilities under one state agency, the Board on Electric Generation Siting and the Environment.

"It's going to come down to if, and under what circumstances, the siting board will override local law," Reynolds said. "Remember, this is the third generation of this law, and when it was originally passed there was no wind or solar on the horizon; it was about fossil fuel power plants."

The intent of the law was to enable the state to prevent communities from blocking a needed power plant, she said.

"The world has changed, and now a law that was primarily designed for fossil fuel is being applied to renewable energy plants," Reynolds said. "It's a legal and philosophical question as to whether the state should, could and under what circumstance override local law ... the original intent of the law was, in the public good, the state should be able to override local laws so that we all could have safe, and now clean, electricity."

Siting Basics

"Permitting is a process that involves basically anyone who wants to be involved, which is a good thing, but a challenge for the state," said Sarah Osgood, director of policy implementation at the Department of Public Service.

Sarah Osgood | © *RTO Insider*

"Having a one-stop shop for siting these large projects is a fantastic concept for a process but makes delivering on it challenging," Osgood said.

"By having the state agencies review these projects, review multiple projects, there is so much potential for having some predictability and standardization built in as we go forward and get some precedent-setting information," said Valessa Souter-Kline, project developer on Invenergy's proposed 380-MW Alle-Catt wind project in western New York. The other positive attribute of state-controlled siting is the ability to work across jurisdictions, she said.

"At Invenergy, we're seeing the opportunity to have larger projects, which mean more jobs and more community benefits than we were able to do under individual seekers," Souter-Kline said.

Valessa Souter-Kline | *© RTO Insider*

Good, successful wind projects are engaged in the local communities, so a state-level process under Article 10 does not mean that developers stop working with municipalities, she said.

"Built into that is a little bit of confusion around who's making decisions," Souter-Kline said. "A lot of town supervisors or town leaders who are getting pressure from opposition will sometimes toy with this idea of 'Do we actually need to update our local laws, or is the state going to override it?' There's an interesting tension there as to who's taking responsibility for this project."

Barton said that NYSERDA for years has been developing toolkits for municipalities "and have upped our staffing, so we're not just putting them on our website, but going to those communities."

"There are a lot of myths about wind power," Reynolds said. "If a project was proposed in your town, where would you go to get the facts? The American Wind Energy Association to me is a reputable source, but other people would say, 'Oh, that's just the industry,' so the struggle is to give the information from a source people trust."

Osgood said the state is trying to put reliable information out there, but that some people question the state's motives because of its ambitious renewable energy goals.

Reynolds said that opposition to renewable energy projects is probably inevitable and possibly based on very simple reasons: "I personally think the arguments against wind energy are because people don't want to see the turbines." ■

NYISO Plan Revises Treatment of Carbon-free Resources

Continued from page 18

"Certainly the ISO can estimate what it thinks this LBMPc is, and you the trader can decide whether you like that number or not and then adjust the rest of your offer to accommodate it," DeSocio said.

The original assumption of what a trader thought the implied heat rate was going to be inside New York now has to be set against whether they trust the ISO's prediction, plus the ISO has to assume the LBMP values because it doesn't know the exact value until the dispatch is over, he said.

"It seemed to us that if we could narrow three assumptions to two, all of which are under your control, you have better capability of representing your risk in the market than we do," DeSocio said. "From a market design efficiency standpoint, it seemed far better for the ratepayers of New York and the market as a whole for that risk to be borne by the trader."

IPPTF Chair Nicole Bouchez, the ISO's principal economist, said, "Internal resources know their heat rates, but importers have to estimate what the heat rates are and whether it makes sense to import. ... The carbon emissions rates are highly correlated with heat rates, so if you're already estimating heat rates, you have the technology and the background to estimate the carbon emission rates."

The task force next met on Monday. See next week's RTO Insider for coverage. ■

PJM News

FERC OKs Key PJM Changes to Address GreenHat Default

By Rory D. Sweeney

FERC on Thursday approved some of the flexibility PJM has sought to address after the historic GreenHat Energy financial transmission rights portfolio default.

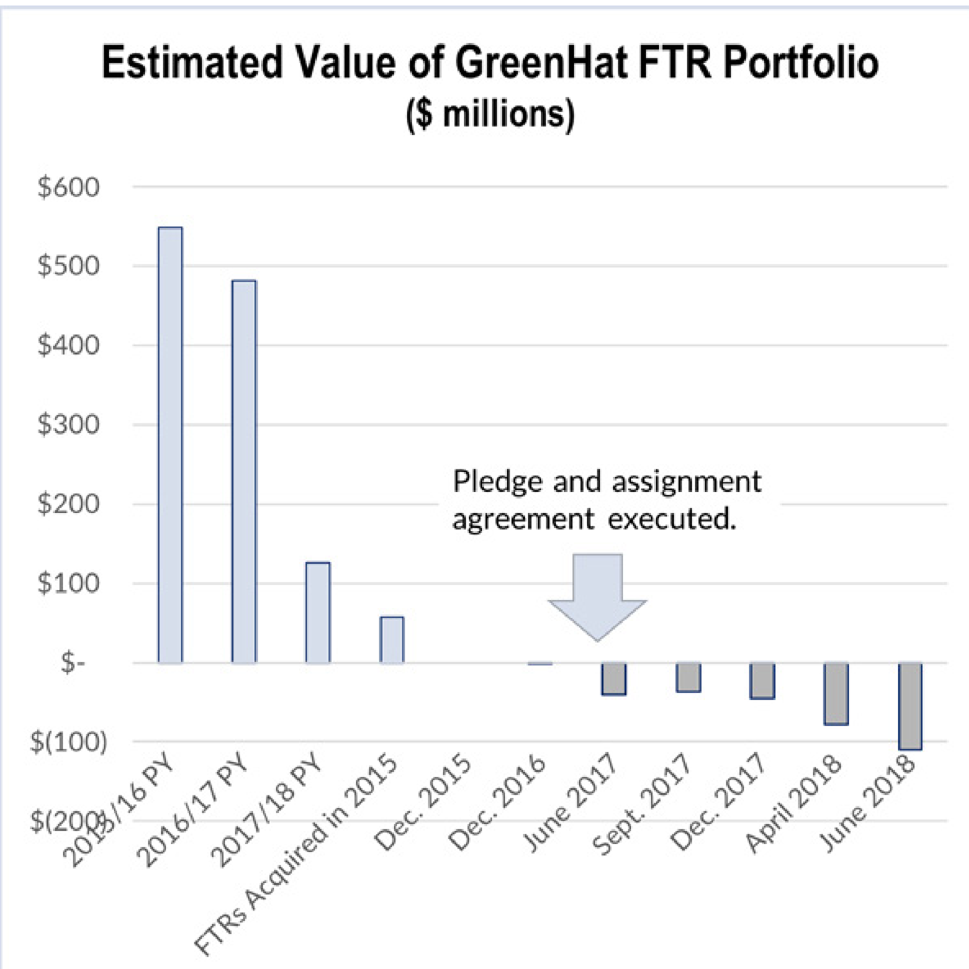
The commission accepted Tariff and Operating Agreement revisions that require defaulted FTR portfolios to go to settlement rather than being liquidated through auction (*ER19-19*). It was one of four requests PJM filed with FERC to attempt to mitigate the financial risk created by the default, which is expected to cost stakeholders more than $100 million to cover the losing bets. Stakeholders have criticized PJM for what they see as bungled handling of the issue. (See *Advocacy Group Seeks CFTC Oversight of PJM FTRs*.)

FERC's approval is conditioned on PJM removing Tariff and OA language related to bilateral FTR transactions that is predicated on the commission accepting a related filing that received a deficiency letter requesting more information (*ER19-24*). FERC made the ruling effective Dec. 1, rendering moot another related filing that sought to ensure an effective date no later than Feb. 28, 2019 (ER19-25).

On Friday, FERC's Office of Energy Market Regulation accepted by delegated authority the fourth filing, which clarified that a PJM member's per capita portion of FTR default allocation assessments will not exceed $10,000 per calendar year, cumulative of all defaults, or more than once per each member's ongoing default if default allocation assessment charges for a member's ongoing default span multiple calendar years (*ER19-23*).

"While we acknowledge that there are potential downsides to not liquidating defaulted portfolios through the FTR auctions, we cannot find that PJM's choice to allow FTR positions to go to settlement is unjust and unreasonable."

–FERC



PJM analysis shows the continuing downward trajectory of GreenHat's FTR portfolio. | *PJM*

Settlement Order

FERC approved sending defaults to settlement rather than liquidation despite several protests, which argued that the requirement prolongs uncertainty, leaves PJM with no alternate ability to mitigate default losses, could increase the size of the default, inhibits liquidity by preventing the sale of valuable hedges and disrupts the orderly unwinding or reorganization of the defaulting entity.

"We acknowledge that inherent in these revisions, PJM stakeholders are exchanging one set of risks for another," the commission said. "The commission recognizes that PJM, on behalf of the stakeholders who ultimately bear the cost of default, assessed such tradeoffs, including the risk tolerance of its stakeholders, and this proposal is the result of such an assessment. While we acknowledge that there are potential downsides to not liquidating defaulted portfolios through the FTR auctions, we cannot find that PJM's choice to allow FTR positions to go to settlement is unjust and unreasonable."

The commission said that while the GreenHat default may be an exceptional event that may never happen again, that doesn't determine whether the rule changes stemming from it are unjust or unreasonable, nor does how other regions would handle such a situation. ■

PJM News

Primary Frequency Proposals Set for Vote in PJM

By Rory D. Sweeney

Attendees at the Nov. 27 PFRSTF meeting discussed proposal specifics. | © RTO Insider

VALLEY FORGE — PJM is nearing the finish line in determining how it handles the primary frequency response (PFR) requirements put in place by FERC Order 842.

Stakeholders and staff put the final touches on the three remaining *proposals* at last week's meeting of the Primary Frequency Response Senior Task Force. (See "Primary Frequency Response Moving Forward," *PJM Operating Committee Briefs: Nov. 6, 2018*.)

The proposals differ on thresholds for inclusion in the requirement, and on whether and how units that provide the service should receive separate compensation. A fourth proposal, offered by American Electric Power, has been removed.

Still under contention within PJM's proposal is whether units can claim *exemptions* from the PFR requirements if installing the necessary technology would be prohibitively expensive. The RTO had added language that exemptions could not be justified "solely" on economic grounds, but Howard Haas of Monitoring Analytics, the Independent Market Monitor, said that a technical exemption should only be allowed if there is a "physical restriction that cannot be rectified using available commercial alternatives."

He said the market should determine whether a commercial solution is economically feasible, and the requirement would remain either way.

PJM's Vince Stefanowicz agreed that the rule should be that economics cannot be used as an exemption criteria.

"It sounds like we muddied the water" with the revisions, he said. "I'm actually inclined to go back to the original wording."

PJM staff joked that removing the revision would leave the proposal "sole-less," and Haas agreed.

"It would be 'sole-less,' just as economics should be," he said.

But Bob O'Connell of Panda Power Funds and FirstEnergy's Jim Benchek criticized the removal, arguing that prohibitive cost should be a consideration in approving exemptions.

PJM's Glen Boyle said that equipment manufacturers provided feedback to staff that the necessary solutions are commercially available and low-cost. O'Connell asked for that understanding to be documented in the revisions.

Additional Discussions

David "Scarp" Scarpignato asked PJM to analyze whether units at 100% maximum output can receive an exemption from evaluation of PFR performance during a frequency event in the same way that units aren't evaluated when at minimum output during an event. Staff agreed to review wording.

Staff also agreed to work with the Monitor on agreeing to a single megawatt threshold for aggregated resources under which they would be exempt from providing PFR. Currently, the Monitor's proposal has a 10-MW threshold while PJM's is 20 MW.

They also said they would provide a PFR market solution "if one becomes viable." Calpine's proposal calls for allowing units that produce more PFR than required to sell it. PJM is concerned how that would work for system restoration.

"The short answer is I'm not sure how you'd do that," Stefanowicz said.

While PJM and the Monitor are attempting to avoid FERC-approved cost recovery similar to how reactive service is paid, stakeholders complained that the proposed process — in which PJM and its Monitor agree on a fair rate — doesn't allow for due process for the unit seeking the rate while commission approval does. They asked PJM and the Monitor to develop language to determine standards and how the process will occur.

Next Steps

Reconciliation of the revisions should happen soon, staff confirmed.

"I think it can be resolved pretty quickly," Boyle said.

Staff opened a one-week poll on the proposals and expect to have the results ready to review for the task force's next meeting on Dec. 5. Packages that receive at least 50% support will receive a first read at the Dec. 20 meeting of the Markets and Reliability Committee. The proposal with the most support will be the main motion, and any others that meet the threshold will be considered as alternates.

The proposals will then be offered for consideration at the Jan. 24 meeting of the MRC and Members Committee. Endorsement on that timeline would lead to a filing at FERC in early February, PJM's Jim Burlew said, and the RTO likely would seek an effective date of 60 days after approval. That would trigger the beginning of PJM tracking units' performance during PFR events. However, as part of PJM's implementation timeline, repercussions of the scoring, including loss of revenue, wouldn't take effect for two years following FERC approval.

The poll will also include a question about whether stakeholders prefer a change to the status quo. If no proposal receives at least 50% or if the vote shows a preference for the status quo, staff will provide the results as part of the task force's update and ask the MRC for further direction. Boyle indicated that, in that case, the RTO might decide to file a proposal for FERC approval without stakeholder endorsement under Section 206 of the Federal Power Act.

"I don't think PJM would consider status quo an acceptable outcome," Boyle said. ■

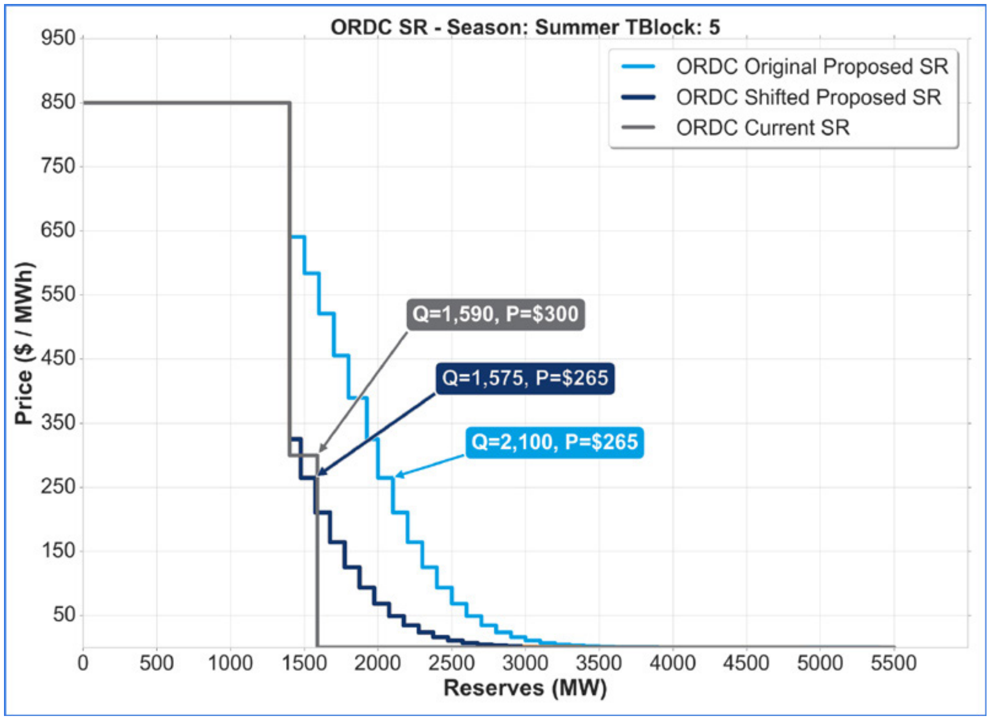
PJM News

PJM, Monitor Remain at Odds over Energy Market Proposals

By Rory D. Sweeney

Roughly a year into the discussion and months past the deadline requested by PJM's Board of Managers, details of potential changes to the RTO's energy market remain anyone's guess.

At Wednesday's meeting of the Energy Price Formation Senior Task Force (EPFSTF), PJM reintroduced a substantially altered proposal for revising its operating reserve demand curve (ORDC), and both the RTO and its Independent Market Monitor revised their proposals for the allowable synchronized reserve offer margin adder. A new proposal submitted by the D.C. Office of the People's Counsel would largely maintain the current two-step curve but include some revision details from proposals by both PJM and the Monitor. (See *Skepticism Lingers Around PJM Price Formation Goals*.)



PJM's revised ORDC proposal | PJM

PJM revised its ORDC *proposal* to account for the impact of units' regulation requirements, shifting its proposed curve to the left and more in line with the current two-step ORDC for synchronized reserves. The current curve escalates from $0/MWh to $300/MWh at 1,590 MW, and the new one escalates gradually from $0/MWh at roughly 2,750 MW to $265/MWh at 1,575 MW. PJM's original proposed revisions began escalating from $0/MWh at roughly 3,500 MW and reached $265/MWh at 2,100 MW. The revised proposal means that the value of synchronized reserve megawatts will be less until the reserve drops to the minimum reserve requirement (MRR), which remains $850/MWh.

PJM also revised its proposed margin *adder* down substantially. The current adder is $7.50/MWh, but PJM said the calculation should instead be based on the expected value of the penalty resources pay if they receive a synchronized reserve obligation and fail to perform during an event. For 2017, that value was 1 cent/MWh, and so far in 2018 it's been 2 cents/MWh. Rather than setting it at $0, PJM argued that it should be allowed to change as clearing prices change.

Monitor Revisions

The Monitor's revised ORDC *proposal* includes a temporal *concept* meant to factor in the expected cost of a unit commitment to maintain the reserve requirement in the future. Instead of happening over 30 minutes to provide reserves necessary for 10 minutes in the future, as PJM has proposed, the Monitor's proposal would look forward until the next expected demand peak based on historical load patterns.

The resulting curves have seasonal variations but rarely extend past $60/MWh before hitting the MRR.

The Monitor revised its adder *proposal* from a "compromise" of $3.80/MWh — which it now finds "unjustified" — to $0/MWh and recommended that penalties should extend back to the last reserve event when the resource performed to its full obligation but no longer than 12 months.

The Monitor also added a new option to the matrix that would include the changes to the synchronized reserve market but reserve the discussion on the ORDC to the second stage of EPFSTF, including discussion of the relationship between the day-ahead reserve products and real-time reserve products.

Stakeholder Reaction

Stakeholders appeared unconvinced by either proposal. Carl Johnson, representing the PJM Public Power Coalition, said the measuring stick for whether the RTO's proposal is successful should be its impact on uplift payments.

"If uplift doesn't go away, we've got a problem," he said.

PJM's Adam Keech agreed, saying, "I think zero uplift is a good target."

The Monitor disagreed, however. Monitor Joe Bowring noted several market mechanisms that create uplift that aren't addressed in the proposal.

"We think some uplift is necessary," Monitor staffer Catherine Tyler said.

PJM and the Monitor also disagreed with some stakeholders over what the overall goal of the changes should be.

"The goal isn't to have the lowest prices possible," Keech said. "The goal is to reflect what the system operators are doing. We're trying to drive to prices that reflect the system operators' needs."

Bowring said the "objective of markets is to have the lowest prices possible for the defined product, but no lower."

Stakeholders and PJM staff questioned whether the Monitor's ORDC proposal was more about addressing scheduling issues than generation scarcity.

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PJM News

FirstEnergy Secures Recovery for Transource Project

By Rory D. Sweeney

FERC last week granted FirstEnergy Services' request to recover "prudently incurred abandonment costs" if Transource Energy's embattled Independence Energy Connection is canceled (*ER18-2510*).

The request was made on behalf of FirstEnergy affiliates Potomac Edison and Mid-Atlantic Interstate Transmission (MAIT). The authorization allows the companies to recover 100% of any costs incurred for the project after Nov. 27 and 50% of any costs incurred prior to that date, which is the same structure that the project's other developers — Transource, Baltimore Gas and Electric and PECO Energy — have already received.

The companies told FERC the project must be permitted by both Maryland and Pennsylvania — where it needs easements across roughly 300 private properties — and that, as a market-efficiency project, it faces heightened risk of cancellation because it is subject to annual PJM re-evaluation until it is permitted. The request also noted "local opposition" to sections of the project.

"This local opposition, coupled with the need for ... the companies responsible for the other elements to obtain permits from multiple municipal and state authorities, heightens the permitting risk," the companies argued.

Residents in the area of the project have been fighting against the project for years. Half a dozen opponents took the rare step of attending the September meeting of PJM's Transmission Expansion Advisory Committee to voice their displeasure with the project and request that the RTO withdraw its approval. PJM explained its role is simply to evaluate the benefit of the project, and that the residents need to lodge their complaints with the state regulatory commissions that oversee permitting. (See *PJM Redirects Residents' Protests of Tx Project to States*.)

The $366.17 million proposal is the largest congestion-reducing project PJM has ever approved. It would consist of two separate 230-kV double-circuit lines, totaling about 42 miles, across the Maryland-Pennsylvania border. One line would run between the Ringgold substation in Washington County, Md., and a new Rice substation in Franklin County, Pa.; the other would run between the Conastone substation in Harford County, Md., and a new Furnace Run substation in York County, Pa.

PJM estimated that Potomac Edison will be assigned $62.06 million in costs for its part of the project's construction, while MAIT will pick up $6.42 million. Despite criticism, the RTO has maintained that the project stands to provide more benefits than it will cost. (See *PJM Reiterates Support for Embattled Transource Project*.) ■

Once referred to as the AP South Congestion Improvement Project, Transource's Independence Energy Connection project would consist of two lines. The western portion would run from the Ringgold substation in Maryland to the Rice substation in Pennsylvania. The eastern line would run from the Conastone station in Maryland to the Furnace Run station in Pennsylvania. | *Transource*

PJM News

PJM MRC/MC Preview

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

RTO Insider will be in Wilmington, Del., covering the discussions and votes. See next Tuesday's newsletter for a full report. NOTE: The meeting will be held at the DoubleTree by Hilton Hotel Downtown Wilmington instead of the Chase Center.

Markets and Reliability Committee

1. PJM Manuals (9:15-9:45)

Members will be asked to endorse the following proposed manual changes:

A. Manual 03: *Transmission Operations*. Revisions developed to update the generator voltage schedule with new processes that require transmission owners to verify and submit voltage schedules via eDART, generation owners to review the schedules and the eDART contact to acknowledge the schedule. This will all need to be done annually. (See "Generator Voltage Schedule," *PJM Operating Committee Briefs: Nov. 6, 2018*.)

B. Manual 10: *Pre-Scheduling Operations*. Revisions developed as part of a periodic cover-to-cover review.

C. Manual 14D: *Generator Operational Requirements*. Revisions mirroring those of item 1A above.

D. Manual 27: *Open Access Transmission Tariff Accounting*. Revisions developed as part of the biennial review.

E. Manual 06: *Financial Transmission Rights*. Revisions developed as part of the annual review.

F. Manual 11: *Energy & Ancillary Services Market Operations*. Revisions developed as part of ongoing revisions to the day-ahead timeline. (See "Day-ahead Market Timeline Manual Changes," *PJM Market Implementation Committee Briefs: Nov. 7, 2018*.)

2. PRD Review for Capacity Performance Requirements (9:45-10:05)

Members will be asked to endorse at least one of several *proposals* developed by the Demand Response Subcommittee to address changes to price-responsive demand required for the Capacity Performance construct. The question is whether PRD should be required to reduce load in the winter like other CP resources. (See "Summer-only Demand Response," *PJM MRC/MC Briefs: Oct. 25, 2018*.)

3. 2019 DASR Requirement (10:05-10:20)

Members will be asked to endorse proposed *revisions* to the day-ahead scheduling reserve for 2019. The 2019 calculation of 5.29% is a 0.01-point increase from the 2018 requirement. (See "Day-ahead Scheduling Reserve Recommendation," *PJM Operating Committee Briefs: Nov. 6, 2018*.)

4. Surety Bonds (10:20-10:40)

Members will be asked to endorse at least one of two stakeholder *proposals* developed at the Credit Subcommittee related to allowing use of surety bonds as an acceptable form of collateral. (See "Surety Bond Use," *PJM Market Implementation Committee Briefs: Oct. 10, 2018*.)

5. Gas Pipeline Contingencies (10:40-11:05)

Members will be asked to endorse a *proposal* endorsed by the Market Implementation Committee around gas pipeline contingencies. The proposal, originally developed by Calpine, would provide a broader scope of factors and time for which a unit can recover costs during and after a PJM fuel-switch directive. (See "Gas Pipeline Contingencies," *PJM Market Implementation Committee Briefs: Nov. 7, 2018*.)

Members Committee

1. RPM Credit Requirement Reduction Clarifications (1:25-1:45)

Members will be asked to endorse proposed Tariff *revisions* to remove an apparent overlapping credit reduction provision for qualified transmission upgrades, to clarify milestone documentation requirements for internally financed projects and to clarify that capacity market sellers should submit requests for reductions.

2. PRD Review for Capacity Performance Requirements (1:45-2:05)

Members will be asked to endorse proposed Operating Agreement and Tariff *revisions* related to CP changes required for PRD. (See MRC item 2 above).

3. Gas Pipeline Contingencies (2:05-2:25)

Members will be asked to endorse proposed OA and Tariff *revisions* related to gas pipeline contingencies. (See MRC item 5 above).

4. Elections (2:25-2:35)

Members will be asked to *elect* members of the 2018-2019 Finance Committee, the 2019 sector whips and the 2019 MC vice chair. ■

— Rory D. Sweeney

Continued from page 23

"This is compensating to some extent for the lack of scheduling tools," Tyler acknowledged. "However, what we do see in the market now is an operator looking ahead and seeing a need for reserves in the future, and we don't have a market tool to address that."

Vote Delayed

PJM's Dave Anders, who is facilitating the task force, summed up the day by quashing any question about whether stakeholders may be ready to decide.

"It's been a fluid situation with respect to proposals. I don't know that we're ready to vote," he said, noting that PJM staff will update the board at its meeting this week.

Bowring pointed out that if the initial vote had happened when PJM had initially requested the vote, its proposed demand curve would have been substantially higher than with its revised ORDC presented for the first time at this meeting.

While no one questioned the decision, stakeholders differed on whether a vote should come sooner or later. Some expressed concern that further delay risks the board deciding to approve revisions without waiting for stakeholders' advice.

Stakeholders have already missed the board's request to receive stakeholder endorsement for some changes by the third quarter, which could have already allowed for FERC approval and implementation for this winter. (See *PJM Board Seeks Reserve Pricing Changes for Winter*.) ■

FERC & Federal News

Optimism Rising on EVs as Sales Hit 1 Million Mark

Continued from page 1

Dan Turton, General Motors | © *RTO Insider*

- General Motors is developing its autonomous vehicles on an "all-EV platform," said Dan Turton, GM's vice president for North American policy.
- ChargePoint, which last week *announced* a $240 million equity infusion, has *pledged* to install 2.5 million charging spots by 2025, up from more than 57,000 today. The company has raised a total of more than $500 million from investors including American Electric Power, Chevron, Daimler, BMW and Siemens.

Julie Blunden, EVgo | © *RTO Insider*

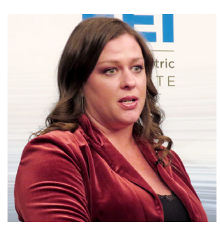
- Charger network EVgo, which recently *completed* installing nine fast-charging stations in the I-95 corridor from D.C. to Boston in a partnership with Nissan, also *won* a contract in August to operate a network of hundreds of stations across Virginia. Julie Blunden, executive vice president of business development, said the company also will increase its charging network in California, its largest market, by 50% by mid-2019 over mid-2018. It currently has more than 1,000 fast chargers at 700 stations. (A DC fast charger can *add* 60 to 80 miles in 20 minutes.) Virginia will use $14 million from its portion of the Justice Department's settlement with Volkswagen, which agreed to spend $2 billion on zero-emission vehicle infrastructure in the U.S. after admitting to cheating on diesel emissions tests.

Arshad Mansoor, Electric Power Research Institute | © *RTO Insider*

- Arshad Mansoor, EPRI's senior vice president for research and development, predicted there will be 130 EV models available in five years, up from about two dozen today. BMW will be adding an all-electric Mini and sport utility vehicle, with plans for 25 EV models by 2025, said Bryan Jacobs, vice president of government and external affairs.

EVgo has has more than 1,000 fast chargers at 700 charging stations nationwide. It will boost its number of chargers in California, its largest market, by 50% by mid-2019 over mid-2018. | *EVgo*

- Regulators have approved $1 billion in utility investments in EV charging infrastructure. Halso said the amount is "a drop in the bucket" compared to what's needed "but leaps and bounds from where we were five years ago."
- More than 130 companies and organizations have signed the transportation electrification *accord* negotiated by environmentalists and others. The agreement outlines ways transportation electrification can benefit "all utility customers and users of all forms of transportation, while supporting the evolution of a cleaner grid and stimulating innovation and competition for U.S. companies."



Sara Decker, Walmart | © *RTO Insider*

- Walmart installed chargers at 250 stores in 2018, nearly double the goal it had set, as part of its *partnership* with Electrify America, the unit VW set up to manage its settlement. It is now possible to drive an EV from Houston to Chicago using chargers at Walmart and Sam's Club stores, said Sara Decker, the company's director of federal government affairs.
- The 1 million milestone would not have been reached without state ZEV programs, said Kathy Kinsey, senior policy adviser for Northeast States for Coordinated Air Use Management (NESCAUM), a group representing the air directors of New Jersey, New York and the six New England states. Until now, she said, states have made "ad hoc" investments in EVs and their infrastructure. But with the money from the VW settlement and utilities proposing infrastructure investments, "our states now have recognized the importance of thinking strategically and regionally," she said.

Kathy Kinsey, NESCAUM | © *RTO Insider*

The Stakes

Friday's celebratory mood was tempered by the release a week earlier of the federal government's Fourth National Climate Assessment, which declared that "the impacts of climate change are already being felt in communities across the country." (See *US Climate Report Spells out Coming Challenges*.)

Rep. Paul Tonko (D-N.Y.) | © *RTO Insider*

"We cannot continue to pretend that we

FERC & Federal News

can solve our climate crisis by only asking the power sector to do more," said Rep. Paul Tonko (D-N.Y.), who noted that transportation has surpassed electric generation as the largest source of greenhouse gas emissions in the U.S.

Alan Oshima, Hawaiian Electric Co. | © *RTO Insider*

Alan Oshima, CEO of Hawaiian Electric Co., said EVs are crucial to the state's *goal* of 100% clean energy by 2045. He said the state needs to triple its rooftop solar capacity to meet the goal and that daytime EV charging is needed to absorb excess supply. While the state is fifth in per capita EV ownership, he said, it has only 8,000 EVs today.

Tonko acknowledged the limits of EV-boosting legislation possible in the new Congress, where Democrats will hold the majority in the House of Representatives while Republicans will increase their majority in the Senate.

"We need to focus on potential policy wins that might be considered singles and doubles," said Tonko, who pledged to push the deployment of EV charging facilities in any infrastructure bill and to seek an extension of the federal EV tax credit.

President Trump threatened to eliminate tax credits for GM's EVs after the company announced Nov. 26 it would close assembly plants in Ohio, Michigan, Maryland and Ontario. Although Trump lacks the power to take such action, "we pay a lot of attention to what any president says," Turton told the EEI gathering. "But this EV movement is going forward regardless."

"We're here not just to celebrate this milestone of 1 million vehicles, but also to celebrate the collaboration that got us here."

–Tom Kuhn, EEI

Proterra is producing an electric school bus with Thomas Built Buses, a subsidiary of Daimler Trucks North America, which has also invested in Proterra. | *Thomas Built Buses*

Established in 2008, the tax *credit* provides $2,500 to $7,500 per new EV, depending on the size of the vehicle and its battery capacity. The full credit is available for the first 200,000 EVs per manufacturer, after which it begins to be phased out. Tesla has already hit the threshold, and GM is expected to reach it near the end of this year. In September, a group of Congressional Democrats introduced a *proposal* to eliminate the per-manufacturer cap and extend the credit for 10 years.

"I think that the evidence has shown that the biggest driver to future EV adoption will be the extension of the federal tax credit," Tonko said. "We may disagree on what that tax credit may look like or how long we allow it to be in play, but I hope this is an area where the new House Democratic majority can focus next year."

Fleet Electrification

EV proponents see big opportunities to electrify not only personal transportation but also shipping and buses.

Although Walmart's *Project Gigaton* aims to reduce GHG emissions throughout the company's supply chain, Decker acknowledged that electrifying its truck fleet is "probably just a white board exercise at this point."

Eric McCarthy, Proterra. | © *RTO Insider*

Electrification of school and transit bus fleets is on the way, however, said Eric McCarthy, senior vice president of government relations, public policy and legal affairs for electric bus maker Proterra. McCarthy said incentives to make the switch are being provided by the VW settlement, the Federal Transit *Administration*, and voucher programs in states including Maryland and New York.

McCarthy said his company no longer has to convince transit agencies to "experiment" with EVs, which he said are well suited to fleet use because of buses' combination of high mileage, low fuel economy and predictable travel routes. Now, he said, the company is focusing on its relations with utilities and educating state regulators.

Because transit agencies have limited capital budgets, Proterra has begun leasing its batteries, with the original equipment manufacturers taking the operating risk, McCarthy said. "It was authorized by the [2015 Fixing America's Surface Transportation Act] and many of our customers are taking advantage of that," he said.

Proterra has buses operating or planned in locations including Georgia, Edmonton, D.C. and Baltimore (in partnership with Exelon unit Baltimore Gas and Electric). On Oct. 30, the company *unveiled* an electric school bus it is producing with Thomas Built Buses, a subsidiary of Daimler Trucks North America, which has also invested in Proterra.

The California Air Resources Board is expected to rule in January on a *proposal* requiring all transit agencies in the state to transition to ZEV fleets. "If that happens, and then we see other states adopt that as a model, I think you're going to see this really take off in five years," McCarthy said.

EVgo's Blunden also sees fleets making a swift change.

FERC & Federal News

"If there is one thing that has shocked me this year, it is how fast corporate fleet owners and operators are thinking about moving to electrification. It is going to make your head spin," she said. "This reminds me very much of 2008 in the solar industry, where we had the very first … utility-scale solar plants. Four years later, utility [solar] was larger than residential."

R&D

For GM, EVs represented only 1.5% of total sales in 2017, and none of them was a pickup truck or SUV, which have gained market share at the expense of sedans. GM's Turton said electrifying those heavier vehicles is part of the company's "all-electric future."

"It's going to take the next generation of batteries, the generation after that, to be able to advance the R&D … to be able to have better, more cost-efficient batteries that can do this with the longer range that's necessary," he said.

Alex Fitzsimmons, DOE Office of Energy Efficiency and Renewable Energy | © *RTO Insider*

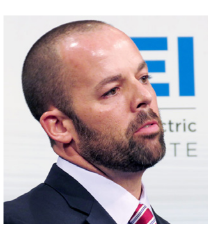
Alex Fitzsimmons, chief of staff for the Department of Energy's Office of Energy Efficiency and Renewable Energy, said his agency has three R&D goals for EVs: reducing battery costs (currently more than $200/kWh) to less than $100/kWh; expanding their range to 300 miles (the second generation Nissan Leaf has a range of 151 miles); and completing a full charge within 15 minutes.

Consumer Ignorance

Speakers said the biggest obstacle to wider EV penetration, however, is not technology but consumer ignorance.

"It's troublesome how little progress we've made in the last five years in consumer education," NESCAUM's Kinsey said.

"A lot of consumers still think that EVs drive like a golf cart," lamented Michael Arbuckle, senior manager of EV sales and marketing strategy for Nissan, which has sold 365,000 electric Leafs worldwide. "They also think that they're not affordable — they're wrong. We know that EVs also have acceleration that's exciting. They're fun to drive. They're great vehicles to drive."



Michael Arbuckle, Nissan | © *RTO Insider*

Southern California Edison's service territory claims 200,000 EV owners — one-fifth of the U.S. total. Yet less than half of Californians know what an EV is, said Phil Jones, executive director of the Alliance for Transportation Electrification. Jones also noted that the U.S. remains far behind China, which has *accounted* for about 37% of passenger EV sales since 2011 and about 99% of e-buses. The city of Shenzhen last year *converted* all of its 16,359 buses to electric.

Joel Levin, Plug In America | © *RTO Insider*

Joel Levin, executive director of Plug In America, which represents EV drivers, said few auto salespeople are familiar enough with EVs to answer prospective buyers' questions. "With a gas car, the dealer never has to answer questions like, 'So, where do I get gasoline?'" he said.

Levin said consumers' cost comparisons need to switch from sticker prices — at which EVs are a disadvantage — to total cost of ownership, which includes their lower fuel and repair costs.

Auto dealers generally earn more money from repairs than vehicle sales, a potential disincentive to promoting EVs, which have far fewer moving parts than vehicles with internal combustion engines. But Levin insisted that hurdle can be overcome. "There's other pieces of the value chain that they can capture," he said, citing rooftop solar sales and installing home chargers.

Multifamily Housing Challenge

Another obstacle to wider penetration is how those lacking individual garages can charge at home.

Multifamily housing remains a hurdle even in SCE's territory, said Jill Anderson, vice president of customer programs and services.

Jill Anderson, Southern California Edison | © *RTO Insider*

Anderson said the utility intended to include multifamily housing in its first big launch of light-duty chargers, in part to address concerns that low- and moderate-income residents could be shut out of the transition.

"And that's the area where we had the most difficulty," she said. "I think only three or four sites were successful in multifamily charging. So it's an area we have to think about differently. We might have to think about the utility doing more soup-to-nuts solutions for multifamily. It's an area that's going to be important."

New York state is attempting to increase multifamily penetration by offering rebates on Level 2 chargers (240-V AC units that add up to 20 mph of charging) to apartment buildings in addition to office buildings and public and commercial locations, Rep. Tonko said. The state also is offering grants for DC fast chargers for cities, transportation corridors and hubs such as airports.

"It is my belief that the federal government can encourage similar investments, and we should ensure that charging is open to public access, interoperable and that the recipients of this funding are required to maintain the equipment," Tonko said. "Without this type of concerted push, we are going to have many of the same problems and split incentives that we see on consumer-side energy efficiency, where building owners might not see the benefit of making efficiency investments on their tenants' behalf. We can't shut these potential consumers out of the EV market."

Dave Packard, ChargePoint | © *RTO Insider*

Dave Packard, vice president of utility solutions for ChargePoint, said his company is working with competing charging networks to create a "seamless driving experience" that ensures drivers know where to charge and how much it will cost. "I think we have to take a lesson from the cellphone industry," he said. "Those of you that remember in the early days when you roamed you had to call [through a different provider]. It was just a nightmare."

Projections

EEI ended the event Friday with the release of a *report* projecting the U.S. will hit the 2 million EV mark by early 2021 and total 18.7 million by 2030. By then, annual sales would exceed 3.5 million, 20% of total car and light truck sales, EEI said. The report says the U.S. will need an additional 9.6 million charge ports to meet the 2030 projections. There are currently about 45,000 public Level 2 charging ports and 9,000 DC fast-charging ports, the report said. ■

Company Briefs

Volkswagen Planning EV Factory for North America

Volkswagen Group of America's new CEO last week said that the company is deciding where to locate a planned factory to produce electric vehicles for the North American market.

Speaking to journalists at the Los Angeles Auto Show, Scott Keogh said the new plant is needed to build a yet-to-be-revealed EV model, due to launch in 2020. VW has said it would spend $50 billion on EVs and autonomous vehicles through 2023, competing with Tesla.

"We are 100% deep in the process of 'We will need an electric car plant in North America,' and we're holding those conversations now," Keogh said. He also said it's possible the factory could be located at the company's existing internal combustion engine plant in Chattanooga, Tenn.

More: *Reuters*

Orsted to Invest $30B in Clean Energy by 2025

Orsted last week said it will invest $30 billion in clean energy resources through 2025, with 15 GW in offshore wind, up from its previous target of 11 to 12 GW.

The company also said it would double its 2025 offshore target by 2030.

Despite President Trump's criticisms of wind energy, Orsted CEO Thomas Brostrom said offshore wind development in the U.S. has been smooth. The company is also focusing on Taiwan as a target for its investments.

More: *Reuters*

Exxon Turning to Renewables for Oil Production

ExxonMobil has signed a 12-year power purchase agreement with Orsted for 500 MW of wind and solar resources to power its oil production operations in Texas' Permian Basin.

Terms of the deal were not announced. According to Bloomberg New Energy Finance, it is the largest ever renewable PPA signed by an oil company. Oil production in the Permian is booming, and infrastructure necessary to power operations there has struggled to keep up.

Half the power Exxon will buy will come from the Sage Draw wind farm, which Orsted plans to finish building in 2020. The rest will be from the Permian Solar farm, scheduled to be finished in 2021.

More: *Bloomberg*

Okla. Treasurer Ken Miller Joining OGE

OGE Energy last week announced it had hired Oklahoma State Treasurer **Ken Miller** as its vice president of regulatory and state government affairs.

Miller will start his new job Jan. 2. Prior

to his current job, he served in the Oklahoma House of Representatives for six years. He has also worked in banking and financial services and taught classes in economics and finance at Oklahoma Christian University.

More: *OGE*

NYT Report Describes Pattern of Racism at Tesla Factory

Interviews, internal communications and sworn legal statements filed by more than two dozen current or former Tesla employees and contractors describe a wide range of racist behavior against black workers at the company's factory in Fremont, Calif., according to a report published by The New York Times last week.

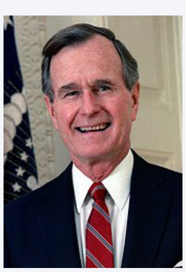
The behavior includes threats by coworkers, demeaning assignments and barriers to advancement, according to sources and documents. Three lawsuits by former factory workers against Tesla have been filed since early last year, accusing the company of failing to do anything about the problems.

Tesla responded by saying there is no evidence to support "a pattern of discrimination and harassment" at the factory.

More: *The New York Times*

Federal Briefs

McNamee Vote Postponed as Bush Lies in State



The Senate on Monday postponed a planned 5:30 p.m. vote on the nomination of Bernard McNamee to FERC to Wednesday after the death of former **President George H.W. Bush**.

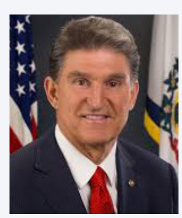
Bush, who died on Friday, will lie in state at the U.S. Capitol until his funeral at the National Cathedral on Wednesday. Senate Majority Leader Mitch McConnell (R-Ky.) filed cloture for McNamee's nomination on Thursday.

The Senate Energy and Natural Resources Committee voted 13-10 to recommend McNamee, executive director of the Energy Department's Office of Policy, to the full Senate last Tuesday.

Progressives Worried Manchin to be ENR Ranking Member

Progressive lawmakers are worried that **Sen. Joe Manchin** (D-W.Va.) could become ranking member of the Senate Energy and Natural Resources Committee.

The current ranking member, Maria



Cantwell (D-Wash.) is expected to jump to the Commerce Committee, and Sen. Bernie Sanders (I-Vt.), who has seniority over Manchin, has not shown any interest in the job. Sanders, ranking member of the Budget Committee, hardly ever appears at Senate ENR hearings, despite climate change and clean energy being part of his 2016 presidential campaign platform.

That would leave Manchin, a coal-state Democrat who often votes with Republicans on energy and environment issues. Environmental activists *protested* against Manchin to Minority Leader Chuck Schumer (N.Y.) on Monday.

More: *Politico*; *Politico*

Ocasio-Cortez Seeking Spot on House E&C Committee

Representative-elect **Alexandria Ocasio-Cortez** (D-N.Y.) is aiming for a seat on the House Energy and Commerce Committee, despite a dispute with incoming Chair Frank Pallone (D-N.J.).

Ocasio-Cortez has called for the revival of a special committee on climate change as part of a "Green New Deal" initiative. Pallone has said that climate change in within the purview of his committee and should stay that way. Current Chair Greg Walden (R-Ore.), who announced last week he had been elected E&C's ranking member for the next session, also thinks the committee should be the one to handle the issue.

The previous House Select Committee on Climate Change, disbanded in 2011 when Republicans took over the House, had no power to advance legislation to the chamber's floor.

More: *Politico*

Bipartisan Group of Reps. Introduce Carbon Tax Bill

Five members of the House of Representatives — three Democrats and two Republicans — introduced legislation last week that would impose a $15/ton tax on carbon dioxide emissions.

The bill, introduced with less than a month left in the current session of Congress, has little chance of passage, let alone being signed by President Trump. Money collected from the tax would be redistributed back to the public, which its sponsors say would offset any increase in utility bills or gasoline prices. The tax would increase by $10 each year after going into effect.

Its sponsors are Reps. Francis Rooney (R-Fla.), Brian Fitzpatrick (R-Pa.), Ted Deutch (D-Fla.), John Delaney (D-Md.) and Charlie Crist (D-Fla.). It is the first bipartisan carbon price legislation introduced in more than a decade.

More: *The Hill*

Zinke Gets Personal After Grijalva Calls for Resignation

Interior Secretary Ryan Zinke last week responded to an op-ed by Rep. **Raul Grijalva** (D-Ariz.) calling for his resignation by criticizing Grijalva's "drunken and hostile behavior."

"It's hard for him to think straight from the bottom of the bottle," Zinke *tweeted*, referencing a $48,000 *settlement* paid to a staffer who accused Grijalva of being frequently drunk and creating a hostile work environment in 2015.

According to E&E News, when the tweet was published, Grijalva, who is line to become chair of the House Natural Resources Committee, was at the Tune Inn, which Zinke also referenced in the tweet. Grijalva left shortly after the tweet went live.

More: *E&E News*; *USA TODAY*

State Briefs

BRITISH COLUMBIA

BC Hydro: 'Griswold' Households Driving up Load During Holidays

The increasing popularity of "mega" Christmas decorations in the province has increased load during the holiday season by 15% since 2012, according to a report by BC Hydro released last week.

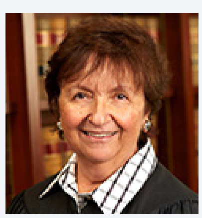
The utility said the increase comes in spite of only 6% of households being "*Griswolds*," a references to "National Lampoon's Christmas Vacation." The report said that prior to 2012, overall holiday lighting load had decreased by 40%, as residents switched from incandescent to LED bulbs.

About 57% of residents in the province put up lights during the holidays, according to the report. "British Columbians can save around $40 over the holiday season by switching eight strands of incandescent lights to energy-efficient LEDs," it said.

More: *The Canadian Press*; *StarMetro Vancouver*; *Times Colonist*

CALIFORNIA

SDG&E Appeals Wildfire Costs Decision to State Supreme Court



San Diego Gas & Electric last week requested that the state Supreme Court review an appellate court panel's decision not to hear the utility's case in its attempt pass on $379 million in wildfire costs to ratepayers.

The utility argued that not only were the court's decision, and the Public Utilities Commission's initial unanimous rejection of the pass-through, incorrect, but that **Judge Patricia Benke** should have recused herself from the case because she and her husband sued SDG&E over the loss of a family member's house to the Guejito Fire in 2007.

The decision by the three-member panel of the 4th District Court of Appeal was unanimous.

More: *The San Diego Union-Tribune*

CONNECTICUT

Consumer Advocates Appeal Ruling on Raid of EE, Clean Funds

energize CONNECTICUT CT℠ Empowering you to make smart energy choices

A coalition of ratepayer advocacy groups last week appealed a U.S. District Court judge's ruling that state government officials did not break the law when they took money from the Energy Efficiency Fund and Green Bank to balance the budget.

The plaintiffs filed the appeal with the 2nd U.S. Circuit Court of Appeals, but they warned that the court's backlog could prevent a ruling on the case until 2020.

They are asking the court to force the state to restore $145 million in ratepayer money to the funds, which are used for several state programs, such as providing grants for energy efficiency companies, bill credits for efficient homes and grants for installing clean technology in homes.

More: *New Haven Register*

DISTRICT OF COLUMBIA

Council Approves 100% RPS by 2032

The Council last week unanimously approved legislation that would require the district to get all of its electricity from renewable resources by 2032.

The bill must pass a second time next month and be signed by the mayor to become law. Council members are considering several changes to the final bill, including whether to retain a provision that would allow Pepco to charge customers more as it enacts energy-efficiency programs.

The district currently requires that half its power come from renewables by 2032.

More: *The Washington Post*

INDIANA

NIPSCO Seeking 12% Rate Increase

Northern Indiana Public Service Co. is asking the Utility Regulatory Commission for a 12% increase in rates to pay for infrastructure and environmental upgrades.

The utility says the increase, which would amount to about $11 for the average customer, will be offset in the long term by the impending closures of several of its coal plants.

More: *Herald Journal*

MAINE

New England Clean Energy Connect Losing Support

Central Maine Power's New England Clean Energy Connect transmission project is losing support in the state, with several communities voting their disapproval and groups withdrawing their prior approval.

Though its board of directors officially voted to support the 145-mile HVDC line a year ago, a recent survey of Sportsman's Alliance of Maine members expressing "overwhelming" opposition led the group to rescind that vote last week. Meanwhile, residents of the town of Jackman voted 78-11 at a special town meeting last week to officially oppose the project. Jackman joins two other communities in opposing the project, while two others have rescinded their support.

The opposition makes the fate of the line even more uncertain, as the Public Utilities Commission has suspended hearings on its request for approval and the Department of Environmental Projection has told CMP its application was deficient.

More: *Morning Sentinel*

MANITOBA

Manitoba Hydro Dealing with Outages from Severe Icing

Extremely thick ice and frost on transmission lines has cut power to thousands of residents in the province, and Manitoba Hydro has been scheduling outages to others so it can melt it.

The outages began Saturday after a snowstorm blew through the southwest last week. About 5,000 homes and businesses were out of power at the outages' peak; by Sunday night, they were down to about 2,000.

Manitoba Hydro continues to notify hundreds of residents at a time that it will need to cut power while it defrosts the transmission lines and towers.

More: *CBC News*; *Global News*

MASSACHUSETTS

City Signs Agreement for 60% Renewables

The city of Newton last week signed an agreement through its municipal aggregation program to purchase 60% of its power from local renewable resources.

Beginning in March, residents will pay 13.7 cents/kWh, compared to Eversource Energy's standard offer service rate of 11.34 cents.

"I am proud to announce Newton Power Choice, and proud that we are leading the way by choosing a higher percentage of renewables than any other community in Massachusetts. This is the most significant step we can take to reduce the carbon footprint of Newton," Mayor Ruthanne Fuller said.

More: *Wicked Local Newton*

NEVADA

PUC Rejects Net Metering Extension to Apartments

The Public Utilities Commission last week rejected a proposal that would have allowed residents living in apartment buildings to participate in net metering programs.

The proposal came from a property management company, Ovation MM, which owns 38 separate apartment complexes in the state. Some of the complexes have solar panels on parking structures, and the company asked that residents be credited for the panels' generation.

The PUC was concerned that approving such a scheme would amount to ad hoc rulemaking in violation of state law. The company said it understood the commission's hands were tied, and that it hoped legislation would be passed addressing the issue.

More: *The Nevada Independent*

OKLAHOMA

Stitt Appoints EPA Staffer to Head E&E Department

Governor-elect Kevin Stitt last week appointed **Kenneth Wagner** as secretary of energy and environment.

Wagner is currently a senior adviser to acting EPA Administrator Andrew Wheeler. He is a close friend of Scott Pruitt, with whom he attended law school, and joined the agency when Pruitt became administrator.

Stitt's term begins Jan. 14.

More: *The Associated Press*