

RTO Insider

Your Eyes and Ears on the Organized Electric Markets
CAISO ■ ERCOT ■ ISO-NE ■ MISO ■ NYISO ■ PJM ■ SPP

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December 17, 2019

PG&E Chapter 11 Plan Won't Do, Governor Tells Judge

Newsom Calls Plan Inadequate to Ensure Public Safety and PG&E's Financial Stability

By Hudson Sangree



California Gov. Gavin Newsom (center) has been increasingly critical of PG&E amid wildfires and power shutoffs. | © RTO Insider

California Gov. Gavin Newsom filed court papers Monday saying he objects to the Chapter 11 reorganization plan that Pacific Gas and Electric submitted last week, including the utility's proposed \$13.5 billion settlement with fire victims.

The agreement would prohibit fire victims from supporting any other bankruptcy plan except for PG&E's, "even one that provides identical treatment of the fire victims' claims," Newsom's lawyers wrote in a [motion](#) filed with

U.S. Bankruptcy Court Judge Dennis Montali in San Francisco.

"Progress toward fair treatment of victims is good ... [but] that type of 'progress' is more about creating an illusion of momentum than it is about advancing the Chapter 11 cases," Newsom's attorneys said.

The motion included a copy of a [letter](#) Newsom sent Friday to PG&E CEO Bill Johnson, in which the governor said the utility's reorganization proposal failed to meet the requirements of Assembly Bill 1054, a measure Newsom pushed through the State Legislature in July. The bill created a \$21 billion wildfire recovery fund for the state's investor-owned utilities, provided that the IOUs meet certain conditions meant to protect the public from utility-sparked wildfires. (See



PG&E CEO Bill Johnson

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No-go for MISO Board Election Changes

By Amanda Durish Cook

INDIANAPOLIS — MISO's Advisory Committee has decided not to pursue changes to how the RTO vets and selects its Board of Directors after more than a year of discussion and the creation of a special task team to explore the issue.

The AC said Wednesday it would not recommend changes to expand the stakeholder voice on MISO's Nominating Committee, declining all possible options laid out by the Board Qualification Task Team (BQTT). (See [Task Team: Boost Member Role in MISO Board Selection.](#))

"The result was to maintain the status quo," AC Chair Audrey Penner told members at a committee meeting Wednesday.

Penner said that while some stakeholders

might have wanted to see change, she hoped members saw the value of what she called a high-functioning board.

Board Chair Phyllis Currie said she expected the AC would continue to periodically examine the board's makeup.

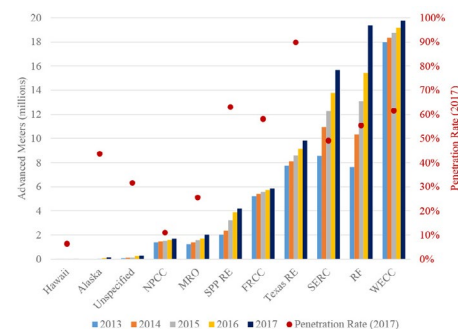
"In this kind of organization, that conversation will come up time and time again," she told Penner at the board's meeting Thursday.

The BQTT in September released a list of options that included requiring state and federal regulators to observe a yearlong "cooling-off" period before becoming eligible for nomination to the board, possibly reserving one of the nine director seats for those with experience representing utility customer interests, and doubling

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Advanced Metering Tops 50% for 1st Time

DR Participation Drops in ISO-NE, PJM



Penetration rate and number of advanced meters by region (2013–2017) | FERC

By Rich Heidom Jr.

Advanced meters now represent more than half of the electric meters in service, but the growth of demand response has been choppy because of slow adoption of time-of-use (TOU) rates, FERC reported Wednesday.

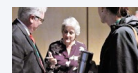
The U.S. had 78.9 million advanced meters operational in 2017, 51.9% of the total of 152.1 million meters and an increase of 5

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Correction

In a [story](#) last week on Ørsted's development of an offshore wind staging area at the former Bethlehem Steel Sparrows Point plant, RTO Insider quoted a Baltimore Sun report that the Maryland Public Service Commission was reconsidering its order granting ratepayer subsidies to Ørsted's Skipjack wind farm because the turbines will be about 200 feet taller than originally planned.

PSC spokeswoman Tori Leonard said the commission opened a comment period on the change, but the [report](#) took her remarks out of context. She said she could not speculate on what action, if any, the commission will take after reviewing the comments. On Dec. 13, the PSC issued an [order](#) establishing an inquiry "to consider the impacts related to the change in turbine size" and scheduled a public hearing for Dec. 18.

gridCONNEXT 2019

Overheard at gridCONNEXT 2019

WASHINGTON — This year's gridCONNEXT — GridWise Alliance and Clean Edge's third annual conference focusing on visions of the grid of the future — delivered the usual goods last week when it came to discussions of the advanced technologies and policies necessary to modernize how the U.S. produces and consumes electricity.

But a grim sense of urgency permeated much of the discussions, as speakers, panelists and audience members repeatedly reminded each other that the world is way behind on its decarbonization goals to limit the rise in the average global temperature to under 2 degrees Celsius, as documented by a U.N. report released last month. (See [U.N.: Decarbonization 'Key' to Cutting Global Emissions.](#))

There was also much discussion about what is occurring around the world, and what the U.S. can do to help lead decarbonization efforts.

Here's some of what we heard Wednesday and Thursday at the Liaison Capitol Hill hotel, just down the street from the U.S. Capitol.

Climate Crisis

The conference occurred during the final days of the 25th U.N. Climate Change Conference of Parties (COP25) in Madrid, which was widely seen as a **disappointment**. The talks ended with a partial agreement to put forward more aggressive emission targets than those of the 2015 Paris Agreement at next year's conference in Glasgow, Scotland.

Multiple news reports described how poorer, developing countries grew frustrated with the talks over the lack of U.S. leadership and left early. Many countries, however, are **waiting** to see if a new U.S. president will lead to a stronger agreement than Paris, which the U.S. will exit on Nov. 4, 2020 — ironically the day after Election Day.



U.S. Sen. Jeff Merkley (D-Ore.) | © RTO Insider

Attendees made clear how they felt about the climate issue when U.S. Sen. Jeff Merkley (D-Ore.) in a keynote speech Thursday mentioned the young Swedish activist Greta Thunberg being named Time's *Person of the Year* and the room erupted

in applause.

But most of the talk about the state of Earth's



GridWise Alliance and Clean Edge's third annual gridCONNEXT conference was held Dec. 11-12 at the Liaison Capitol Hill hotel. | © RTO Insider

climate was more dire.

A report by the U.N.'s Intergovernmental Panel on Climate Change last year found that even limiting global warming to 1.5 C — predicted to occur by 2040 if current trends continue — would still result in catastrophic effects in certain parts of the world, especially affecting developing countries, which are rapidly purchasing coal power technology from China to continue industrializing. (See [IPCC: Urgent Action Needed to Avoid Climate Trigger.](#))

"I think people need to understand the huge difference in just half a degree" Celsius, Melanie Kenderdine, principal for the Energy Futures Initiative (EFI), said Wednesday. "Urgency becomes very important when every 10th of a degree matters. ... I approach our pathways to decarbonization from the position of what we can do now, what can we do consistently, [and] what should we be investing in for the future, because we cannot get there from where we are now. But we need to start now and stop fighting over it."

"Is this the part where I'm supposed to disagree?" joked Rich Powell, executive director of ClearPath, a nonprofit that focuses on conservative policies to address climate change.

Kenderdine — who worked at the Department of Energy in the Obama administration under Secretary Ernest Moniz, the founder and

CEO of EFI — and Powell were speaking on a "point-counterpoint" panel on the best policies to decarbonize the grid. But there was little disagreement or debate among them.

Powell said that for most of the world, "priority 1 is to staunch the bleeding." Through China's [Belt and Road Initiative](#), for example, Pakistan is building subcritical coal plants. "To get yourself out of a hole, first you need to stop digging, and in many parts of the world, we're still digging."

He said the U.S. needs to focus on researching and developing "higher performing, more affordable, flexible clean energy technologies" for not just domestic use but to export to compete with China. Rather than subsidies for specific resources, such as wind and solar, the U.S. should put in place a "technology-neutral" subsidy for any new decarbonizing tech that phases down over time. "If something needs to be permanently subsidized, we can't expect a Nigeria or Indonesia or Bangladesh to permanently subsidize clean energy in their markets," Powell said. "We need technologies that are so good, you could actually imagine them being like-for-like substitutes for subcritical coal in the developing world."

DOE already does "invest a huge amount in basic research," Kenderdine said. "But I'm not sure that basic research is not all that the federal government needs to be doing right now. It needs to ... move into different spaces."

gridCONNEXt 2019

Around the World in Two Days

There was also much discussion on what the U.S. could learn from E.U. countries' actions.



Angelina Galiteva,
CAISO | © RTO Insider

On Wednesday morning, Angelina Galiteva, founder of the Renewables 100 Policy Institute and a member of the CAISO Board of Governors, talked about how Europe is investing not in battery storage but “using their excess capacity from wind [to] make hydrogen,” which can be used to generate electricity — a practice virtually unheard of in the U.S. The next step, she said, is to create renewable natural gas by synthesizing the hydrogen with carbon dioxide in the air.

“Very ambitious, but certainly something that is doable,” she said. The Los Angeles Department of Water and Power, she added, is working to convert the coal-fired Intermountain Power Plant in Utah to a natural gas-fired generator by 2025, and then to hydrogen power by 2045, using a salt mine to store excess fuel. The comment prompted a grunt of laughter from a member of the audience.

“What? Hey! Science fiction, but the future is coming!” Galiteva said.

While Kenderdine and Powell's discussion was cordial, some of their comments provoked Galiteva's ire as she listened in the audience.

“I think we are mercifully moving away from the juvenile discussions of 100% renewables,” Powell said. “In an incredibly rich place like California that appears to have a truly unusual appetite for spending more and more money on their power sector ... it's potentially possible there.”

“I think that the deniers on the one hand of the climate debate and the magical thinkers on the other hand of the climate debate, who say it's all going to be wind and solar in 10 years ... are actually delaying action when action is urgently needed,” Kenderdine said.

Galiteva told them that while she agreed with the general premise that California needs a diverse set of technologies besides wind and solar, such as geothermal and hydro, “we don't need nuclear. Nuclear is being shut down. Our biggest failure was investing several hundred million into upgrading San Onofre only for it to leak.” All the nuclear plants in development in the U.S. have been overbudget and there are risks involved, she noted.

While China and India lead the world in gross carbon emissions, Galiteva noted that the U.S. is the largest emitter per capita. “We don't need to be jumping on [Pakistan]; we need to be helping them stay clean.” She said she grew up in Tanzania, where “the easiest solution was microgrids, solar panels, local resources [and] biofuels. ... Let's do that, and let's not go back into the dangerous technologies that caused Chernobyl, Fukushima [and] Three Mile Island. ... We don't need to, it's expensive and we have good alternatives, so let's make it happen.”

Other speakers also talked about the need to address “energy poverty” around the world, and not just because of climate change.



Power For All CEO
Kristina Skierka | © RTO Insider

Kristina Skierka, who gave the morning keynote address Thursday, is CEO of *Power For All*, which works to deploy decentralized electrification solutions in the fastest, most cost-effective ways in energy-poor communities, mostly in Africa and Southeast Asia. These solutions largely involve microgrids, with rooftop solar.

“It's been really exciting to be here for the last 24 hours and hear Africa or India or developing countries mentioned so consistently,” Skierka said. “I certainly wasn't expecting that.”

She described how people living in villages in Uganda and Nigeria need to walk hours to charge their phones and use hazardous fuels to power their stoves and lamps. “There's almost a billion people without any access to energy, in this day and age where we run businesses from cell phones. And we have all the technology we need. So, this is actually a complete injustice in my view.”

Powell and Kenderdine were critical of California's recent SB 100 excluding new natural gas plants that incorporate carbon capture and sequestration from being considered a clean energy resource. Kenderdine said the state can't possibly meet its goals without CCS.

She brought up a study by EFI that found that Nigeria would become the third most populous country by 2050, and that the world will add 10 cities of 10 million or more people by 2030, with four in Africa. “You're not going to power [these cities] with rooftop solar,” she told Galiteva. “It will make a huge difference in rural Africa, where four hours of electricity means something very different for people's lives.” But these growing cities will still need centralized power plants, and they will need CCS to stay

clean, she said.

The Fourth Risk

John MacWilliams, senior fellow at Columbia University's Center on Global Energy Policy, gave a pre-lunch keynote speech Wednesday in which he detailed the top five risks facing the electric grid.



John MacWilliams,
Center for Global
Energy Policy | © RTO
Insider

The theme of the speech stemmed from Michael Lewis' 2018 book, “*The Fifth Risk*,” which recounts President Trump's transition into office in the early months of 2017 and its effect on the work and ongoing projects of several federal departments and their career employees. MacWil-

liams, DOE's first chief risk officer, featured heavily in the first section of the book, which is about DOE and its many responsibilities, and he gave the book its title and theme. When he told Lewis about the top five risks the U.S. faces, he said the fifth was “project management.”

MacWilliams told Lewis the fourth risk to the U.S. was an attack, either physical or cyber, on the country's electric grid (following a nuclear weapons accident, an attack by North Korea and conflict with Iran). Speaking on Wednesday, he said anthropogenic climate change was the fourth risk to the grid itself, coming after cyberattacks, physical attacks and aging infrastructure.

“Unfortunately, the recent scientific reports ... [are] suggesting that we've actually underestimated the velocity and the magnitude of climate change's negative impacts,” MacWilliams said. He tallied off the more well known impacts in general — including increased storm intensity, rising sea levels and more frequent wildfires. But he said the risks to the electric industry are more frequent and longer droughts causing reduced hydropower capacity, warmer air reducing solar power efficiency, and increased temperatures reducing air density and, thus, wind production.

“Massive investment needs to be made and needs to be made now,” he said.

MacWilliams' fifth risk to the grid? Like project management, it was more mundane, but no less dangerous. “It's the common squirrel. Yes, squirrels.” He said that in 2016, “these furry suicide bombers” were estimated to have caused 3,456 outages in the U.S. ■

— Michael Brooks

FERC/Federal News



Advanced Metering Tops 50% for 1st Time

DR Participation Drops in ISO-NE, PJM

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percentage points from 2016, FERC reported in its 14th annual [report](#) on DR and advanced meters. The annual report was mandated by Congress in the Energy Policy Act of 2005.

Between 2007 and 2017, the number of advanced meters in operation jumped almost 12-fold and now dominate in five NERC regions: Texas Reliability Entity (90%); the former SPP Regional Entity's territory (63%); the Western Electricity Coordinating Council (61%); the former Florida Reliability Coordinating Council's territory (58%); and ReliabilityFirst (55%).

In the last year, FERC reported, utilities in Arkansas, Hawaii, Indiana, Minnesota and New Jersey have proposed or received approval for deploying advanced meters, seeking to improve customer engagement, reduce outage duration and create a foundation for other grid modernization efforts.

Commission staff noted regional differences in advanced meter penetration, with residential customers at higher penetration levels than commercial or industrial customers in most regions. In FRCC, Hawaii, the Midwest Reliability Organization and the Northeast Power Coordinating Council regions, however, advanced meter penetration is highest in the industrial sector.

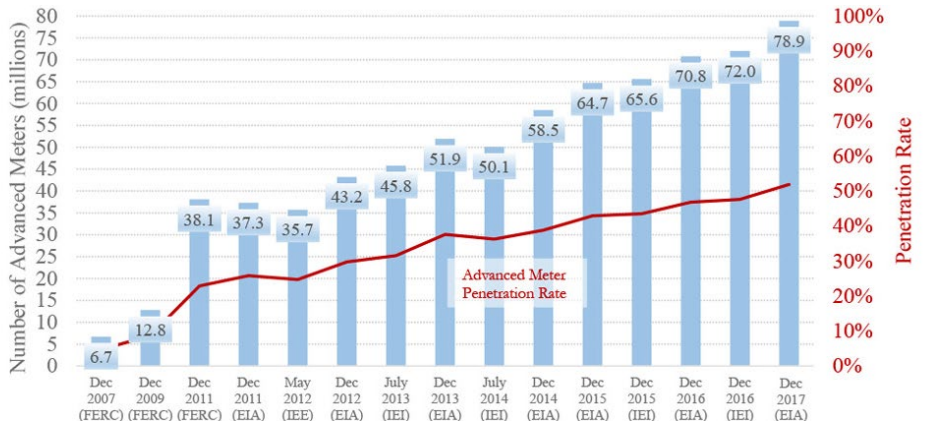
Overall, advanced meter penetration rates for residential and commercial customer classes were at or above 50% for the first time in 2017, while penetration for industrials grew to 44.5%.

TOU Rates

But while advanced metering has become more ubiquitous, policymakers have been slow to embrace the technology's capabilities. The report identifies the "relatively slow implementation of time-based rate programs" as a main cause of lackluster customer participation in DR.

Nationwide, enrollment in TOU rate programs has increased by 42% since 2013, with retail customer enrollment increasing by about 7% in 2016/17. But only 8.5 million customers nationwide have TOU rates, 75% of them in FR and WECC.

Regulators in New York and North Carolina have ordered their utilities to expand time-based rates to reduce peak demand and lever-



Advanced meter growth (2007–2017) | FERC, Energy Information Administration, Institute for Electric Efficiency

age their metering investments. Regulatory commissions in Maryland, Michigan, Minnesota and D.C. have adopted or are exploring time-based rates for electric vehicles to incentivize charging during off-peak hours.

Demand Response

DR statistics showed some advances and some retreats.

Potential peak demand savings from residential programs — the total demand savings that could occur at the system peak hour if all DR was called — dropped by 12% to 31,508 MW from 2016 and 2017, with the biggest reductions in SPP RE (because of lower reported savings by Oklahoma Gas and Electric) and WECC (with large decreases reported by Salt River Project and Southern California Edison). The report said the drop in WECC "likely reflects a shift toward greater demand response participation in CAISO's wholesale market."

DR participation in the wholesale markets increased by about 8% from 2017 to 2018, to a total of 29,674 MW, with the biggest increases in CAISO and MISO but decreases in ISO-NE and PJM, which have tightened requirements for capacity resources. The registration of DR in wholesale capacity, energy and ancillary services markets grew to 6% of peak demand in 2018.

ISO-NE reported a 48% drop in DR participation from 2017 to 2018, which the report noted "coincides with the implementation of ISO-NE's Pay-for-Performance program, which places more stringent requirements on [capacity] resources," including DR.

PJM reported a net decrease of 226 MW

(2.4%) in DR enrollment from 2017 to 2018, which the commission said "may be due to the continued phasing out of legacy demand response products" as the RTO completed its transition to an annual Capacity Performance product with tougher penalties for nonperformance.

ERCOT, MISO, CAISO and PJM each deployed emergency DR in 2019:

- ERCOT reduced load by about 3,100 MW on Aug. 13 and 1,800 MW on Aug. 15 by deploying emergency response service (ERS) after high demand, reduced wind production and generation outages left the region short of its 2,300-MW reserve threshold. (See [ERCOT Survives Another Day in the Roaster.](#))
- MISO activated load-modifying resources on Jan. 30, during a Level 2 energy emergency alert in its Central and North regions. The RTO's Independent Market Monitor predicts DR will be deployed more frequently as the region's capacity surplus decreases. (See [MISO Maintains Reliability Through Arctic Midwest Temps.](#))
- CAISO issued a statewide "flex alert," calling for voluntary conservation on June 11, and some utilities declared critical peak pricing days — boosting prices temporarily — for retail customers several times during the summer.
- PJM called on interruptible customers in the American Electric Power, Baltimore Gas and Electric, Dominion Energy and Potomac Electric Power Co. zones to reduce load on the afternoon of Oct. 2, when the RTO's demand exceeded 126,000 MW, its second-highest October demand on record. ■

CAISO/West News

CAISO Reports Wholesale Prices Way Down in Q3

DMM Cites Lower Gas Prices, Fewer Tx Constraints as Factors

By Hudson Sangree

CAISO's Department of Market Monitoring reported significantly lower wholesale electricity prices in the ISO during the third quarter this year, driven by lower natural gas costs and fewer transmission constraints than in previous quarters.

"Market prices were very low relative to our historical Q3 prices and highly competitive," Amelia Blanke, manager of monitoring and reporting for the ISO's Department of Market Monitoring, told participants on a call Dec. 10. "The big factors that were driving that were gas prices ... higher renewables, particularly hydro, and low congestion."

Average gas prices were down 45% from the third quarter of 2018. That drove the cost of wholesale electricity down from \$68/MWh to \$39/MWh.

"That's a dramatic reduction," Blanke said.

Volatile gas prices have been the major source of price spikes and decreases this year and last.

In the first quarter this year, a huge spike in natural gas costs drove up prices by more than 40% compared with the same period a year before, the DMM said. (See [Gas Spike Drove High CAISO Power Costs in Q1.](#))

Average hourly hydropower production rose by approximately 2,000 MW in July compared to the same month a year before, according to



CAISO's control room in Folsom, Calif. | CAISO

the market [presentation](#).

The comparative lack of major wildfires during the summer and early fall months, the start of California's fire season, meant transmission lines weren't down for extended periods.

"We had relatively few transmission-related outages causing congestion as well as low fires

within Q3," Blanke said.

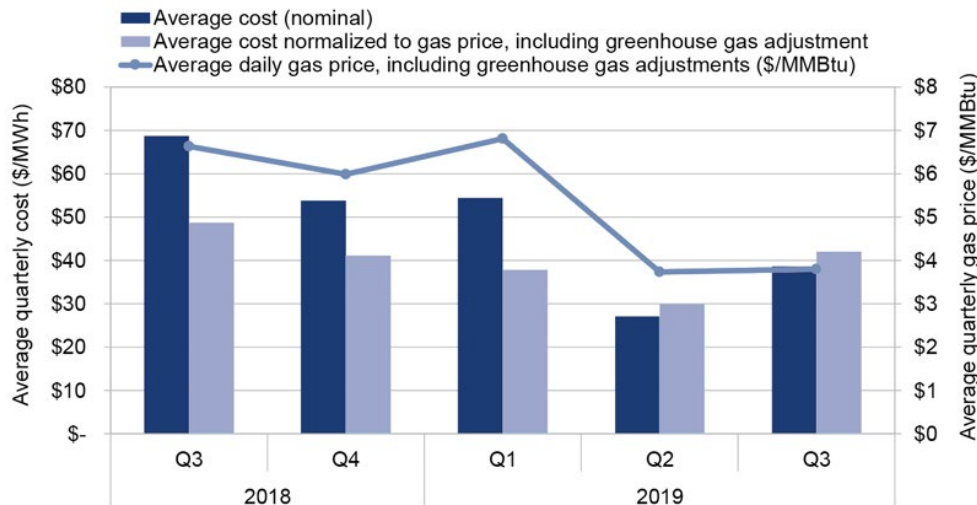
Congestion revenue rights losses for ratepayers also continued to fall because of settlement changes and lower congestion, Blanke said.

Ratepayers have been covering big losses in the CRR auctions since they were implemented in 2009 because of the difference between revenues and payments to CRR holders, the DMM has found. The loss to ratepayers had reached \$860 million as of late last year, the department said earlier this year.

The main beneficiaries have been financial entities that purchase the CRRs, betting on profits.

Changes implemented in January significantly reduced the number and pairs of nodes at which CRRs can be purchased in the auction. They also limited net payments to CRR holders when payments exceed congestion charges collected in the day-ahead market, CAISO said.

Payments have exceeded auction revenues in every quarter this year, including by \$4.1 million in Q3, the DMM reported. In comparison, CRR auction payments outpaced revenues by approximately \$180 million over Q4 2017 through Q4 2018. ■



Total Q3 wholesale costs were down 43% from Q3 2018, 14% after adjusting for gas and greenhouse gas costs. | CAISO

CAISO/West News

PG&E Chapter 11 Plan Won't Do, Governor Tells Judge

Newsom Calls Plan Inadequate to Ensure Public Safety and PG&E's Financial Stability

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Calif. Lawmakers Rush to Pass Utility Wildfire Aid.

"In my judgment, the amended plan and the restructuring transactions do not result in a reorganized company positioned to provide safe, reliable and affordable service to its customers, as required by AB 1054," the governor wrote to Johnson.

PG&E's proposed *reorganization plan*, filed Thursday, would create a trust for wildfire victims funded by \$13.5 billion in cash and stock — the same as a competing plan filed by the utility's bondholders earlier this year as part of their takeover bid. (See [PG&E Reaches \\$13.5B Deal with Wildfire Victims](#).)

But PG&E's plan to exit bankruptcy fails to enact the "fundamental change" Newsom called for after a series of massive blackouts this fall, the governor said in his letter.

PG&E's bankruptcy "punctuate[s] more than two decades of mismanagement, misconduct and failed efforts to improve its safety culture," Newsom wrote. He cited the San Bruno gas pipeline explosion that killed eight people in September 2010 and a series of catastrophic wildfires, including the Camp Fire, which killed 86 people and destroyed the town of Paradise in November 2018.

The utility's decision to shut off power to millions of residents this fall to prevent wildfires "did not restore public confidence," Newsom said. (See [California PUC Orders Investigation of Power Shutoffs](#).)

"For too long, PG&E has mismanaged, failed to make adequate investments in fire safety and fire prevention, and neglected critical infrastructure. PG&E has simply violated the public trust," Newsom wrote. "It is against this backdrop that compliance with AB 1054 must be measured."

Newsom told Johnson he believes a "transformed" PG&E should have a board of directors with a majority of Californians and more members with extensive safety experience.

"To facilitate transformation, the board that will lead the reorganized company should be acceptable to me and approved by the [California Public Utilities Commission] and identified in the amended plan," the governor wrote. "I do not expect that the post-confirmation board of directors will include the current directors."

Those current directors, many from out of state, include Chair Nora Mead Brownell, a former FERC commissioner. She moved to California to assume her role, as did Johnson, the former head of the Tennessee Valley Authority.

Newsom also called for "strict, clearly defined operational and safety metrics to which the reorganized company will be held accountable" and an "escalating enforcement process that provides for greater oversight of the reorganized company."

The governor also repeated his threat of a public takeover should PG&E fall short of state expectations.

"Because of this company's history, the license to operate should be conditioned on it agreeing to this process," Newsom said. "This should also include a streamlined process for transferring the license and the operating assets to the state or a third party when circumstances warrant."

Newsom also said he thinks PG&E's plan puts the company and public in peril because it relies so heavily on borrowing that a reorganized utility may be unable to access the billions of dollars in capital it needs to make safety upgrades.

PG&E and Wall Street Respond

PG&E was expected to move forward with its Chapter 11 plan at a hearing today in U.S. Bankruptcy Court in San Francisco, but Newsom's criticism casts uncertainty on the proceedings. The utility's plan relies on having access to AB 1054's wildfire fund, which will be difficult without the governor's blessing.

AB 1054 requires that the CPUC, headed by Newsom appointee Marybel Batjer, approve PG&E's bankruptcy plan — and the resulting governance structure — before it can take effect.

PG&E has said it hoped the court would confirm its reorganization plan by January to give the CPUC time to approve it. Under AB 1054, the utility must emerge from bankruptcy by June 30, 2020, to have access to the wildfire fund.

In response to Newsom's letter, PG&E issued a statement saying, "We believe our restructuring plan meets the requirements of Assembly Bill 1054 and is the best course forward for all stakeholders. We've welcomed feedback from

all stakeholders throughout these proceedings and will continue to work diligently in the coming days to resolve any issues.

"Looking ahead, we are committed to getting victims paid, continuing to implement changes across our business to improve our operations for the long term and emerging from Chapter 11 as a financially sound utility. In the meantime, we remain focused on delivering safe electric and gas service to 16 million people in Northern and Central California and working hard every day to reduce the ever-growing threat of catastrophic wildfires."

Newsom's letter to Johnson was made public over the weekend and caused PG&E's stock price to tumble Monday morning.

The company's stock had risen to a recent high of \$12.32/share on Dec. 10 on news of PG&E's \$13.5 billion settlement with wildfire victims. News of the governor's letter pushed down PG&E stock to \$8.84/share at the start of trading Monday, though it recovered somewhat during the day's trading and closed at \$9.67/share.

PG&E's stock sunk to a 2019 low of \$3.80/share on Oct. 28 after the blackouts. In September 2017, its stock price had reached a 40-year high of nearly \$70/share.

That was just prior to the catastrophic fires of October 2017 that wreaked havoc on Northern California's famed wine country and started the series of disasters that led to the utility filing for bankruptcy in January, citing more than \$30 billion in wildfire liabilities. ■



PG&E's headquarters in San Francisco | © RTO Insider

ERCOT News



Garza Steps Down as Head of ERCOT Monitor

By Tom Kleckner

AUSTIN, Texas — Beth Garza announced Dec. 10 that she will step down as director of ERCOT's Independent Market Monitor, a position she has held since 2014.

Garza broke the news during her bimonthly report to the grid operator's Board of Directors, telling stakeholders, "My time as director of the IMM has come to an end."

She told *RTO Insider* it became evident to her that Texas' Public Utility Commission, which has oversight of the Monitor, wanted someone else to fill the director's position.

"I support the commission's decision to have the IMM director they want," she said. "I'm disappointed that I'm not the person for that role."

The commission, ERCOT and Potomac Economics, Garza's employer for 11 years, are all parties to the Monitor's contract. However, that four-year contract expires at the end of the year.

The PUC requested proposals for a new con-

tract and is currently in negotiations, with the hope of reaching an agreement before the end of year, said Andrew Barlow, the commission's external affairs director. Potomac is among those bidding for the new contract.

Garza said the PUC would be "willing" to



Beth Garza visits with ERCOT stakeholders following her announcement. | © *RTO Insider*

award the contract to Potomac but with the understanding she needed to be replaced. She hinted at disagreements between the PUC and Monitor.

"There's a built-in tension between the commission's role to provide oversight and direction to the IMM and the IMM's role to provide independent analysis," Garza said. "That tension interacts squarely at the director's position."

ERCOT directed media inquiries to the PUC, which did not offer comment beyond Barlow's.

Potomac and Garza have been fierce advocates of real-time co-optimization. The PUC earlier this year directed ERCOT to implement the market tool, which procures both energy and ancillary services every five minutes to find the most cost-effective solution for both requirements.

Garza said she would remain at Potomac in a nonpublic role.

The D.C.-based firm also provides market monitoring for ISO-NE, MISO and NYISO. ■

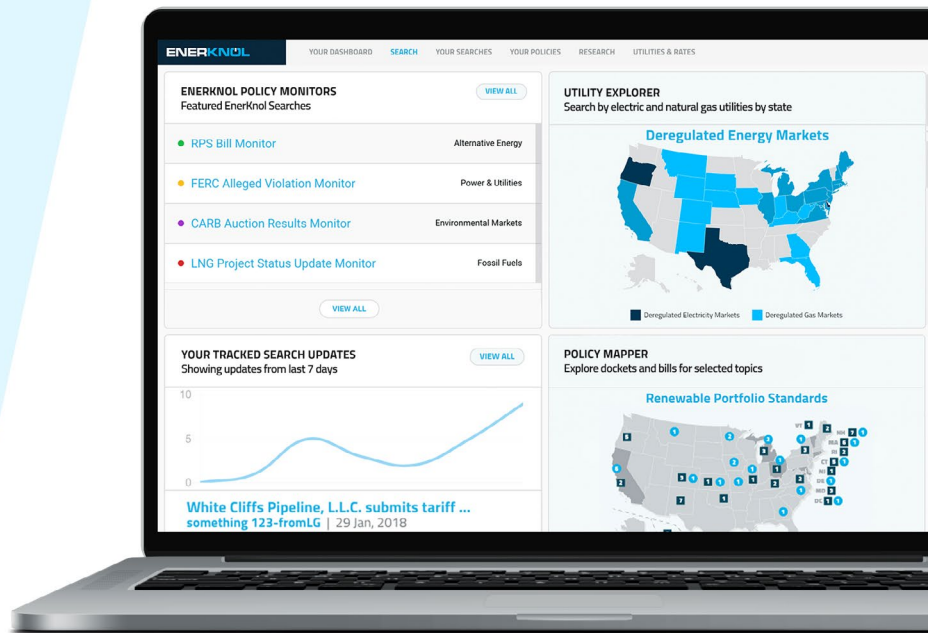
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ERCOT News



ERCOT Board of Directors Briefs

Directors Approve Price Corrections for 21 Operating Days

AUSTIN, Texas — ERCOT's Board of Directors on Dec. 10 approved price corrections for 21 operating days, dating back to September, that resulted from a series of software errors.

The board unanimously approved correcting day-ahead market prices for Sept. 16-23 and real-time prices for Oct. 16-20, 23-24, 26, 29-31, and Nov. 4 and 6.

Staff were able to correct several other operating days that were caught within two business days, as per ERCOT's protocols.

"The volume of price corrections is not acceptable to ERCOT," said Kenan Ögelman, vice president of commercial operations. "We have initiated a review of our practices ... and changes we institute to software, to make sure we deliver to you the highest quality products."

Ögelman said some of ERCOT's vendors have committed to provide a better testing environment, "which is one of the ways we try to deliver quality and an error-free product."

"It's not the only thing," Ögelman said, "but testing is important in delivering the product."

The board determined that real-time prices were "significantly affected" by the software error. The Technical Advisory Committee in September debated "significance" as it applies to pricing errors, as some resettled amounts were in single digits. (See "Staff to Review Pricing Issues Following Software Errors," [ERCOT Technical Advisory Committee Briefs: Nov. 20, 2019.](#))

Ögelman said staff would work with stakeholders to better define the significance of price corrections.

"We believe this would reduce the incidents and the frequency of coming to the board," Ögelman said, noting a protocol change will be likely.

ERCOT issued market notices last week listing the resettled prices for the [Sept. 16-17](#) and the [Sept. 18-19](#) operating days.

Magness, Walker Recount NERC Presentations

ERCOT CEO Bill Magness and Public Utility Commission Chair DeAnn Walker briefed the board on their November presentations to NERC's Member Representatives Committee, saying their update on the ability of the Texas grid operator's energy-only market to meet re-



ERCOT's Kenan Ögelman (right) responds to Director Keith Emery's question as CEO Bill Magness (left) listens.
 | © RTO Insider

cord demand with a single-digit reserve margin was well received.

"It was an education opportunity. There are a lot of people who don't operate markets like this," said Magness, noting they had offered to make the presentations before the summer began. "That's how confident we were."

Walker said NERC CEO Jim Robb came up to her after the presentation and said, "We'll see about next year."

"I was like ... here we go," Walker said, rolling her eyes. "The other fascinating thing is I was there from 1 to 5:30 [p.m.] While they seemed to be concerned about ERCOT, not once did they mention the word 'California.'"

During his CEO [report](#), Magness said staff are projecting a \$33.9 million positive budget variance for 2019, thanks to a \$6 million favorable variance for expenses and an unexpected \$19.2 million in interest income. ERCOT also reported a positive variance of \$29 million in 2018, a result of "aggressive" interest rate assumptions set in 2017.

Magness told the board the variances will be set aside to fund the real-time co-optimization (RTC) project. Staff have said it will take four to five years and upward of \$50 million to implement RTC, which procures energy and ancillary services simultaneously in the real-time market every five minutes to find the most cost-effective solution for both requirements.

The directors will get their first chance to vote on the RTC Task Force's work during their February meeting. The team is developing a set of key principles that will guide the protocol

changes to implement the process.

Magness said the board will get regular updates in 2020 from the RTCTF, the Battery Energy Storage Task Force and on distributed generation resources. ERCOT has temporarily limited interconnections of new DG projects while it develops rules and requirements.

Garza Delivers Final IMM Report

In her last [report](#) to the board, Independent Market Monitor Director Beth Garza said real-time prices have dropped to last year's levels, while natural gas prices have trended even lower, resulting in higher implied heat rates for generating units.

Garza said November's heat rate was about 12 MMBtu/MWh, compared to 2018's final rate of 11.1 MMBtu/MWh. ERCOT's gas prices averaged \$3.22/MMBtu last year but were down to about \$2.50/MMBtu in November, she said.

Real-time prices dropped to about \$30/MWh in November, Garza said. They averaged \$50.90/MWh through October, an approximately 42% increase over last year's average of \$35.6/MWh. Prices averaged more than \$160/MWh in August, thanks to spikes in scarcity pricing.

Garza closed her report by announcing she would be stepping down as the IMM's director. (See related story, [Garza Steps Down as Head of ERCOT IMM.](#))

ERCOT Members Gather for Annual Meeting

Magness welcomed members to ERCOT's annual meeting, held after the board's public

ERCOT News



session, by recounting the market's growth since 2009, when he joined the grid operator as legal counsel. Smart meters have grown seven-fold, wind resources have gone from 91.6 MW to 22,428 MW, and the demand peak is expected to have grown from 63.4 GW to next year's projected record peak of 76.7 GW.

"I remember when we got to 65,000 MW, we were like ..." Magness said, grabbing the podium with both hands and ducking in faux fear. "Now, we're helping ERCOT develop the best market in the world."

Members celebrated the service of CPS Energy's Carolyn Shellman and CenterPoint Energy's Kenny Mercado, who cycle off the board at year-end with a combined nine years of experience. Austin Energy's Jackie Sargent will replace Shellman in the municipal segment, while Oncor's Mark Carpenter will step in for Mercado as the investor-owned utility's segment representative.

Tenaska Power's Keith Emery also joins the board as the independent power marketer's segment representative. He replaces DC Energy's Seth Cochran, who is taking Emery's previous position as an alternate.

State Rep. Dade Phelan keynoted the annual meeting, celebrating what he called "no-opposition Tuesday" — reaching the Dec. 9 filing deadline for next year's elections without an opponent.

As chair of the House State Affairs Committee, Phelan is responsible for legislation affecting the state's utilities. He said when handed the chairmanship, he knew "plenty about ERCOT."

"I was at Disney World [home of Epcot]. I saw all the resorts," Phelan said to laughter.

Board Approves AS Methodologies, 14 Changes

The board unanimously approved staff's proposal to not make any changes to the *methodologies* used to determine 2020's ancillary service quantities and the *representatives* to the 30-person Technical Advisory Committee, which reports and makes recommendations to the board.

Based on feedback from stakeholders, ERCOT will compute responsive reserve service quantities with an updated resource contingency criterion of 2,805 MW.

The board also unanimously approved its consent agenda, which included 10 Nodal Protocol revision requests (NPRRs), a single revision to the Planning Guide (PGRR), two system-change requests (SCRs) and a Verifi-



ERCOT CEO Bill Magness reports to the Board of Directors during its December meeting. | © RTO Insider

able Cost Manual update (VCMRR):

- **NPRR849:** Clarifies the range of voltages at a generation resource's point of interconnection and circumstances for which its reactive capability must be designed to meet.
- **NPRR902:** Defines ERCOT Critical Energy Infrastructure Information (ECEII), adds items that are considered ECEII, specifies the restrictions imposed upon parties that receive or create ECEII and provides a framework for the submission of ECEII to ERCOT.
- **NPRR928:** Defines "cybersecurity incident" and "cybersecurity contact," classifying the former as protected information, and creates a form for notifying ERCOT of a cyber incident. The change also allows ERCOT to notify state or federal law enforcement of a cybersecurity incident and to notify market participants in order to mitigate further effects.
- **NPRR937:** Removes distribution-level and non-settlement metered block load transfers from deployment during Level 2 energy emergency alerts (EEAs).
- **NPRR941:** Creates a 138/345-kV trading hub for the Lower Rio Grande Valley, allowing additional trading liquidity and forward-price discovery in the area.
- **NPRR957:** Establishes the terms "energy storage system" (ESS) and "energy storage resource" (ESR). ESS is the umbrella term for storage assets. ESRs are ESSes eligible to

participate in security-constrained economic dispatch and/or provide ancillary services. ESRs must be registered with ERCOT as both a generation resource and a controllable load resource.

- **NPRR965:** Excludes a quick-start resource's five-minute intervals from the generation resource energy deployment performance calculation when the resource is engaging in the decommitment process or telemetering "shutdown" status.
- **NPRR968:** Updates protocol language to comply with NERC reliability standards **BAL-002-3** (Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event) and **EOP-011-1** (Emergency Operations) by changing the physical responsive capability trigger for a Level 3 EEA to match a new most severe single contingency of 1,430 MW, to be implemented on Jan. 1, 2020.
- **NPRR969:** Clarifies ERCOT is the final authority in qualifying market participants.
- **NPRR972:** Gives ERCOT the authority to decline to open a transaction-adjustment period for a congestion revenue right auction, even if the transactions submitted exceed the limit announced prior to the auction, as long as the number of transactions submitted does not exceed the number that can be processed by ERCOT's systems.
- **PGRR071:** Updates the Planning Guide to align with **NPRR926**, which removed the 90-day period between subsynchronous resonance study approval and initial synchronization and was approved by the board in June.
- **SCR800:** Incorporates DC tie-scheduled ramp into SCED by updating the resource limit calculator's formula to determine the generation-to-be dispatched value and adding a scheduled five-minute DC tie ramp rate (DCTRR). The DCTRR will be calculated from the scheduled systemwide DC tie ramp multiplied by five and a configurable factor to capture the scheduled five-minute ramp.
- **SCR805:** Allows ERCOT to automatically provide certain reports to requesting transmission service providers (TSPs) before they are posted to the market information system public area. TSPs will receive the reports once a formal request has been approved by ERCOT.
- **VCMRR025:** Removes the ESR definition from the manual, aligning it with NPRR957. ■

— Tom Kleckner

ERCOT News



Texas PUC Briefs

Commission Denies Extension Request in EPE Acquisition

The Texas Public Utility Commission last week denied the city of El Paso's request for an extension of settlement negotiations, maintaining today's deadline for a stipulated agreement in the proposed \$4.3 billion acquisition of El Paso Electric ([49849](#)).

The city asked for a 30-day continuance as it ponders whether to municipalize the utility. The City Council plans to discuss the issue during a meeting today.

"I welcome the city's participation, but I hope they focus their minds if they're really interested in municipalization," Commissioner Arthur D'Andrea said during the PUC's Dec. 13 open meeting. "I think it's important that state and local governments stay shoulder to shoulder. I am very respectful of what the city is asking, but the train is moving."

Eversheds Sutherland's Lino Mendiola, who represents J.P. Morgan Investment Management's Infrastructure Investments Fund (IIF), said he didn't anticipate any "major issues" in the settlement discussions. He said he is hopeful of an uncontested settlement, "but realistically, one or two parties may not join." (See [Parties near Agreement on El Paso Electric Purchase.](#))

Mendiola said he may ask for a couple of days' extension once the city's direction becomes clearer.

"They do continue to be aligned with us, as far as the settlement agreement," he said.

IIF and Sun Jupiter Holdings, a limited liability company formed to enter into the merger agreement, announced their proposed purchase of EPE in June.

The PUC has scheduled a hearing on the merits for Jan. 7-8.



Lino Mendiola, IIF counsel, updates the commission on the El Paso Electric acquisition.



Left to right: Commissioners Shelly Botkin, DeAnn Walker and Arthur D'Andrea confer.

Lubbock Asks for Revision to Settlement

The city of Lubbock offered during oral arguments to put up \$2.4 million to help cut the cost of its late it made to an agreed transmission route for one of the projects necessary to integrate Lubbock Power & Light's load into ERCOT ([48909](#)).

Under the terms of a settlement with intervenors, the route would have crossed one of the lakes that provides the city's drinking water. The revision adds 2 additional miles of 115-kV line at a cost of about \$8 million.

The city urged the commission to approve the remainder of the unopposed route when it next considers the issue during its Jan. 16 open meeting.

The project is one of several needed to move 470 MW of Lubbock's load from SPP to ERCOT. (See "LP&L Lines for ERCOT Integration near Final Approval," [Texas PUC Briefs: Sept. 12, 2019](#).)

PUC to Intervene in 2 SPP Dockets at FERC

Chairman DeAnn Walker notified her fellow commissioners that the PUC will intervene in a pair of FERC dockets involving SPP.

[ER20-453](#) is SPP's request to eliminate transmission revenue credits as an option for upgrade sponsors' compensation under Attachment Z2 of the Tariff.

In docket [ER20-418](#), SPP asked to unbundle the Tariff's Schedule 1-A rate to change the allocation of services costs to reflect the increased revenue requirements that accompanied the growth of SPP's Integrated Marketplace.

Transmission customers would continue to pay administrative fees based on transmission usage while market participants would also pay administrative fees based on their settled market transactions.

The commissioners recently agreed to delegate the authority to determine FERC interventions to the PUC's RTO representatives.

Commission Approves Rate Recovery, Fees

In other business, the commissioners:

- Approved a [voluntary mitigation plan](#) for Luminant Energy. Under state law, adherence to the plan will provide Luminant an "absolute defense" against allegations of market power through economic withholding ([49858](#)).
- Agreed to a \$145,000 administrative fee against retail electric provider XOOM Energy Texas over invalid door-to-door enrollments ([50102](#)).
- Granted a request by CenterPoint Energy and parties to its rate case to defer regulatory consideration in hopes a settlement can be reached ([49421](#)).
- Authorized adjusted transmission cost-recovery factors for EPE ([49148](#)), Texas-New Mexico Power ([49586](#)) and AEP Texas ([49592](#)); an additional \$6.4 million in under-recovered costs for Oncor's deployment of its advanced metering system ([49721](#)); and a \$16.2 million refund by Southwestern Public Service for over-collected fuel costs ([49690](#)). ■

— Tom Kleckner

ISO-NE News

FERC OKs ISO-NE RFP Rules

Rules Set for December Solicitation

By Rich Heidom Jr.

FERC on Dec. 10 approved Tariff revisions refining ISO-NE's rules for conducting competitive transmission solicitations, a process that may be tested for the first time this month (ER20-92).

The changes increase the information to be provided by transmission developers and provide more detail on the evaluation criteria the RTO will use.

ISO-NE plans to issue its first competitive transmission solicitation — for solutions to non-time-sensitive needs identified in its 2028 Boston Needs Assessment Update and Needs Assessment Addendum — as soon as this month. The request for proposals will address transmission facility overloads under peak load conditions in the Boston area and system restoration concerns with the underground cable system in the area. (See "Needs Update Reduces Thermal Violations," *ISO-NE IDs \$8.7M Tx Fix for Boston Area.*)

Two-step Process

The RTO will use a two-step process, with

developers first submitting plans describing a project's interconnection to the existing transmission system, estimated costs, financing and any cost containment measures.

ISO-NE will review the proposals, with input from the Planning Advisory Committee, to ensure they address the identified needs and are feasible and cost competitive. The RTO will then identify finalists who will be required to provide additional details to guide its selection of the preferred solution.

The RTO also created a new *pro forma* agreement between it and the selected qualified transmission project sponsor spelling out the development, design and construction of the project, including project milestones, status reports and cost-containment measures. The RTO's agreement is modeled on the designated entity agreement PJM uses in its competitive transmission solicitation process.

The changes also include a clause allowing the RTO to cancel an RFP if new assumptions modify or eliminate the identified need.

Outside the Scope

The commission dismissed as outside the

scope of the proceeding the Connecticut attorney general's protest arguing that while the RTO's proposals are an improvement, they are insufficient to ensure truly competitive procurements and thus not compliant with Order 1000. The AG contends the process does not adequately consider non-transmission alternatives (NTAs), such as battery storage and transmission line ratings, and asked the commission to order RTOs to report annually or biannually on their adoption of NTAs or other grid management options.

The Massachusetts attorney general asked FERC to determine ways to improve the ability of NTAs to compete with traditional transmission solutions.

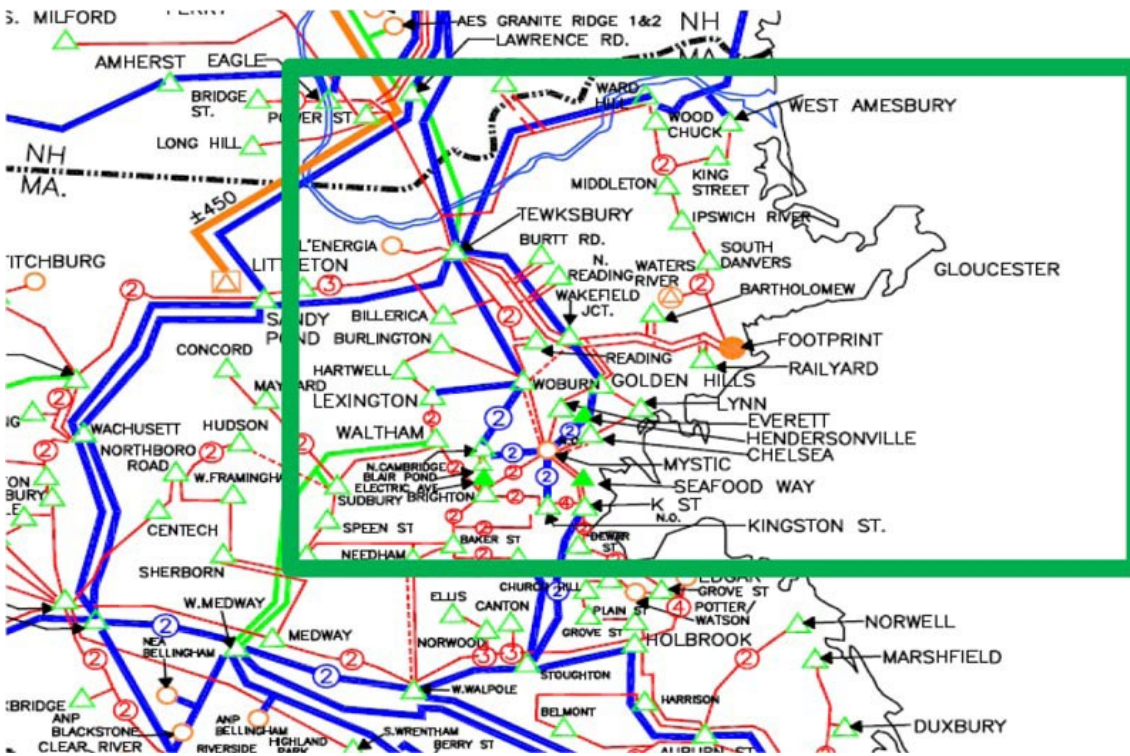
Transmission developer New England Energy Connection (NEEC), an affiliate of LS Power, asked the commission to encourage ISO-NE to establish a stakeholder process to address broader issues in the competitive solicitation process after the 2019 RFP.

NEEC *said* an "over-reliance on the immediate-need designation" is a significant factor in the lack of competitive windows in New England to date and that the region should consider replacing its sponsorship model with competitive bidding.

FERC said the Massachusetts and Connecticut proposals were outside the scope of the proceeding because the proposed Tariff changes don't address NTA participation.

"Although we find that NEEC's request to encourage ISO-NE to establish a stakeholder process to address broader issues in the existing transmission competitive solicitation process is also outside the scope of this proceeding, we note ISO-NE's intention to hold stakeholder discussions following the 2019 RFP to consider additional changes to the competitive solicitation process," FERC wrote.

ISO-NE spokesman Matt Kakley said the RTO does not have a firm date for release of the RFP, "though we are hoping to get it out this month." ■



115-kV transmission and above in the Boston area | ISO-NE

ISO-NE News

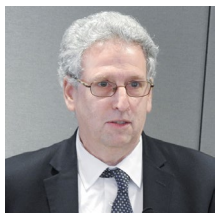
Overheard at 164th NE Electricity Restructuring Roundtable

Massachusetts Leads in DER Policy

BOSTON — An overflow crowd of more than 200 people attended Raab Associates' 164th New England Electricity Restructuring Roundtable on Friday to discuss state and federal policy around wholesale electricity markets and distributed energy resources.

Here is some of what we heard.

Public Policy Mix



FERC Commissioner Richard Glick | © RTO Insider

Climate change “is playing a role in almost all our decision-making” and has contributed to making discussion at FERC “a little more contentious than it has been,” said Commissioner Richard Glick, the sole Democrat on the commission.

“But I don’t know if we’re going to put the genie back in the bottle ... in large part because these are important issues that people have strong feelings about on all sides of the topics, and a lot is at stake,” Glick said.

Generators are contending that states’ renewable energy policies are having a negative effect on capacity markets, Glick said, adding that issues come up frequently in the regions with mandatory capacity markets, such as New England, New York and PJM.

Generators argue that state-sponsored resources are suppressing energy prices, but the states counter that the market is seeing low prices for a variety of reasons, principally low natural gas prices and the increasing penetration of zero-marginal-cost energy resources, he said.

“States have a legitimate interest in pursuing the resources they want, particularly in this time, when we don’t have a federal government very active on greenhouse gas emissions,” he said.

“I’m not sure FERC has a role in the debate,” Glick said.

“If you look at the Federal Power Act, it’s very clear ... the law says that FERC doesn’t have authority over generator resource decision-making; it’s up to the states,” Glick said. “Whether it’s promoting renewable energy, or nuclear power, or coal, whatever it is, it doesn’t matter to me.



The 164th New England Electricity Restructuring Roundtable took place in Boston on Dec. 13. | © RTO Insider

“Secondly, we’re drawing the line around subsidies when we have these debates about wholesale markets and state policies, and they were looking at more recent subsidies, whether it be nuclear [zero-emission credit] programs or state renewable energy programs,” he said. “If you’re going to address subsidies, where do you draw the line?”

Regarding New England and its concern about natural gas supply constraints on very cold days, Glick said, “We’re going back to the issue of attributes, of saying, ‘Let’s pay this generating plant because it has these attributes.’ I would prefer that the commission and the various RTOs around the country would say ... ‘Why don’t we pay the generating plants for the value of the services or benefit they actually provide, not just for sitting around?’”

Tom Michelman, senior director of Sustainable Energy Advantage, asked who can push if there is a delay at the commission in dealing with a docket: “How much power does an individual commissioner have?”

“The chair has enormous authority,” Glick said. “First of all, the chair controls the agenda, so Chairman [Neil] Chatterjee doesn’t have to bring up anything that he doesn’t want to bring up, unless there are certain matters that have to be dealt with statutorily within 60 days, but that’s a relatively small number of issues.”

Peter Fuller of Autumn Lane Energy asked about a hypothetical case of states agreeing on regional carbon pricing: How would FERC respond?

Glick declined to speculate, but he did say that RTOs would have a stronger chance of succeeding if they made a filing under FPA Section 205 rather than Section 206, because under the former, the commission must only determine that the new scheme is just and reasonable, while under the latter it must determine that the existing set-up is unjust and unreasonable.

DER Policy and Regulation



Massachusetts DOER Commissioner Judith Judson | © RTO Insider

Speaking on her last day as commissioner of the Massachusetts Department of Energy Resources (DOER) after four years in office, Judith Judson **highlighted** the growth in solar, from practically zero in the state a decade ago to 2,537 MW installed and operating today, with another 1,029 MW approved.

Solar’s success has bred interconnection woes, with developers in many parts of the state facing costly transmission and distribution infrastructure upgrades in order to connect their projects to the grid, Judson said.

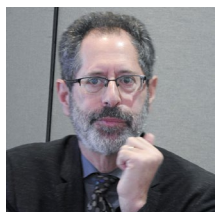
Judson also touted the state’s Clean Peak Standard, the first in the nation. The law, passed in September last year (**H4857**), requires DOER to set a baseline minimum percentage of retail electricity sales to be met with clean generation resources or load reductions during seasonal peak periods. (See **Mass.**

ISO-NE News

Inaugurates Clean Peak Standard.)

“The Clean Peak Standard really is designed to be able to utilize clean energy that’s generated during times of less demand and move those into the peak hours,” Judson said. “And that is how we’re going to be able to integrate and reliably depend on more and more renewables on our system.”

“The Clean Peak program is about addressing peak demand, but what’s exciting about it is it creates a financing model and monetizes the benefits of flexibility,” she said.



Jonathan Raab, Raab Associates | © RTO Insider

Raab Associates’ Jonathan Raab, who conducted the round-table, asked, “How can states better align investments in the grid of the future with our clean energy goals? What are the types of T&D upgrades that we should be socializing?”

“The question comes to me as what is a customer,” Judson said. “It used to be that a customer was load; it was very clear. Now, a customer may be load, it may be generating, it could have all different uses of the system but still be a customer. ... Certainly when we think about socializing costs, we have to make sure that it’s fair and equitable for all customers.”

Power is Information

Raab asked whether dynamic pricing should be part of the solution to integrating DERs, such as with advanced metering infrastructure (AMI) or other technologies.

“AMI is an expensive endeavor,” said Penni McLean-Conner, chief customer officer for

Eversource Energy. “Advanced metering functionality is needed surgically, no doubt about it. As we think about distributed energy resources, we need visibility into the edge of the grid, and we need capability in understanding the power flows.”

She noted that most AMI installations do not have time-varying rates associated with them because New England customers don’t have enough discretionary load to have a “meaningful impact” on those rates.

“At Eversource, we’re also having discussions about the latency of time-varying rates, meaning that we will see pretty rapid dynamic shifts in the peak hours as we put in more resources at the edge of the grid, such as storage combined with PV,” McLean-Conner said.

She suggested that incentives based on rebates that can be readily changed might be a more dynamic solution.

“Because when you build it into rates, they’re going to be latent. And we’re already seeing this in California, that they will be incenting the behaviors at the wrong time,” she said.

Henry Yoshimura, director of demand resource strategy at ISO-NE, said that increasing penetration of DERs means the bulk power system becomes less predictable and power flows more variable.



Penni McLean-Conner, Eversource | © RTO Insider

“If we operated DERs in the distribution system in the same way we operate resources generally, we would model the system so that we know exactly what available capacity is on the system at any moment, which includes knowing what the loads are and what the other resources are doing on each segment of the system,” Yoshimura said. “We do that in transmission, [and] we would need to do that in the distribution system, which is way bigger in terms of length and complexity. It’s designed differently, as well.”

Yoshimura called the effort a “daunting” but “solvable” task.

“It is critical that policymakers identify the entity responsible to solve this problem,” he said. “I struggle with dispatch ... but what is essential, whether we’re in the dispatch regime or accounting for customer behavior, is that we have time-based prices that follow the marginal cost of service in real time. Otherwise, there’s no signal to the customer to know when it’s best to charge or discharge their battery, and the same holds for demand response.”



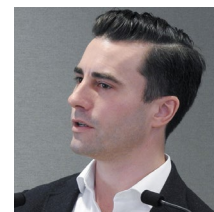
Janet Gail Besser, SEPA | © RTO Insider

Janet Gail Besser, managing director of regulatory innovation and utility business models at the Smart Electric Power Alliance, said her two areas of responsibility are closely linked.

“You can’t expect utilities to make investment in new technologies and operating practices without evolution in the regulatory framework, which has to drive where we want them to be making that investment,” Besser said. Massachusetts has been leading in some areas, such as performance-based ratemaking, she said.

Christopher Rauscher, Sunrun’s director of policy and storage market strategy, agreed.

“The bring-your-own device program here, we are proposing that now in California,” Rauscher said of Sunrun’s programs with



Christopher Rauscher, Sunrun | © RTO Insider

Green Mountain Power and National Grid in which it works with customer-sited solar and storage resources. “It’s really amazing that California is one to two years behind Massachusetts in DER policy, so it’s an exciting time to be here.” ■



Left to right: Michael Stoddard, Efficiency Maine; Christopher Rauscher, Sunrun; and Philip Martin, Enel X. | © RTO Insider

— Michael Kuser

ISO-NE News

NEPOOL Markets Committee Briefs

New ESI Impacts Analyses

The New England Power Pool Markets Committee continued its crammed schedule to complete the Energy Security Improvements (ESI) proposal at its expanded two-day meeting last week and entertained the possibility of adding a third day to its monthly meetings through March 2020.

ISO-NE has four months to file a long-term fuel security mechanism under FERC’s second extension since its original order last July (EL18-182). The new deadline is April 15, 2020, and the Participants Committee likely will vote on the new market construct at its April 2 meeting. Stakeholders will learn of any schedule additions by the first week of January.

ISO-NE economist Chris Geissler and Todd Schatzki of Analysis Group presented new central case results.

“To date, we have been successful at implementing all the enhancements we had planned, and the good news is that we plan no further enhancements,” Schatzki said. “There may be some small changes to considering how resources on the margins participate, but no major changes.” [Although NEPOOL rules prohibit quoting speakers at meetings, those quoted in this article approved their remarks afterward to amplify their presentations.]

Planners are depending on new revenue

streams, such as day-ahead options and forecast energy requirement (FER) payments to motivate generators to stock up on fuel oil or LNG for the winter or arrange for barge or truck delivery of fuel during pipeline constraints.

The analysis found that load costs will increase under ESI versus current market rules under all three winter scenarios evaluated because of FER payments and the net cost of day-ahead energy options.

In the “frequent” stressed conditions scenario – based on the winter of 2013/14, with its multiple, short cold snaps – total payments by load would increase 10.7% to \$4.58 billion, with \$480 million in FER payments and \$267 million in day-ahead option payments partially offset by a \$144 million reduction in payments for energy and real-time operating reserves.

Under the “extended” stressed conditions case, based on 2017/18, with its one, long cold snap, load costs would increase \$183 million (6.3%) to \$3.075 billion.

The “infrequent” stressed conditions case, based on 2016/17, showed \$1.83 billion in load costs, a \$73 million (4.1%) increase.

“There’s just more dollars in the market under ESI to maintain fuel inventory than there are under current market rules,” Schatzki said.

Schatzki said he will brief the committee in

January on how the incentives will work to encourage increased fuel procurements.

“If our meteorologists and the weather services we subscribe to tell us we’re in for a really cold February, then we’re probably going to take extra steps,” said Brett Kruse, vice president of market design at Calpine, describing how his company thinks about winter fuel supplies under the current market design. “Conversely, there are some times – it happened here not too long ago – where you get enough freezing on the rivers and the ice-breaker breaks down, and then you could have a problem getting oil.”

“The more you stock up, the more acorns you have left over at the end of winter,” Schatzki said.

Market Design

ISO-NE principal analyst Andrew Gillespie presented a memo on how ESI will improve the markets’ ability to reflect scarcity and provide an alternative to out-of-market contracts such as the retention of the Mystic generating plant. He followed that with a summary of the market design and a discussion of what officials call the “misaligned incentives problem.”

Gillespie also continued the discussion on setting the strike price for day-ahead energy call options and whether it can be “shaped” across the day to minimize the number of hours in which it is less than the day-ahead energy price. The alternative would be two prices, one for all peak hours and a second for off-peak hours. He also discussed applying a “bias” to adjust the strike price reduce the number of hours with a close-out charges to be applied during settlements.

The RTO is asking the Analysis Group to quantify the impact of applying a bias would have on the incentives to the marginal unit for options.

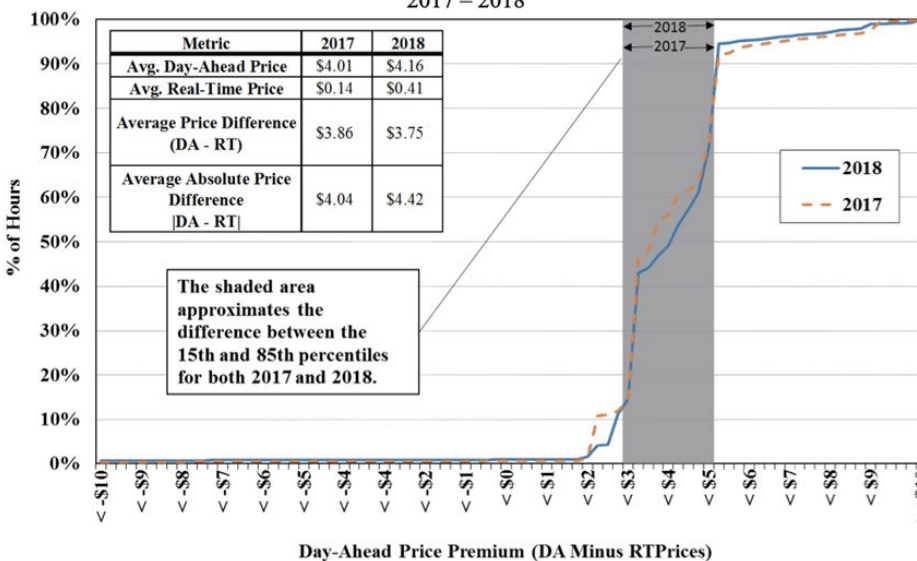
“This presentation is not an ISO proposal,” Gillespie said. “The ISO is evaluating these issues, and today we are sharing our current thinking and looking for feedback.”

FirstLight Proposal

Tom Kaslow of FirstLight Power Resources presented his company’s position that the strike price – intended to estimate the marginal price of energy to meet the next day’s forecasted load plus operating reserves – needs to vary by hour, just as marginal energy prices do.

Estimating the strike price too low could be

Figure A-16: Day-Ahead Premiums for 30-Minute Reserves in West New York 2017 – 2018



Load costs will increase under ESI versus current market rules under all three winter scenarios evaluated, according to Analysis Group. | Analysis Group

ISO-NE News

inefficient and result in higher-than-needed day-ahead reserve costs, he said, while setting the price too high could mean little connection between the resources providing energy and those acting as reserves in real time.

Because the region lacks an hourly futures market, Kaslow said, the hourly day-ahead LMPs for two days prior (day T-2) could be used to set strike prices.

Part of the day-ahead energy price would be reflected in the FER payment (FERP); thus, the hourly day-ahead reserve strike price would be the day-ahead LMP plus the FERP rate for day T-2 in that hour.

Energy Options vs. DA Reserves

One of ISO-NE's lead analysts, Hanhan Hammer, [presented](#) on why the RTO is proposing to settle day-ahead reserve awards as options on real-time energy, rather than as a forward sale of real-time reserves. "Unlike the day-ahead energy market designs, the reserve market designs of the nine ISOs/RTOs are not standardized," Hammer noted.

The RTO's proposal will mean stronger incentives to arrange fuel than the alternative, Hammer said, because the day-ahead energy options tie financial consequences to the price of energy in real time, addressing the "mis-aligned incentives."

"Seven out of the nine ISOs and RTOs [in North America] have reserve awards in their day-ahead markets," Hammer said, the exceptions being ISO-NE and Ontario's Independent Electricity System Operator. Some ISOs and RTOs co-optimize energy and reserves in the day-ahead market, and some procure reserves separately from energy.

Geissler looked at how total consumer costs

	DA reserves?	DA co-optimization?	DA reserve offers?	RT reserve offers?	DA reserves settlement rules	
					Against RT RCP?	Other DA reserve penalties?
ISO-NE	No	No	No	No	No	No
NYISO	Yes	Yes	Yes	No	Yes	No
IESO	No	No	No	No	No	No
PJM	Yes	No*	Yes	No*	No*	No
MISO	Yes	Yes	Yes	Yes	Yes	Yes
ERCOT	Yes	Yes	Yes	No	No	No
SPP	Yes	Yes	Yes	Yes	Yes	Yes
AESO	Yes	No	Yes	Yes	No	No
CAISO	Yes	Yes	Yes	Yes	Yes	Yes

*PJM reflects current rules; PJM has new reserve design rules pending at FERC

Source: ISO-NE research, IRC surveys, and direct discussions with individual ISOs/RTOs

Seven of the nine ISOs and RTOs in North America have reserve awards in their day-ahead markets, the exceptions being ISO-NE and Ontario's IESO. | ISO-NE

and producer revenues would change with a day-ahead forward reserves design.

The analysis studied day-ahead and real-time reserve prices from NYISO and MISO to assess potential market impacts. The data showed NYISO has higher reserve prices in the day-ahead than in real time, as its design allows participants to submit priced offers for reserves in the day-ahead market but does not allow priced real-time offers. Average prices for 30-minute reserves in West New York were \$4.16/MWh in the day-ahead and 41 cents/MWh in real time in 2018.

Applying NYISO's day-ahead premiums to New England reserve needs pencils out to an annual increase in reserve costs of \$61.6 million.

"This is meant to be illustrative rather than in any way definitive," Geissler said. "I would urge caution about taking any specific number like \$62 million and saying this is what it's going to cost, because that's a ballpark figure."

Geissler also [presented](#) on how ESI motivates resource owners to make cost-effective fuel arrangements before the day-ahead market is cleared, and does so without a forward market component.

FCA 15 Bid Submittal Processes

The RTO's assistant general counsel for markets, Chris Hamlen, presented a [memo](#) outlining potential changes to the Forward Capacity Auction 15 delist bid submittal process to accommodate the timing of NEPOOL votes

Total Payments by Case (\$ Million)

Product / Payment		Frequent Stressed Conditions			Extended Stressed Conditions			Infrequent Stressed Conditions		
		CMR	ESI	Difference	CMR	ESI	Difference	CMR	ESI	Difference
Energy and RT Operating Reserves	[A]	\$4,136	\$3,992	-\$144 (-3.5%)	\$2,892	\$2,613	-\$279 (-9.6%)	\$1,756	\$1,727	-\$28 (-1.6%)
DA Energy Option										
DA Option Payment			\$267			\$172			\$63	
EIR			\$0			\$4			\$1	
RER			\$88			\$53			\$21	
GCR10			\$119			\$77			\$27	
GCR30			\$59			\$38			\$14	
RT Option Settlement			-\$158			-\$88			-\$35	
Net DA Ancillary	[B]		\$108			\$84			\$28	
FER Payments	[C]		\$480			\$377			\$73	
Total Payments	[A+B+C]	\$4,136	\$4,580	\$444 (10.7%)	\$2,892	\$3,075	\$183 (6.3%)	\$1,756	\$1,828	\$73 (4.1%)

NYISO's design allows participants to submit priced offers for reserves in the day-ahead market but does not allow priced real-time offers. | NYISO

ISO-NE News

on ESI and the possible early sunset of the inventoried energy program.

Internal Market Monitor Jeff McDonald and Mark Karl, vice president of market development and settlements, wrote the memo, which notes that FCA 15 retirement and permanent delist bids are due March 13, 2020, a month before the ESI filing deadline. ISO-NE will request FERC approval to waive the FCA 15 deadline if the ESI market design is revised afterward.

If the waiver is granted, and a “non-clerical” revision is made to the ESI market rules after the delist bid deadline, participants that have submitted retirement or permanent delist bids will be given the option to update their bids or withdraw them.

Either option will need to be exercised within a week following the Participants Committee’s April 2020 vote on the market rules, in order to afford the Monitor time to complete its review within the Tariff-prescribed deadlines. The RTO intends to file this waiver request in early January 2020 and will request an order prior to the March 13 deadline.

NESCOE Intent on EER Revisions

The New England States Committee on Elec-

tricity’s director of analysis, Jeff Bentz, refined his [presentation](#) and answered stakeholder questions from last month’s MC meeting on NESCOE’s proposal for Tariff revisions regarding energy efficiency resources and related capacity obligations during scarcity conditions.

FERC ruled in May 2014 that energy efficiency capacity performance payments should be calculated only for capacity scarcity conditions occurring during peak hours ([ER14-1050](#)).

Bentz said that NESCOE still intends to propose a Tariff change that would implement Shaping Option A from the Demand Resources Working Group’s final [report](#) issued in July.

“We really do think that Shaping Option A better aligns with the implementation of ISO New England’s original [Pay-for-Performance] design, which is a no-excuses concept,” Bentz said.

Order 841 Compliance

Day Pitney attorneys Sebastian Lombardi and Rosendo Garza briefed the MC on FERC’s ruling conditionally accepting ISO-NE’s Order 841 compliance filing ([ER19-470](#)). The commission required additional changes, saying the RTO’s Tariff revisions hadn’t adequately dealt with the application of transmission charges

to electric storage resources. (See [Storage Plans Clear FERC with Conditions](#).)

The RTO’s next compliance filing is due Jan. 21, with requests for rehearing on the FERC order due Dec. 23. NEPOOL plans to request an extension on the filing; absent an extension, the proposed market rule changes would be voted on by the MC at its Jan. 14-15 meeting.

Forward Certificate Transfers in GIS

The MC agreed to a request from NEPOOL Counsel Lynn M. Fountain to instruct the Generation Information System Operating Rules Working Group to consider changes to the GIS operating rules. Fountain said the changes are a “way of making a manual system right now a little less so.”

Among other things, the changes would allow batch uploading for forward certificate transfers and improve data sorting.

Officer Changes

The committee re-elected Vice Chair Bill Fowler, president of Sigma Consultants, to continue in his role in 2020. No other members of the committee expressed an interest to be considered as a candidate. ■

— Michael Kuser

ERO Insider

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MISO News

MISO Board OKs \$4 Billion MTEP 19

By Amanda Durish Cook

INDIANAPOLIS — MISO’s Board of Directors on Thursday unanimously approved a \$4 billion transmission portfolio consisting of 480 projects.

The 2019 MISO Transmission Expansion Plan (MTEP) was passed to the board by the Planning Advisory Committee without any suggested edits. (See [MTEP 19 Advances to MISO Board Committee](#).)

“This is the largest MTEP cycle to-date, excluding MISO’s 2011 [multi-value project] portfolio,” Executive Director of System Planning Aubrey Johnson said during a Dec. 10 meeting of the board’s System Planning Committee.

MTEP 19 Highlights

Six of MTEP 19’s top 10 most expensive projects are clustered near the Detroit and St. Louis areas.

Johnson said the Detroit area is experiencing enough load growth to warrant MTEP 19’s most expensive project, which includes several miles of aboveground 230-kV and underground 120-kV circuits and a pair of substations at \$139 million.

ITC Transmission said several Detroit-area 120-kV underground cables are projected to overload in the future and the project will allow connection with DTE Electric loads in the city.

Other than the Detroit projects, nearly all the priciest projects are needed for reliability purposes.

MTEP 19 contains MISO and PJM’s first inter-regional market efficiency project (MEP). The \$21.6 million reconstruction of the 138-kV Michigan City-Trail Creek-Bosserman line in northwestern Indiana is wholly located inside PJM, but 11% of its costs will be allocated to MISO. (See [MISO, PJM Poised for 1st Major Inter-regional Project](#).)

However, formal approval of the interregional project must wait until at least March, along with MISO’s first-ever storage-as-transmission asset (SATA) project. The RTO has yet to finalize rules to govern either project.

In the case of the MEP, MISO is still working on a cost allocation ruleset that can win FERC approval. (See [MISO Makes U-turn on Cost](#)

[Allocation Policy](#).) American Transmission Co.’s Waupaca-area energy storage project meant to ease reliability issues in central Wisconsin is likewise on hold because the RTO doesn’t yet have FERC approval on its proposed SATA rules. (See [Despite Pushback, MISO Pursuing TO-only SATA](#).)

MISO on Thursday filed a plan with FERC to permit storage facilities to provide transmission services ([ER20-588](#)). The RTO characterized the proposal as a “fundamental first step forward for the use of storage resources to maximize the reliability and efficiency of the electric system.”

The SATA plan would require that the assets be used only for transmission purposes, barring them from simultaneous participation in energy markets, but the 800-page filing contains a promise that MISO and its stakeholder community would soon begin exploring how storage devices could serve both transmission and market functions.

“Accepting these proposed revisions will allow for the immediate adoption of storage facilities to serve a transmission function in MISO. And in early 2020, MISO and its stakeholders

Rank	Project ID	Project Name	Type	Estimated Cost (\$M)
1	15981	Detroit Cable Project	Other-Load Growth	\$139
2	11966	New Gateway 345/138 kV Substation	Other-Reliability	\$115
3	17765	New Brandenburg Steel Mill Load Interconnection	Other-Load Growth	\$80
4	17044	Sellers Leblanc Project (SLP)	Baseline Reliability	\$70
5	9857	New Jarvis 345/138 kV Substation	Baseline Reliability	\$62
6	11933	Expand Prairie State 345 kV Substation for BAAH Configuration	Other-Reliability	\$60
7	13932	Catlett Road - South Canton 230 kV: New line	Other-Reliability	\$59
8	12139	Jefferson Parish Area Reliability Plan Phase 2	Baseline Reliability	\$53
9	17164	Romeo 345 kV Project	Baseline Reliability	\$52
10	11948	New Miles 345/138 kV Substation	Other-Reliability	\$45



Top 10 most expensive MTEP projects | MISO

MISO News



intend to begin the process of addressing the issues related to using storage as both transmission assets and to provide market services,” the RTO told the commission.

Disagreement on Michigan Interconnection Project

Like last year, a stakeholder is once again disputing a small Michigan interconnection project for resembling distribution.

DTE Energy has *said* the \$8.6 million, 120-kV city of Croswell interconnection project in eastern Michigan is more distribution than transmission in nature and should not be included in this year’s transmission buildout package. The company’s Nick Griffin said the line is “clearly radial” in nature.

Johnson said MISO analysis indicated the proj-

ect should be classified as a transmission line.

“Our recommendation is to leave the project in inclusion in Appendix A,” Johnson told board members in November.

Johnson said the situation is similar to MTEP 18’s Morenci project, which Consumers Energy disputed. (See *Michigan Regulators Intercede in MTEP Complaint*.) The Michigan Public Service Commission has since reviewed the characteristics of the \$21 million, 138-kV line near the Michigan-Ohio border and last month *classified* it as distribution, dropping it from MTEP eligibility.

“However, that determination is open to rehearing,” Johnson said.

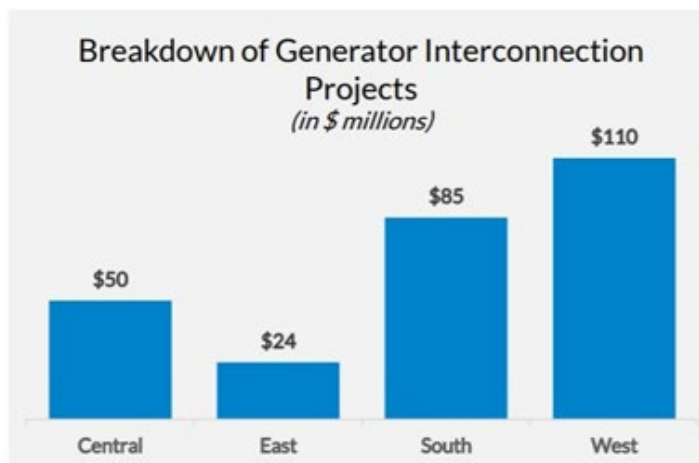
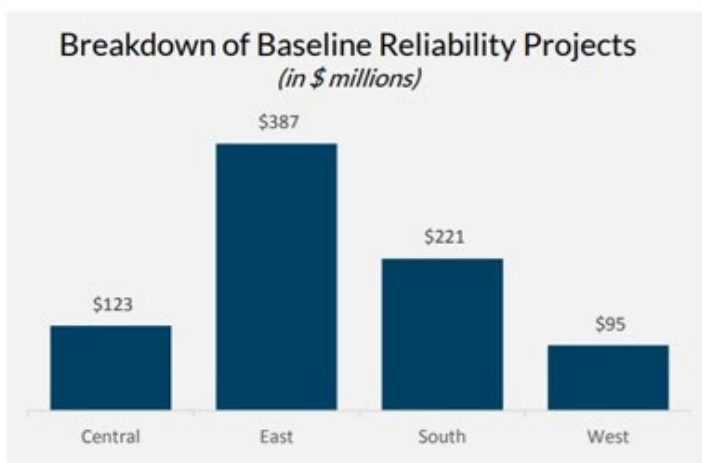
Griffin said it would be “prudent” for MISO to delay approval of the Croswell line until

FERC weighs in on the Morenci project. The project was nevertheless included in MTEP 19 approval.

Helena-to-Hampton Corners Heartburn

Johnson said MISO still stands firm that the Helena-to-Hampton Corners project cannot pass necessary robustness testing to be included as a MEP in this year’s package.

Renewable generation proponents had *urged* MISO to include the \$36.1 million, 345-kV project, originally identified in this year’s Market Congestion Planning Study. The project was set to solve congestion in southern Minnesota at a 4.22:1 benefit-to-cost ratio, but MISO said the project quickly lost value once forecasted wind generation was removed from the equation. ■



MISO News

MISO Avoids Fall Emergencies

By Amanda Durish Cook

INDIANAPOLIS — MISO avoided maximum generation alerts and events this fall despite dealing with record-breaking temperature swings in its southern footprint.

The RTO's nearly 107-GW fall peak on Sept. 11 was "well below" the forecasted 112-GW peak for the season, MISO Executive Director of System Operations Renuka Chatterjee [reported](#) to the Board of Directors' Markets Committee on Dec. 10. This year's fall peak also paled compared with 2018's almost 115-GW record.

Real-time prices were likewise down, averaging \$25/MWh, a 23% decrease year-over-year. Chatterjee put lower prices down to "surging" natural gas production.

However, the modest peak and prices belie the volatility in fall temperatures, with hot-weather alerts in the southern parts of the footprint in early September and October, followed by a cold-weather alert by mid-November.

"Both of these weather events brought record-setting temperature swings in our footprint. I've heard that close to 100 temperature records were broken," Chatterjee said of a hot-weather alert Sept. 5-9 and a cold-weather alert Nov. 12-13, both in MISO South.

MISO President Clair Moeller said operations teams showed "exemplary" performance in handling both situations.

Chatterjee said "unseasonably extreme cold" settled in the Central and South regions during the November event. "If these temperatures happened in January, we wouldn't be talking about them," she said.

She also said MISO control room employees were busy managing congestion and responding to outages Nov. 13. The RTO was able to avoid issuing a maximum generation event this fall, though Chatterjee said conditions in MISO South would have warranted it for about 30 minutes Nov. 13.

"In hindsight, we could have issued that notification for a short time," Chatterjee said.

Last fall, MISO entered a maximum generation event in mid-September. (See [MISO in Conservative Ops After Emergency Declaration](#).)

Tricky Mid-November

Independent Market Monitor David Patton



Markets Committee of the MISO Board of Directors | © RTO Insider

called the conditions on Nov. 13 "bizarre." He said Little Rock, Ark., registered at 19 degrees Fahrenheit, about 30 degrees below normal. He also said a large MISO South generator kept delaying its start time during the day, losing out on roughly \$1 million worth of payments in the process and complicating the supply picture.

Patton also said his staff are still investigating a request from SPP to cut MISO flows on the regional dispatch limit that day to 1,500 MW, resulting in additional congestion costs of \$876,383 to MISO. Southern Co. and SPP were also facing challenging supply conditions Nov. 13, Patton said.

"What happens when we derated this, not only did it cost MISO and its customers a lot of money, but it also caused MISO to violate a constraint in MISO South," Patton said.

Patton said if the RTO were granted "better visibility of neighbors' constraints" in real time, it might have been able to provide targeted relief instead of simply following SPP orders to "massively derate" the flows.

MISO operators likely didn't have an appropriate amount of time to react to SPP's request, he said.

"MISO was put in the position of having to derate the [regional dispatch transfer] and wasn't able to offer alternative solutions. When they're asked to derate due to reliability concerns, you have to," Patton explained.

"This has seemed to blow the cover off areas that we don't have much progress on. We don't have visibility into our neighbors' decisions, and they might not have visibility into our decisions, and that's costing economic decisions,"

MISO Director Barbara Krumsiek said.

Patton also said he continues trying to persuade MISO's transmission operators to adopt dynamic transmission line ratings. He also said the RTO should "more actively" validate transmission ratings. He said the suggestion would likely make it into his 2019 State of the Market Report.

MISO Enters Winter

Chatterjee said MISO continues to expect a 104-GW winter peak, with about 115 GW worth of resources on hand to mitigate it. She said the RTO is especially concentrating winter preparations on outages. Over the last five years, MISO experienced an average 27 GW worth of generation outages on monthly peak hours December through February.

Moeller said many of the outages occur in older, steam generators.

"We're seeing outages of the older, steam fleet continue. In many cases, they're aging so [operators see] no reason to put money in them," Moeller said.

This is the first winter MISO will use a \$1,000/MWh soft cap and a \$2,000/MWh hard cap on energy offers after FERC last month accepted the RTO's plan to implement a hard cap for verified cost-based incremental energy offers ([ER20-11](#)). (See [MISO Files Offer Cap Revisions Ahead of Schedule](#).)

Additionally, MISO in November began [publishing](#) a first edition of its multiday operating margins, which predicts supply conditions six days in advance. The multiday forecast is for informational purposes only and is not a multiday financial market. ■

MISO News

MISO Board of Directors Briefs

Members Retain Trio of Board Incumbents; Currie Keeps Gavel

INDIANAPOLIS — MISO's Board of Directors will remain unchanged heading into 2020 after the same chairman and three incumbent directors were elected to retain their positions at last week's final Board Week of the year.

RTO members voted for Todd Raba, Trip Doggett and Barbara Krumsiek to remain on the board through the end of 2022. (See [MISO Board of Directors Briefs: Sept. 18, 2019](#).)

Reporting results at the board's meeting Thursday, MISO General Counsel Andre Porter said of 146 eligible voting members, 84 cast votes, easily passing the 25% voting participation *quorum*. Voting was held Sept. 1 through Nov. 26.

This year, the board also filled exiting Director Thomas Rainwater's vacant seat with former New York Power Authority CFO Robert Lurie, who appeared at Board Week.

The meeting also saw directors vote unanimously to re-elect Phyllis Currie to a second year as their chairman.

"I tell a lot of my California colleagues that they could learn a lot by how MISO engages with stakeholders," Currie said, accepting the position.

She opened the meeting by reminding staff and members of the RTO's compliance hotline, where individuals can privately *report* suspected unlawful, unethical or inappropriate behavior.



MISO used the Indianapolis Arts Garden over Washington Street for lunch and a reception. | © RTO Insider

In the latter half of 2020, MISO will hold a nomination and election to replace Director Baljit Dail, who has already exceeded his three-term limit; the Nominating Committee in 2017 waived his limit and allowed him to stand for an additional term. At the time, the committee cited MISO's multiple new directors and Dail's much-needed information technological experience as the reason for the waiver. (See "Committee Permits Consideration of Extra Term for Dail," [MISO BoD Briefs: June 22, 2017](#).)

Private Cloud Prepped for New Market Platform

MISO is wrapping up the third year of a seven-year effort to replace its market platform, this year establishing a private cloud-based server that will host the new platform's

modular server.

"We continue to accept market deliverables and find them acceptable," Senior Director of Market System Enhancements Kevin Sherd told directors at a Dec. 10 meeting of the board's Technology Committee.

Chief Information Security Officer Keri Glitch said MISO is still running two environments while it learns and discovers efficiencies in the cloud.

MISO will have spent about \$20 million on the platform replacement this year, about \$500,000 below budget because of a later-than-expected FERC order regarding the RTO's inclusion of energy storage resources in its market. (See [Storage Plans Clear FERC with Conditions](#).)

The RTO next year *plans* to make the cloud operational and test it using non-critical infrastructure protection data. By year's end it will test the new market user interface with customers and begin uploading operations model data into its model manager, which is designed to be a singular repository for its many planning models.

The tasks are the major highlights of MISO's 2020 to-do list. Vice President of Market System Enhancements Todd Ramey has said the RTO has about 200 deliverables it must complete over the year as part of the project.

"Two-thirds of the work is still in front of us," said Ramey, who also reassured board members that MISO is "encouraged" by main



MISO CEO John Bear and Board Chairman Phyllis Currie | © RTO Insider

Continued on page 22

MISO News

No-go for MISO Board Election Changes

Continued from page 1

the number of stakeholder representatives from two to four on the Nominating Committee that selects board candidates.

Another option would have rotated the sectors from which stakeholder participants are drawn for the Nominating Committee or reserved a designated seat for a member of the Organization of MISO States. A final option would have set aside one of the nine director seats for someone with recent experience representing electric utility customer interests.

Had the AC recommended any changes, they would have gone before the board's Corporate Governance and Strategic Planning committees as suggestions only.



Advisory Committee Chair Audrey Penner | © RTO Insider

The BQTT was created in response to last year's election of Minnesota Public Utilities Commission Chair Nancy Lange to the board while she was still serving on the commission. Some stakeholders questioned the independence of sitting regulators appointed to the RTO's oversight body. (See [MISO Members Uneasy over Board Nomination](#).)

OMS has also sent a short letter to the board conveying its "strong interest to be a regular and active participant in the Nominating Committee," according to organization President Matt Schuergler. One of the Nominating Committee's two stakeholder seats is typically reserved for an OMS representative. Schuergler said he expected regulator participation to continue shaping the board's makeup. ■

MISO Board of Directors Briefs

Continued from page 21

vendor General Electric's recent performance.

"We're trying to be cautious and not too optimistic because ... a lot of challenges lay before us," he added.

MISO expects to introduce its new day-ahead market clearing engine on the private cloud in 2022.

Meanwhile, the RTO reported that it blocked 8.1 billion connections into its systems year-to-date in 2019, a 54% increase from last year. It also reported it had a 2.15% average click rate on phishing attempts in 2019, below the 5.3% industry average.

Glitch also said that over Aug. 22-26, MISO's energy management system (EMS) experienced multiple slowdowns while trying to access its network-attached storage. "File transfer between EMS and market systems was interrupted during these slowdowns," Glitch [reported](#).

Glitch said that while MISO largely cleared up the problem, smaller, infrequent slowdowns persist. She said a small, dedicated team is working to identify the root cause of the problem.

MISO Slightly Overbudget in 2019

MISO expects to *spend* nearly \$274 million in base operating expenses by year-end, exceed-

ing its 2019 budget by about \$1.3 million (0.5%).

CFO Melissa Brown said the overage is the result of MISO reclassifying some capital expenses as operating expenses.

MISO's capital spending will likely reach \$23.6 million, underbudget by \$600,000 (2.7%).

The RTO has [set](#) a \$337.6 million total operating budget and a \$30.4 million capital expense budget for 2020.

MISO: We're Going to Disney World!

MISO will break with tradition in 2020, holding its final Board Week of the year outside the footprint in Orlando, Fla., instead of near its headquarters in central Indiana.

MISO released a [schedule](#) of 2020 quarterly board meeting dates:

- March 24-26 in New Orleans;
- June 16-18 in Milwaukee;
- Sept. 15-17 in St. Paul, Minn.; and
- Dec. 8-10 in Orlando. ■



MISO Board Week was held at the Conrad hotel in downtown Indianapolis. | © RTO Insider

— Amanda Durish Cook

MISO News

Batteries Will Have Their Day in MISO, Experts Say

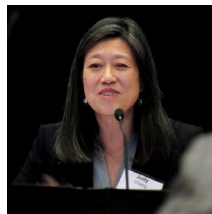
By Amanda Durish Cook

INDIANAPOLIS — Energy storage systems will inevitably take hold in MISO as costs decline, but the outlook for technologies outside lithium-ion batteries is less certain, storage experts told stakeholders Wednesday.

The experts were speaking on a panel convened by MISO's Advisory Committee in lieu of the usual "hot topic" discussion where members sound off on current issues during committee meetings. The AC was unusually quiet during the event, instead electing to hear the **panel** of outsiders talk battery storage.

"Today we're focusing on batteries. What are they going to look like in 10 years? What are the limits? When do they become commercially viable at scale?" moderator and MISO Vice President of Strategy and Business Development Wayne Schug said in opening the panel.

"Storage becomes very valuable when incremental capacity is scarce and expensive," Brattle Group Principal Judy Chang said. She said she expected batteries to become cost-competitive when they serve capacity at peak times.



Judy Chang, Brattle Group | © RTO Insider

"I would say that utilities are beginning to explore storage with pilot programs," Chang said of MISO's situation, predicting that more storage will be constructed "when capacity is needed."

MISO's interconnection queue currently contains more than 2.5 GW of battery storage.

Consultant Mathew Roling said the rollout of battery storage in MISO would probably occur on a state-by-state basis, and battery solutions would be packaged with other technology or generation and not simply be standalone batteries.

National Renewable Energy Laboratory analyst Paul Denholm said four-hour batteries are close to becoming cost-competitive with peaking combustion turbines. Batteries' ability to provide peaking capacity is especially heightened when they are paired with solar generation, he said.

Paul Mitchell, CEO of Indianapolis-based Energy Systems Network, said that while MISO



The MISO Advisory Committee meets in Indianapolis on Dec. 11 during Board Week. | © RTO Insider



ESN CEO Paul Mitchell | © RTO Insider

Mitchell said battery storage costs aren't quite as low as traditional generation, and current, 20-year storage contracts that promise to deliver energy at \$300/kWh on average are essentially bets on the future value of storage systems — and they might be too optimistic.

"That's putting a lot of trust in the future costs of energy storage systems. ... That might be controversial to say," he added.

MISO stakeholders in attendance participated in live polling during the panel, predicting that solid-state and vanadium redox flow batteries might emerge as the next dominant technologies.

Mitchell said he's often privy to the innovations taking place at the Battery Innovation Center on Naval Support Activity Crane in southern Indiana. He cautioned that solid-state batteries right now are "teeny tiny" and nowhere near ready for factory manufacture. He said lithium-ion would continue to be the reigning battery option for at least the next five years.

"I think it's going to take these technologies a long time to scale up ... for the mass market of vehicles or in the grid," he said.

hasn't experienced much growth in battery storage systems, that will soon change.

"I think it's finally going to come in full force," he said, adding that "the biggest barrier remains the cost."

Roling said the industry might be overlooking the benefits of pumped hydro storage in the rush to embrace battery storage.

"It's water. It's good for 100 years. It's so natural it hurts," he quipped.

Chang also pointed out that the environmental benefits of storage are system-dependent and only beneficial when batteries absorb and discharge energy from lower-emitting resources, displacing higher-emitting resources.

Roling said that unless MISO states become "anti-carbon," battery storage in the footprint would never become cost-competitive. He said batteries would need "that social aspect" to be commercially viable.

To that, Chang pointed out that customers are increasingly calling for zero-carbon generation sources.

In another live poll, a majority of attendees predicted utility-scale batteries would become cost-competitive in MISO in about five to 10 years.

Stakeholders asked if storage might be able to flatten a potential duck curve before it even occurs.

Chang said the question was probably premature, as she believed wind would continue to dominate over solar generation in the footprint.

"I do think it's unique here. I don't think it's the same as the West," Chang said. "I don't think we're going to see the duck curve as quickly as in Texas or California. I think we have to be careful about taking one region and applying it to another." ■

NYISO News



NYPSC Reins in ESCOs, Expands Community DG

By Michael Kuser

The New York Public Service Commission on Thursday placed new restrictions and requirements on energy service companies (ESCOs) that they must honor and fulfill in order to sell to the state's residential customers and small business owners ([15-M-0127](#), [12-M-0476](#), [98-M-1343](#)).

"This order to me is a reset," PSC Chair John B. Rhodes said. "It clearly delineates what is no longer permitted on the foundational principle of protecting customers, and it acts against companies that have acted badly."

The PSC said that "little has changed in New York's retail energy market since 2014, when the commission observed that complaint rates related to ESCOs were high."

In the past few years, the commission has waged a continual struggle to balance the idea of free markets and free choice with accountability for unscrupulous business practices. (See "[PSC Continues Crackdown on ESCOs](#)," [NYPSC Approves Higher Rates for Bitcoin Miners](#).)

The commission and Department of Public Service staff recently concluded hearings before two administrative law judges, the transcripts of which total 4,233 pages.

The PSC's [order](#) said that the non-ESCO parties, including the state's Utility Intervention Unit, the attorney general, the Public Utility Law Project of NY (PULP), New York City and AARP, "all agree that the current retail access market does not benefit customers. Some argue the commission should shut down the market entirely, while others argue that the

commission should implement systematic and substantial reforms to limit ESCO products and/or ESCO prices."

DPS staff said that ESCO customers paid \$1.2 billion more than utility customers would have paid for commodity service during the 36-month period ending Dec. 31, 2016.

"In general, the ESCO parties believe that little or nothing is wrong with the retail access market and argue that commission interference with ESCOs' current access to customers is unwarranted," the commission said. It added that last year saw ESCO customer numbers drop 12% compared to the previous year, to 2 million.

The ESCO parties included the National Energy Marketers Association, the Retail Energy Supply Association, Direct Energy, Agway, Constellation, Great Eastern Energy, Impacted ESCO Coalition and Infinite Energy.

The new regulations include enhanced eligibility criteria and increased scrutiny of business practices, more clear ESCO product and pricing information, and prohibitions on marketing gimmicks that lack energy-service-based value, such as sporting event tickets and gift cards.

The PSC also revoked the eligibility of Atlantic Power and Gas to participate in the state's retail energy market after finding the company guilty of "a pattern of persistent disregard" for the commission's consumer protections and "either unwilling or unable to observe the required business practices, even after having its eligibility to market to and enroll residential and nonresidential customers revoked in 2017" ([16-M-0618](#)).

Yes to Consolidated Billing for CDG

The commission also approved consolidating the utility bills of community distributed generation (CDG) customers, relieving project sponsors of the need to bill separately for the subscription charge and making it easier for consumers to see their energy benefits in one statement ([19-M-0463](#)).

The PSC has been developing the value of distributed energy resources (VDER) mechanism and promoting the growth of CDG for several years. (See [NYPSC Refines Value Stack, Boosts Community DG](#).) CDGs allow customers not positioned to take advantage of rooftop solar installations to directly participate in renewable energy programs.

Thursday's order directs utilities to automatically deduct the subscription charges a customer pays its CDG providers from the net renewable energy credits applied to the customer's bill and send the money to the CDG project sponsor based on a percentage set by the sponsor.

"As this percentage must be below 95%, CDG members participating in consolidated billing will receive a guaranteed bill reduction, and therefore guaranteed monthly savings, of at least 5%," the commission said.

Several state utilities — Central Hudson Gas & Electric, Consolidated Edison, New York State Electric and Gas, Niagara Mohawk Power, Orange and Rockland Utilities, and Rochester Gas & Electric — submitted [comments](#) urging the commission to "consider whether such changes are warranted given the cost and time to implement and determine the proper mechanism for funding the transition to different billing mechanisms."

The utilities argued that "a reasonable approach would provide for full recovery of all upfront and ongoing costs associated with implementing a new billing approach while also requiring the CDG host to pay for utility billing services."

The commission also rejected National Grid's proposal to compete for and acquire CDG customers and reduced the company's proposed fee for consolidated billing by 90%, allowing the same 1% fee provided to other utilities.

The Alliance for a Green Economy, the Green Education and Legal Fund, and Joule Assets submitted [comments](#) in favor of consolidated billing, as did New York City and many smaller municipalities. ■



DPS staff testify on the proposed ESCO regulations before the commission.

NYISO News

NYISO Advances Change to Retirement Studies

By Rich Heidom Jr.

NYISO's Business Issues Committee on Wednesday endorsed the ISO's plan to replace its ad hoc generator retirement studies with quarterly "short-term" analyses.

The new Short-Term Reliability Process (STRP) would address generator deactivations and other reliability needs, beginning with quarterly Short-Term Assessment of Reliability (STAR) studies, explained Keith Burrell, NYISO's manager of transmission studies. Burrell said the change would ease the workload for ISO staff and transmission owners.

"We are about to start our 11th generator deactivation assessment this year," he said. "Certainly, from a workload perspective, doing four instead of 11 looks awfully nice."

The Tariff changes, which the ISO plans to file with FERC in February, also would expand the generator deactivation rules to non-market participants that have the "ultimate authority" over deactivations. Generators with a nameplate rating of 1 MW or less would be exempt.

Zach Smith, vice president of system and resource planning, said "a core change" is that the biennial Reliability Needs Assessment (RNA), which has covered Years 1 through 10, will be narrowed to Years 4 through 10. The RNA, which evaluates resource and transmission adequacy and transmission system security, is the first of two studies done in the Reliability Planning Process (RPP). The RPP also includes the Comprehensive Reliability Plan, which evaluates market based solutions to the needs identified in the RNA.

The STRP and the RNA will include an overlap in assessing Years 4 and 5.

"You will have a short-term reliability process to address issues identified in the short term, and you will have the RNA, which is now essentially a long-term planning process," Smith added. "My expectation is that within the RNA ... that we document what the recent findings have been from the short-term reliability process."

The STRP will conclude if the STAR does not identify a short-term need or finds that such needs will be addressed in the RPP. If the STRP does identify short-term needs, NYISO will issue a solicitation seeking solutions.

The ISO is proposing to pay costs in excess of \$100,000 that a generator in an ICAP-inelig-

ible forced outage (IIFO) incurs to repair or replace a damaged step-up transformer or other system protection equipment if the equipment is needed to address an immediate STRP need. Such generators would not be reimbursed for repairs of less than \$100,000.

One other change: "Today, when a generator completes its notice to deactivate, a study period is 365 [days] plus five [years]," Burrell said. Under the new rules, "it's 365 [days] plus four [years], so it's a five-year study ... instead of a six-year study."

Howard Fromer, director of market policy for PSEG Power New York, expressed concern over changing the process while NYISO is also awaiting the New York Department of Environmental Conservation's finalization of its "peaker rule," proposed in February to reduce NO_x emissions from 3,300 MW of simple cycle turbines in New York City and Long Island. (See [NY DEC Kicks off Peaker Emissions Limits Hearings](#).)

The units, many of which are counted on to maintain transmission security in load pockets, typically run on hot summer days when ozone readings are high. Many of the units are inefficient and nearing 50 years of age, making them poor candidates for the installation of after-market controls. The second phase of the ISO's 2018/19 RPP is evaluating the reliability impacts of the retirements of all 3,300 MW.

The proposed DEC rule, which it expects to finalize within several weeks, would phase in compliance obligations between 2023 and 2025.

Smith said the peaker rule was part of the motivation for the proposed changes. "I'm nervous that our current process wouldn't be able to handle the change fast enough," he said.

The BIC unanimously recommended Management Committee and Board of Directors approval of the STRP. The ISO will seek a May 1, 2020, effective date, with the first STAR beginning July 15 and results expected by October.

Relocating the IESO Proxy Bus

Rana Mukerji, senior vice president for market structures, also briefed the BIC on plans to relocate the proxy bus used for scheduling transactions with Ontario's Independent Electricity System Operator (IESO).

NYISO's market software currently uses the Bruce 500-kV bus, but an analysis of the transactions between IESO and NYISO indicates that moving the bus "may better align the power flow results with real-time operations," Mukerji said.

He said NYISO will pursue a move to the Beck 220-kV bus next year. ■



Alliance Energy Group's 55-MW Hillburn Power Plant in Hillburn, N.Y. | Alliance Energy

PJM News



PJM MIC Briefs

Fuel-cost Policies

VALLEY FORGE, Pa. — The PJM Market Implementation Committee endorsed two fuel-cost policy (FCP) packages — including one authored mid-meeting — that would consider the market impacts of breaking the rules and adjust penalties accordingly.

The first *package*, compiled by a group of stakeholders, won 87% support and will advance to the Markets and Reliability Committee as the main motion next month. The plan reduces penalties when a market seller self-identifies violations of its FCP and provides safe harbor for situations of noncompliance that weren't contemplated by the policy. The plan would also expand the use of temporary FCPs. (See [PJM Stakeholders Still Divided on Fuel-cost Policies](#) and "Fuel-cost Policies," *PJM MIC Briefs: Nov. 13, 2019*.)

PJM's Glen Boyle, however, questioned how the plan would apply penalties, noting that existing language could allow for duplicate benefits. The plan would fully penalize units that clear the day-ahead market or run in real time on a cost-based offer and are either paid day-ahead/balancing operating reserves or have cost-based offers above \$1,000/MWh. If a market seller self-identifies noncompliance to PJM and the Independent Market Monitor, the penalty is reduced 75%.

"There could be a scenario under this proposal where a cost-based unit running on its cost-based schedule is the marginal unit setting price and still getting a discount on the penalty," he said. "I think that position is a little tough to justify."

Adrien Ford of Old Dominion Electric Cooperative acknowledged that the scenario could occur but said it wasn't a big enough risk for stakeholders to consider modifying their plan.

"Knowing whether or not there was an impact is tough, so we are coming up with something to indicate that there might have been an impact," she said. "I think what you're pointing out is a thin risk that there could be an impact and it wouldn't be assigned. It is likely that a marginal unit would be paid DA/balancing operating reserves and caught by the impact test. There's no perfect test, but we think this is a pretty good one."

The PJM Industrial Customer Coalition and Calpine offered *revisions* to the first package that they said would address Boyle's concerns. When it wasn't accepted as a friendly



PJM's Ray Fernandez presents Manual 27 revisions to the Market Implementation Committee on Dec. 11. | © RTO Insider

amendment, the two stakeholders proposed the alternate language as a second package on which the MIC would vote. The revisions clarify that the full penalty would be imposed if a unit is marginal in the day-ahead or real time on its cost-based offer. A unit committed on its price-based schedule that later fails the three-pivotal-supplier test during its minimum run time or hours of its day-ahead commitment would also not incur the full impact factor unless the other conditions for market impact were met. About 81% of the committee endorsed these small language tweaks too.

The Monitor withdrew its package in support of PJM's own set of revisions, which only won 29% support from the MIC. The RTO also rescinded an alternative package that offered its own version of an impact factor.

Parameter-limited Schedules

PJM and the Monitor presented their divergent views to the MIC on the implementation of parameter-limited schedules (PLS) and whether governing document revisions are needed.

According to PJM, Tariff and Operating Agreement language *errors* introduced with the implementation of Capacity Performance means that the RTO's practice regarding PLS contradicts its own rules and conflicts with other governing documents. The Monitor said, however, that PJM should simply follow the language set out in the Tariff instead of revising the document to fit its current practice.

"What we want to do is make sure the Tariff reflects what's in that manual," PJM's Adam Keech said. "The Tariff conflicts with what's in the manual, and the manual is the correct implementation."

According to the Monitor, however, the

compliance issue rests solely with PJM's *misinterpretation* of the Tariff. The RTO's current implementation of PLS does not mitigate the exercise of market power, as it was intended to do, the Monitor said.

Both the Monitor and PJM discussed their viewpoints with the MIC at the request of the MRC on Dec. 5. The conversation will continue Dec. 19 when the MRC considers Tariff changes authored by PJM to align PLS with the manuals.

Border Rate Manual Revisions

The MIC endorsed *revisions* to Manual 27: Open Access Transmission Tariff Accounting that would reflect FERC's recent order on border rate calculations ([ER19-2105](#)).

In June, PJM transmission owners submitted a filing that updates the yearly border charge to prevent network integrated transmission service (NITS) customers — network load located outside the RTO's boundaries but served from within — from subsidizing border and non-zone service rate customers who use transmission service through and out of PJM. (See [Settlement Hearing Set for PJM Border Dispute](#).)

FERC accepted the TOs' filing subject to refund, with an implementation date of Jan. 1, 2020, but also set a paper hearing and settlement procedures for involved parties to work out their differences over the proposed methodology behind the rates.

PJM's Market Settlements Development Department said the manual revisions will move forward but acknowledged that refunds will be issued if changes to the methodology are approved in a settlement. ■

— Christen Smith

PJM News



PJM Operating Committee Briefs

Quiet November

PJM said it was a quiet operations month in November with zero spinning events, nine post-contingency local load relief warnings (PCLLRWs) and one reserve sharing event with the Northeast Power Coordinating Council.

The load forecast error came in at 2.22% – well below the 3% margin and a far cry from the unsolved load deviation witnessed during the first two days of October. (See “DR Load Forecast Error Unsolved,” *PJM OC Briefs: Nov. 12, 2019*.)

Fall Restoration Drills

PJM *said* its fall restoration drills conducted between Sept. 25 and Oct. 30 went well, with only minor complaints about the simulator and event duration.

Some 143 companies and 52 PJM operators participated. All of PJM’s nuclear plants received off-site power under the four-hour deadline, with one exception because of simulator issues.

Companies said the drill should last two days and requested more practice on cross-zonal procedures. The simulator itself took some getting used to, PJM’s Brian Lynn told the Operating Committee on Dec. 10.

The spring drills are scheduled for May 19 and



PJM’s Glen Boyle presents manual revisions to the Operating Committee on Dec. 10. | © RTO Insider

May 20.

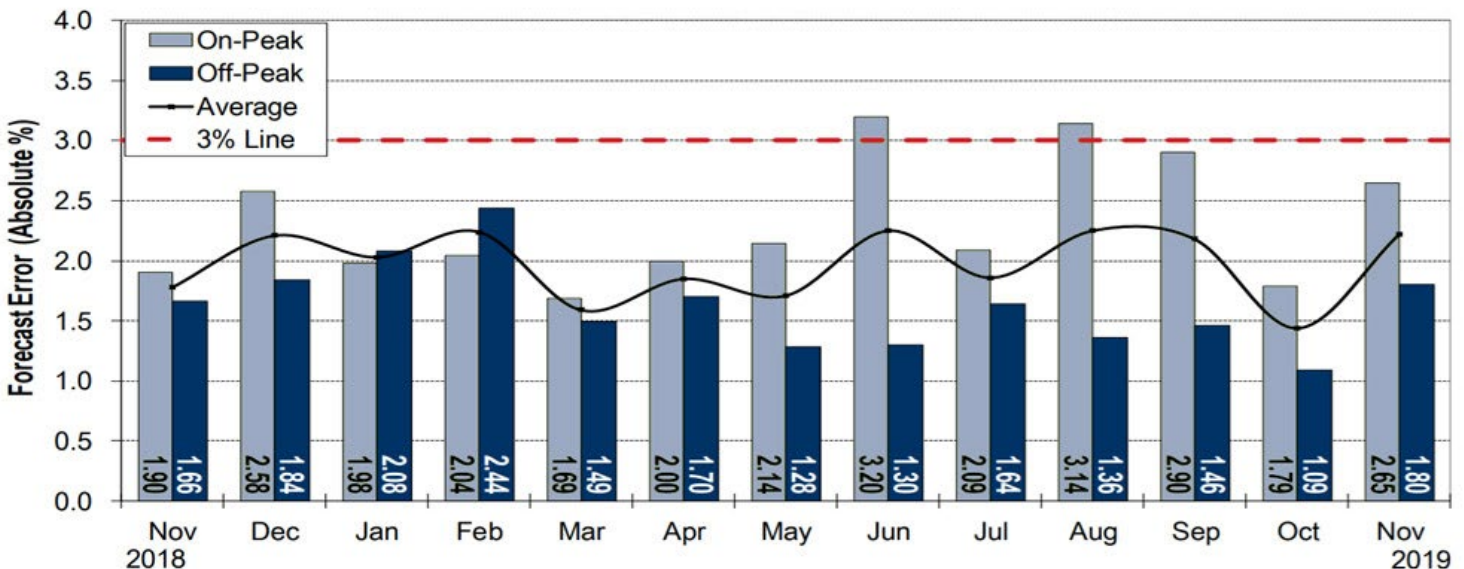
Manual Changes Endorsed

The committee endorsed revisions to:

- Manual 38: Operations Planning – Periodic *review* to conform NERC standard references, remove the PJM-NYISO seasonal operating study and update Attachments A and B.

- Manual 14-D: Generator Operational Requirements – *Removes* references to PJM’s Tariff regarding the definition of “generating facility.” The term is not defined in the Tariff, pending a ruling on FERC Order 845 compliance. ■

– Christen Smith



PJM's 2019 Load Forecasting Error margin (Achieved 80% of the time) | PJM

PJM News



PJM MRC Preview

Below is a summary of the issues scheduled to be brought to a vote at the PJM Markets and Reliability Committee meeting 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 Valley Forge, Pa., covering the discussions and votes. See next Tuesday's newsletter for a full report.

Consent Agenda (9:10-9:15)

PJM will ask for endorsement of revisions to:

B. PJM Manual 13: Emergency Operations, incorporating event analysis [updates](#).

C. PJM Manual 14D: Generator Operational Requirements, [adding](#) guidance associated with distributed energy resource ride through.

D. Manual 14G: Generation Interconnection Requests, [changing](#) Section 2.2 regarding projects applying for interconnection under Tariff Attachment Y.

E. Manual 27: Open Access Transmission Tariff Accounting, [addressing](#) the implementation of the annual calculation of the border rate and the impact on firm point-to-point transmission service charges.

1. FTR Product Range and Auction Process (9:15-9:35)

The MRC will consider the first round of financial transmission rights credit-related policy changes after a two-week deferral. (See "FTR Vote Deferred," *PJM MRC/MC Briefs: Dec. 5, 2019*.)

PJM said the recommendations, initially presented at the committee's October meeting, will improve its credit risk policies after the Financial Risk Mitigation Senior Task Force delegated a more holistic FTR market review and possible design changes to a separate Market Implementation Committee task force. (See "FTR Market Rule Changes," *PJM MRC Briefs: Oct. 31, 2019*.)

But some stakeholders expressed concerns earlier this month about the ripple effect the revisions may have on market design. The MRC agreed to delay a vote in hopes of finding compromise and moving the changes ahead.

2. Competitive Transmission Proposal Fee (9:35-9:45)

Stakeholders could endorse a new fee [structure](#) for competitive transmission proposals developed by PJM to better reflect the costs of its new comparative framework. (See "PJM Unveils Flat Fee Cost-containment Plan" in *PJM PC/TEAC Briefs: Aug. 8, 2019*.)

3. Comparative Cost Framework (9:45-10:05)

Along with the new fee structure, the MRC must sign off on corresponding Manual 14F [language](#) that memorializes the process, including the Independent Market Monitor's role in reviewing proposals.

The language has been mired in wordsmithing after transmission owners objected to revisions that they said inappropriately capped certain costs. (See *PJM TOs Wary of Cost Containment Rules*.) There's also been an ongoing debate over language codifying a collaborative role between PJM and the IMM in evaluating competitive proposals.

PJM deferred voting on both the fee structure and manual language at the Dec. 5 MRC meeting in order to further fine-tune language regarding these issues. (See "Comparative Cost Framework, Opportunity Cost Calculator in Flux," *PJM MRC/MC Briefs: Dec. 5, 2019*.)

4. Real-time Values Problem Statement and Issue Charge (10:05-10:25)

Stakeholders will consider endorsing an [issue charge](#) that would address PJM-identified [issues](#) with the misuse of real-time values in parameter limited scheduling. (See "Real-time Values, Parameter-limited Schedules," *PJM MRC Briefs: Dec. 5, 2019*.)

5. Governing Document Revisions for Parameter-limited Schedules (10:25-10:55)

PJM will seek endorsement of Tariff and Operating Agreement revisions that will correct [language](#) surrounding parameter-limited schedules (PLS) accidentally introduced with PJM's Capacity Performance construct filing.

The RTO said the primary issue is that current

language suggests that PJM can commit resources on their price PLS offer or cost-based offer during times that are in conflict with other sections of the Tariff and the OA.

The Monitor, however, says the PJM [should](#) modify the way it implements PLS to conform with the governing documents.

6. Modeling Generation Senior Task Force (MGSTF) (10:55-11:10)

The MRC will consider implementing near-term [solutions](#) of hourly differentiated segmented ramp rates at the recommendation of the Modeling Generation Senior Task Force.

The MGSTF developed the solutions to improve resource modeling for "complex resources" in PJM's market clearing engines, including combined cycle units, coal units with multiple mills and pumped hydro.

7. Fuel Security Senior Task Force (FSSTF) (11:10-11:40)

The MRC will be asked to endorse recommendations from the Fuel Security Senior Task Force on next steps for potential governing document changes.

The task force, assembled in March, has been investigating what market responses to conditions could lead to fuel insecurity and assessing whether the current market construct is sufficient to cure the problem. (See *PJM Stakeholders Reluctantly OK Fuel Security Initiative*.) ■

— Christen Smith

Save your acrobatics for Cirque de Soleil.

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PJM News



PJM PC/TEAC Briefs

Critical Infrastructure Mitigation

VALLEY FORGE, Pa. — PJM’s Planning Committee will consider whether the RTO must develop governing document language to deal with the mitigation of existing and future critical infrastructure on NERC’s CIP-014 list.

Some 54% of stakeholders endorsed the *issue charge* from the D.C. Office of the People’s Counsel after two deferrals and a late-stage *challenge* from Exelon that many on the committee considered out of order. (See “Critical Infrastructure Vote Delayed Again,” *PJM PC/TEAC Briefs*: Nov. 14, 2019.)

At the heart of the debate was Exelon’s preference to exclude mitigation of existing

projects from the scope of the issue charge, as described in their alternative motion. Transmission owners, including Exelon, are currently working on a Tariff attachment that would handle those specific facilities. (See *PJM TO Tariff Filing Stirs up Transparency Concerns*.)

The issue came to a head at the Markets and Reliability Committee meeting in August when incumbent TOs asked for feedback on their proposal that would establish a process for vetting transmission system enhancements designed solely to reduce the number of critical assets identified under NERC’s critical infrastructure protection standard CIP-014, of which fewer than 20 exist within the PJM footprint. NERC deems these assets “highly critical

... that, if rendered inoperable or damaged due to physical attack, could result in significant grid concerns: widespread instability, uncontrolled separation or cascading.”

Other sectors expressed concerns about the opaqueness surrounding the proposal, encouraging the D.C. OPC to bring its problem statement forward the following month. After successfully lobbying for a deferral on the vote for two months in a row, the TOs in November held a webinar to address concerns about their proposal to no avail.

At the PC meeting Thursday, Exelon presented for a vote its slightly modified issue charge that excluded existing CIP-014 projects. Some stakeholders pressed PJM on the appropriateness of voting on an alternative issue charge that’s not been moved properly through the stakeholder process or even attached to its own problem statement. After more than an hour of debate — and a failed motion to overturn the decision of the committee chair — stakeholders chose the D.C. OPC’s issue charge over Exelon’s alternative.

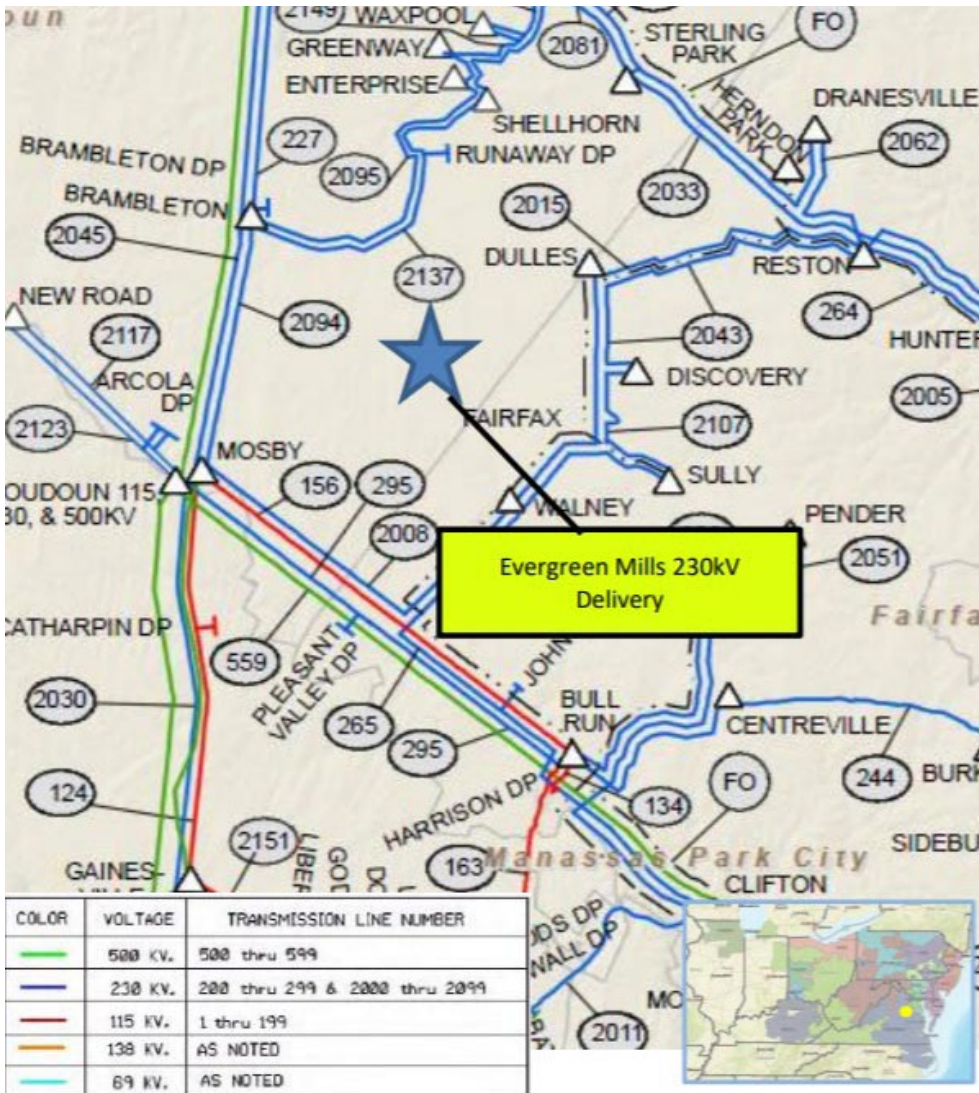
The PC will take on the scope of the issue charge and formulate recommendations within six months.

DER Ride Through Task Force Sunset

Stakeholders agreed to sunset the Distributed Energy Resources Ride Through Task Force now that its *work* considering a default standard is done.

PJM said distributed energy resources currently function on settings designed to respond to unexpected system malfunctions that disrupt power flow. Some sources “ride through” the event, providing much-needed reliability benefits, while others trip off to prevent system damage. Solar panels and other DERs also can’t tell the difference between a transmission fault and a distribution fault, causing inappropriate responses and overstressing the system.

The task force had been considering ways to fix this problem — even going so far as to bring in federal experts to help develop new standards — but decided against an RTO-wide rule because of the uniqueness of local distribution systems. (See *DER Ride Through Task Force Considers New Direction*.) Instead, the task force suggested that PJM create a recommendation when a local distribution system lacks an official policy. The committee also endorsed revisions to Manual 14G: Generator Opera-



Dominion revised an earlier solution it identified for a customer-requested data center in Loudoun County, Va. | © RTO Insider

PJM News



tional Requirements that include this guidance from the task force.

PJM Defends Transource Tx Project Analysis

PJM said Thursday a recent analysis of multiple projects designed to relieve congestion in central Pennsylvania and northern Maryland – including Transource Energy’s reconfigured Independence Energy Connection project – still exceed the RTO’s 1.25 cost-benefit ratio threshold. (See [Transource Files Reconfigured Tx Project](#).)

LS Power disputed the RTO’s analysis of the newly proposed path for the eastern segment of the project, telling the Transmission Expansion Advisory Committee in November that it only carries a benefit-cost ratio of 1. (See [PJM Analysis of Transource Alternative Challenged](#).) The TO said PJM’s base case used to calculate its 1.6 ratio doesn’t consider the impact of a nearby project that would alleviate congestion on the Hunterstown-Lincoln 115-kV line.

PJM’s *additional* calculations performed after the November TEAC meeting concluded that the aggregate benefit-cost ratio for the alternative Transource project, the Hunterstown-Lincoln 115-kV line and a third project that upgrades the Gracetone-Bagley 230-kV line falls between 2.25 and 2.33. If state regulators in Maryland and Pennsylvania opt for the original configuration for the Transource project, that ratio jumps to 2.87.

LS Power objected to the aggregate ratio presented to the committee Thursday, arguing that market efficiency projects should be re-evaluated on a standalone basis.

RTEP Upgrades

PJM will recommend that the Board of Managers approve system enhancements totaling \$134 million for inclusion in the Regional Transmission Expansion Plan in 2020. Two projects, from American Electric Power and Old Dominion Electric Cooperative, are Form 715 criteria-driven enhancements; two others, in MetEd and NIPSCO, are PJM-selected market efficiency projects; and the last project, from Penelec, is being considered for its baseline load growth deliverability and reliability-driven enhancements.

The projects include:

- In AEP’s zone, rebuild 3.11 miles of the 69-kV LaPorte Junction-New Buffalo line with 795 aluminum conductor steel reinforced wire: \$12.3 million.
- In ODEC’s zone, create a line terminal at

Belle Haven Delivery Point (three-breaker ring bus) and install a new single-circuit 69-kV line rated at 55N/55E from Kellam substation to new Bayview substation (21 miles): \$22 million.

- In Penelec’s zone, rebuild 20 miles of the 115-kV East Towanda-North Meshoppen line and adjust relay settings at the 115-kV East Towanda and North Meshoppen substations: \$58.6 million.
- In NIPSCO’s zone, rebuild the 138-kV Michigan City-Trail Creek-Bosserman line: \$24.69 million (\$22 million is PJM’s portion).
- In MetEd’s zone, rebuild the 115-kV Hunterstown-Lincoln line and upgrade substation equipment: \$7.21 million.

Projects costing less than \$5 million – which often include transformer replacements, line reconductoring, breaker replacements and upgrades to terminal equipment, including relay and wave trap replacements – are not broken out individually in PJM’s *white paper*.

Dominion, FirstEnergy Supplementals

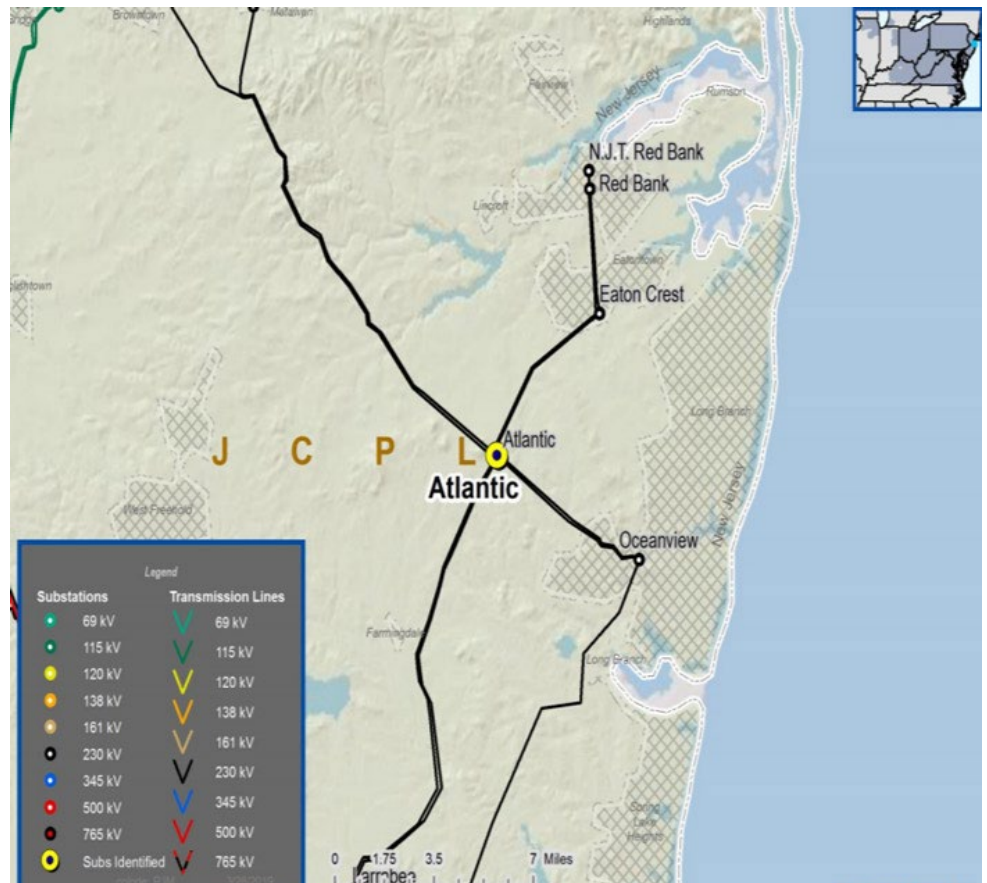
FirstEnergy would like to *replace* the 230-kV

static VAR compensator at its Atlantic substation in central New Jersey with a 300-MVAR, 230-kV STATCOM for \$55.7 million. The enhancement will address the increasing trend of outages and failures on the line.

Dominion Energy revised an earlier solution it identified for a customer-requested data center in Loudoun County, Va. The TO said with projected load likely to exceed 100 MW, two transmission sources will be required to comply with its facility interconnection requirements and avoid a violation of mandatory NERC reliability criteria.

Its latest *solution* would cut and extend the Brambleton-Yardley Ridge line into and out of a new Evergreen Mills switching station, which will be constructed with four 230-kV breakers in a ring bus arrangement. The customer has also requested two additional 230-kV breakers to be installed for additional redundancy and will be responsible for excess facilities charges, Dominion said. The entire project will cost an estimated \$21.2 million. ■

– Christen Smith



FirstEnergy would like to replace the 230-kV Static VAR compensator at its Atlantic substation in central New Jersey. | © RTO Insider

SPP News

SPP Briefs

MMU Self-commitment White Paper: Downward Pressure on Prices

SPP's internal Market Monitoring Unit last week released a [white paper](#) detailing a study of generator self-commitments in the market, yielding further evidence that the self-commitment of generation exerts downward pressure on marginal clearing prices.

The MMU said that while the practice can't be eliminated, it can be "substantially" reduced.

"A smaller distortion will likely help market participants make better short-run and long-run decisions, which tends to coincide with improved profit maximization. Enhanced profit maximization combined with effective regulation and monitoring will likely lead to ratepayer benefits in the form of cost reduction," the Monitor said in its report, "Self-committing in SPP markets: Overview, impacts, and recommendations."

The MMU recommended that SPP's market design be modified to include one additional day of optimization and that the RTO and its stakeholders reduce the incidence of self-commitments to improve price formation and market efficiency.

"Simply eliminating self-commitment without any additional changes could result in an increase in total production costs," the Monitor said. "When lead times were shortened to reflect an additional day in the market optimization and self-commitment was eliminated, producers were paid more and production costs declined."

The study echoes recent work conducted by the Sierra Club and the Union of Concerned Scientists. The environmental groups have both studied regulated utilities' practice of self-committing coal plants, which they say is costing ratepayers hundreds of millions of dollars. (See [Enviros, States Question Coal Self-commitments](#).)

The MMU analyzed offer behavior from March 2014 to August 2019. It ran two simulation series of a week per month for the year leading up to August in which it resolved past market cases.

The study found prices and production costs were "systematically lower" when at least one self-committed unit was marginal. In almost all cases, the MMU said, self-committed generators had lower revenues because of negative congestion prices, while market-committed

generators typically had a more balanced congestion profile.

Resources with long lead times and/or high start-up costs tended to be self-committed instead of market-committed, the Monitor said.

The simulations assumed all generation was offered in market status, and that generation offered in market status can be started economically by the day-ahead market.

Board Appoints Stakeholder Group Chairs

The Board of Directors on Dec. 9 appointed chairmen for eight of SPP's stakeholder groups:

- Grant Wilkerson, Evergy, Business Practices Working Group
- Alan Klassen, Evergy, Operating Reliability Working Group
- Robert Pick, Nebraska Public Power District, Regional Tariff Working Group
- John Allen, City Utilities of Springfield, Reliability Compliance Working Group
- Jim Jacoby, American Electric Power, Seams Steering Committee
- Phil Clark, Arkansas Electric Cooperative Corp., Security Working Group
- Brad Hans, Municipal Energy Agency of Nebraska, Supply Adequacy Working Group
- Nathan McNeil, Midwest Energy, Transmission Working Group

The chairs were nominated to two-year terms that begin in January by the Corporate Governance Committee. The CGC annually accepts member nominations for about half the stakeholder group chairs.

The board also approved changes to 13 stakeholder groups' charters during a conference call otherwise reserved for a review of membership surveys and corporate metrics. The board's evaluation by directors and members resulted in a split, with average scores dropping for half the 12 questions and rising for the other six.

Asked to list issues of focus for the board next year, members settled on CEO succession, expansion in the West and effective implementation of the Holistic Integrated Tariff Team's (HITT) recommendations.

Seams Group Lays out 2020 Work Priorities

The Seams Steering Committee on Wednesday determined its work priorities for 2020, with a prime focus of providing policy direction as cost allocations are determined for seams projects that don't qualify as interregional projects. The item was a carryover from 2019, when it was tabled to wait on the HITT's recommendations.

The SSC will also guide staff through coordinated system plan studies in developing seams projects with MISO and Associated Electric Cooperative Inc. It will also continue to facilitate design and development of a new type of transmission project, coordinated with MISO, to address historical market-to-market (M2M) congestion.

Staff reported that M2M settlements in October resulted in \$3.65 million accrued in SPP's favor. Permanent and temporary flowgates were binding for 1,068 hours during the month.

SPP has incurred \$67.2 million in M2M settlements since the process began in 2015.

Sunflower's Hestermann Elected WIRES President

Sunflower Electric Power's Tom Hestermann has been elected president of WIRES, an international trade association that promotes investment in the high-voltage grid.

Hesterman, Sunflower's manager of transmission policy regulations, succeeds National Grid's Brian Gemmill.

"The critical importance of a robust and resilient grid multiplies" as transportation and heating move toward an electrified future and states continue to pursue aggressive renewable portfolio standards, Hestermann said. "WIRES will redouble our efforts to educate and advocate for advancements in North America's transmission infrastructure."

Other elected officers include: President-elect Brian Drumm (American Transmission Co.'s federal regulatory relations & policy and associate general counsel), Vice President David Weaver (Exelon Utilities' vice president of transmission strategy), Treasurer Kelly Pearce (American Electric Power's transmission asset strategy & policy managing director), and Secretary Dan Prowse (Manitoba Hydro's Hydro Connections Department transmission access officer). ■

— Tom Kleckner

Company Briefs

Eversource Sets Carbon-neutral Goal

EVERSOURCE Eversource Energy last week pledged last week to be carbon neutral in all corporate departments and operations by 2030.

The utility said it will reduce energy by making its 69 facilities more efficient, cut fleet emissions, lower sulfur hexafluoride, and replace remaining bare steel and cast-iron natural gas distribution main lines. It claims it would be the first investor-owned utility to be carbon neutral.

More: [Harford Courant](#)

Mich. PSC Accepts Parts of UPPCO's Integrated Resource Plan

The Michigan Public Service Commission last week accepted parts of Upper Peninsula



Power Co.'s (UPPCO) integrated resource plan while recommending changes to the utility's long-range strategy for meeting customers' electricity needs.

In the order, the commission accepted provisions such as a 125-MW solar power contract, an increase in the utility's energy waste reduction goals, and allowing the Hoist and McClure hydroelectric facilities to operate directly in the wholesale power market.

The commission recommended removal of a proposal to build a 20-MW natural gas reciprocating internal combustion engine to replace the Portage combustion turbine unit. It also recommended removal of a proposed financial compensation mechanism as an incentive in conjunction with the 125-

MW solar power purchase agreement.

More: [Michigan PSC](#)

NIPSCO to Start New Year with Rate Hike



The Indiana Utility Regulatory Commission last week approved a rate increase for Northern Indiana Public Service Co. that will raise the average residential customer's bill about \$6/month. NIPSCO said new rates will go into effect in two phases (Jan. 1 and March 1).

The IURC order also reduced the monthly fixed charge for residential customers by 50 cents to \$13.50. NIPSCO originally requested an increase to \$17.

More: [Inside INdiana Business](#)

Federal Briefs

Feds Approve Plan to Ship LNG to South Jersey by Rail



The Pipeline and Hazardous Materials Safety Administration last week approved the use of trains to ship LNG to Gibbstown, N.J., from Wyalusing, Penn. It will be the first route in the county to allow the transportation of LNG by rail.

The administration approved Energy Transport Solutions' plan to transport LNG 175 miles from the reserves in Pennsylvania's Marcellus Shale via rail and export it through a yet-to-be-built terminal in Gibbstown. It authorized a special permit for shipments only between the two points in a specific tank car; directed the company to submit plans for the timing and quantities of LNG to be shipped; and said the company must prepare local emergency responders to deal with any incident involving the release of LNG.

More: [NJ Spotlight](#)

4 Nukes Under Consideration by Mexico CFE



Mexico's Federal Electricity Commission (CFE) is looking into building four 1,400-MW nuclear reactors, including installing two more reactors at the Laguna Verde nuclear power plant and two somewhere on the Pacific coast.

Each reactor would have a lifespan of about 60 years and cost about \$7 billion (US), according to estimates. Héctor López Villareal, CFE thermoelectric generation coordinator, said the reactors would diversify the country's grid and lower its dependence on natural gas, fuel oil and coal.

More: [Mexico News Daily](#)

NY Loses Climate Change Fraud Case Against Exxon

New York Judge Barry Ostrager last week ruled that Attorney General Letitia James



and her staff "failed to establish by a preponderance of the evidence" that ExxonMobil violated the Martin Act, a state anti-fraud law that gives powers and discretion to an attorney general fighting financial fraud.

James had argued that Exxon engaged in fraud through its statements about how it accounted for the costs of climate change regulation. She alleged that the company was keeping two sets of books regarding climate change: one presented to the public that accounted for the potential costs, and another internal one in which the costs were disregarded. The state was asking for as much as \$1.6 billion to be paid in restitution to shareholders. Instead, Ostrager accepted Exxon's argument that its internal practices to evaluate the possible costs of greenhouse gases on future projects "do not impact the company's financial statements and other corporate books and records."

"Nothing in this opinion is intended to absolve ExxonMobil from responsibility for contributing to climate change in the production of its fossil fuel products," Ostrager wrote. "But ExxonMobil is in the business of producing energy, and this is a securities fraud case, not a climate change case."

More: [The New York Times](#)

NuScale Nuclear Reactors Clear Latest Regulatory Hurdle



The Nuclear Regulatory Commission recently completed

its Phase 4 review of NuScale Power's plans to build 12 small nuclear reactors at the Department of Energy's desert site in Idaho. The decision puts the design certification application on track for approval by September.

Phase 4 is the completion of the advanced safety evaluation report. Only phases 5 and 6 remain, which are a review by the commission's Advisory Committee on Reactor Safeguards and preparation of the final safety evaluation report.

NuScale is working with Utah Associated Municipal Power Systems to build the reactors, which are scheduled to come online in the mid-2020s and produce 720 MW.

More: [Post Register](#)

Tx Line Opponents Sue Wisconsin PSC over Conflicts of Interest

The Driftless Area Land Conservancy and the Wisconsin Wildlife Federation filed a lawsuit last week in the U.S. District Court for the Western District of Wisconsin chal-

lenging two Wisconsin Public Service Commissioners' refusal to recuse themselves in the Cardinal-Hickory Creek transmission line case and the PSC's subsequent approval of the line that would cut through Driftless Area natural resources, farms and communities.



The nonprofit groups, which opposed the 100-mile high-voltage line, previously sought to disqualify Chairwoman **Rebecca Valcq** and Commissioner Mike Huebsch on the grounds of conflict of interest.

Valcq was previously employed as an attorney for We Energies, whose parent company owns 60% of American Transmission Co., one of the line's developers. Huebsch is a member of the MISO Advisory Committee. Both commissioners objected to the recusal requests before approving the project in September.

Environmental Law & Policy Center Executive Director Howard Learner, who filed the suit on the groups' behalf, said by not recusing themselves, the commissioners violated his clients' constitutional due process rights. He said private property may be condemned through eminent domain for the project, which will cost ratepayers more

than \$2.2 billion over the next four decades. The groups are asking the court to invalidate the PSC's decision and nullify the construction permit.

More: [Kenosha News](#); [Driftless Area Land Conservancy](#)

Residential Solar Hits New Peak with Q3 Installations



The U.S. residential solar industry set a record for installations in the third quarter, with 712 MW, according to Wood Mackenzie and the Solar Energy Industries Association.

The 712 MW made for an 8% increase from the same period last year. California accounted for 40% of the installations. Fourteen other states posted record number quarters as well. Looking forward, analysts predict an 8 to 18% growth in the residential market through 2021.

More: [GreenTech Media](#)

State Briefs

ARIZONA

ACC Ruling Could Spur Solar Development



The Corporation Commission last week unanimously amended state rules governing

utility purchases of power from qualifying non-utility operators of small renewable energy plants. The new rule requires Tucson Electric Power (TEP) and other state-regulated utilities to sign contracts of at least 18 years with owners of smaller solar, wind and other renewable projects.

Although state regulators have power over some contract terms under the federal Public Utility Regulatory Policies Act, the state's original rules adopted in 1981 did not specify the length of contracts signed. TEP and Arizona Public Service have urged the commission to limit PURPA power purchase agreements to two years and argued

that longer fixed-price contracts could force utilities and ratepayers to pay more for power. However, solar developers argue that fixed-rate contracts of at least 15 years are needed to attract investors and make the projects financially viable.

More: [Arizona Daily Star](#)

Renewable PPA Between UA, TEP Approved



the energy needs of the campus.

The commission approved a 20-year agreement in which parts of two pending projects — a 247-MW wind farm in New Mexico and a 100-MW solar plant with 30 MW of battery storage — will be dedicat-

ed to the university to meet all its power demand from the utility. When the projects go online in 2020, the university will stay on its general service time-of-use rate plan, but instead of standard rates, it will be charged a fixed "green energy" charge plus a negotiated charge for costs related to integrating renewables on the grid.

The university buys roughly 60% of its power from TEP and generates the other 40% with its own natural gas turbines.

More: [Arizona Daily Star](#)

CALIFORNIA

Regulators Clear Way for Natural Gas Bans



The Energy Commission cleared the way last week for the cities of San Jose, Menlo Park, San Mateo, West Hollywood and Santa

Monica, and Marin County to limit or ban the use of natural gas in new buildings. The policies are scheduled to take effect in January.

The communities' laws will vary. For instance, San Jose will prohibit gas appliances in new single-family homes, while San Mateo will not ban gas appliances but set a higher energy efficiency standard for buildings that use them.

The gas bans have drawn opposition from the gas industry, business groups and developers.

More: [San Francisco Chronicle](#)

Solar Project Gets Green Light



Clearway

The San Bernardino County Board of Super-

visors last week denied an appeal and thus approved Clearway Energy Group's solar energy facility in the Mojave Desert.

The county's planning commissioners unanimously approved the project in September. However, the Newberry Community Services District appealed the decision and asked supervisors to reject the 5.5-square-mile project, claiming there are deficiencies in the environmental documents and that it would harm the water supply and air quality.

Clearway Senior Director of Development James Kelly said the facility would replace the retired Coolwater natural gas-fired plant. Construction is expected to start in 2020 and continue over the next several years.

More: [The Associated Press](#)

INDIANA

Indianapolis Power & Light to Retire 2 Coal Units



Indianapolis Power & Light last week said it plans to retire two coal-fired units at its Petersburg Generating Station in Pike County. The move is part of the utility's integrated resource plan, which will be filed with the Utility Regulatory Commission.

IPL said it plans to retire one of the units in 2021 and the other in 2023. It will need to find a replacement to fill the capacity gap left by the retired units.

More: [Inside INdiana Business](#)

IOWA

Hardin County Places Indefinite Moratorium on Wind Turbine Permits



Hardin County supervisors last week voted 3-0 to place an immediate and indefinite moratorium on wind turbine building permits.

The supervisors said they placed the moratorium to protect a 911 communications tower being built near Hubbard. It is the second county in the state to do so, as Madison County enacted a one-year moratorium in October.

More: [KCCI](#)

MICHIGAN

Detroit to Get Settlement over Defective LED Streetlights



Public Lighting Authority

The Public Lighting Authority of Detroit

has agreed on a settlement with LED manufacturer Leotek Electronics after the authority said about 20,000 lights supplied by the company were "prematurely dimming and burning out."

The lighting authority spent \$3 million to replace 19,500 defective streetlights that were threatening to dim a third of the city's grid. The cost was covered by the authority after a \$4 million settlement with Leotek did not cover the \$7 million effort to swap out the lights the authority believed were faulty. Leotek must send the money by Dec. 23, according to the terms of a lawsuit. In return, the authority must ship its unused lighting units back to the company.

More: [The Detroit News](#)

MISSISSIPPI

Entergy Mississippi Powering up Madison County Site



Entergy

ENTERGY MISSISSIPPI, LLC

The Public Service Commission last week approved Entergy Mississippi's

construction of a \$57 million substation at its Madison County Mega Site.

The project, which also involves transmission upgrades, is expected to produce 80 MW and have the capacity to provide up to 300 MW in the future. Entergy will break

ground in December 2020 with a planned in-service date of December 2021.

More: [Entergy](#)

NORTH DAKOTA

ALLETE Clean Energy Commissions Wind Farm



ALLETE Clean Energy said its 106-MW Glen Ullin Energy Cen-

ter wind farm located in Bismarck became operational on Dec. 10.

The farm consists of 43 turbines and is the company's third wind project in the state and the first it will own and operate. The farm sells its power to Xcel Energy.

More: [Renewables Now](#)

PENNSYLVANIA

Mayor Kenney Signs Law Requiring Tune-ups for Philly's Biggest Buildings



Philadelphia Mayor **Jim Kenney** signed a law last week that will mandate all nonresidential buildings over 50,000 square feet to get "tune-ups" to bring their energy and water systems to the highest efficiency or

submit a certification of high-energy performance. According to the Office of Sustainability, the mandate will cut carbon pollution by nearly 200,000 metric tons.

City buildings produce 74% of local emissions. The city said the energy assessments, which buildings will have to perform every five years, will reduce pollution and energy waste and save owners money.

More: [WHYY](#)

VIRGINIA

Bipartisan Bill Chips Away at Dominion's Excess Profits



Dels. Lee Ware (R) and **Jerrald C. Jones** (D) unveiled a bipartisan bill last week, called the Fair Energy Bills Act, that would reinstate the authority of the State Corporation Commission to review

electricity base rates and set profit levels

for Dominion Energy.

The delegates said they want the commission to have full authority to examine rates and order refunds when it conducts a review in 2021. Much of the commission's authority was stripped in 2015 when the General Assembly agreed to freeze rates and prevent the commission from ordering utilities to return excess profits to ratepayers. The delegates noted that the commission has found that Dominion overcharged customers by more than \$1.3 billion since the freeze went into place.

"I'm not sure there was an appetite for legislation of this nature, but with these historic elections the last couple of cycles, I think we've gotten to the point where there is an overwhelming appetite for some reform," Jones said.

More: [The Washington Post](#)

Fairfax County Signs Biggest Solar Deal in State



Fairfax County last week signed solar power purchase agreements with three teams of developers (Sigora Solar and Standard Solar; BrightSuite

and Sun Tribe Solar; and Ipsun Solar and SunLight General Capital) for 1.73 million MWh in what the county calls the largest PPA initiative by a local municipality in the commonwealth.

The PPA service providers will install, own and maintain the installations, which will consist of PV arrays at more than 100 government buildings, county schools and

parks. The county did not disclose any terms of the contracts.

More: [WTOP](#)

Judge Approves Settlement Against Mountain Valley Pipeline



Henrico County Circuit Judge Richard Wallerstein last week ordered Mountain Valley to pay \$2.15 million for environmental damage it has caused in building a natural gas pipeline through the southwest

part of the state. The lawsuit accused the company of more than 300 violations of curb erosion and sediment regulations.

The consent decree also calls for court-ordered compliance and supervision of future construction with more stringent oversight of the company. Attorney General Mark Herring, who filed the case on behalf of the state Department of Environmental Quality and the Water Control Board, called the penalty one of the toughest ever imposed in such a case.

More: [The Roanoke Times](#)

King William Planning Commission Tables Solar Project

Invenergy

The King William Planning Commission last week voted

3-2 to table Invenergy's conditional-use permit request to build a 77-MW solar facility in Manquin until its next meeting on Jan. 7.

Those in favor of tabling the vote said they

received new information and needed more time to review it. Also, new conditions needed to be reviewed and public comments had to be considered.

Invenergy submitted its first conditional-use permit request to build the facility in August. Complying with several requirements in the county's solar facility ordinance, the company presented its request to the planning commission in October. The commission recommended the Board of Supervisors approve the permit; however, the proposal was returned to the commission following an overlooked notification to a landowner. Following the meeting, the commission and the community development department issued 19 conditions Invenergy would have to follow if the permit is approved, which it said it would comply with.

More: [Daily Press](#)

WASHINGTON

Tacoma LNG Facility Gains Permit Approval



PUGET SOUND ENERGY

The Puget Sound Clean Air Agency last week approved Puget Sound Energy's Tacoma LNG

facility being built at the Port of Tacoma.

Agency Executive Director Craig Kenworthy said that while the approval is not an endorsement of the project, the agency determined the application met standards set by applicable laws and regulations. Any appeals on the decision would be heard by the state Pollution Control Hearings Board.

More: [The News Tribune](#)

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