ISSN 2377-8016 : Volume 2021/Issue 41

October 12, 2021

Western Utilities to Explore Market Options

Effort Will Fall Short Unless it Leads to Western RTO, Critics Say

By Hudson Sangree

A loose coalition of the West's largest utilities said Oct. 5 that they are discussing ways to work together on "new market services" such as transmission expansion and day-ahead energy sales, while leaving open the possibility of forming or joining a Western RTO.

The Western Markets Exploratory Group (WMEG) began holding early-stage talks this summer, the utilities said in a joint *statement*. It includes Xcel Energy-Colorado, Arizona Public Service, PacifiCorp, NV Energy, Idaho Power, Salt River Project and six other utilities in the Pacific Northwest, Rocky Mountain states and Desert Southwest.

"We are excited to join with the other companies to explore creating new ways of sharing resources to better serve our customers with affordable and reliable power," Alice Jackson, president of Xcel Energy-Colorado, said in the statement. "We believe that a Western energy market is key to transforming the electricity system throughout the West, integrating more renewables onto the system, while reducing costs and maintaining reliability."

The discussions are geared toward "long-term solutions to improve market efficiencies in the West," the statement said. "That includes incorporating lessons learned from existing regional markets as well as other efforts across the West."

Many of the exploratory group's members participate in CAISO's Western Energy Imbalance Market (WEIM) or plan to join the interstate real-time trading market in the next two years.

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Oregon Group Contemplates RTO for a 'Decarbonized World' (p.14)

Study Suggests Texas LSEs Can Provide Reliability

White Paper 1 of Dozens of Proposed Revisions to ERCOT Market

By Tom Kleckner

NRG Energy and Exelon have funded a white paper that proposes an answer to the ERCOT energy-only market's reliable electricity supply problems by "leverag[ing] the highly competitive retail market."

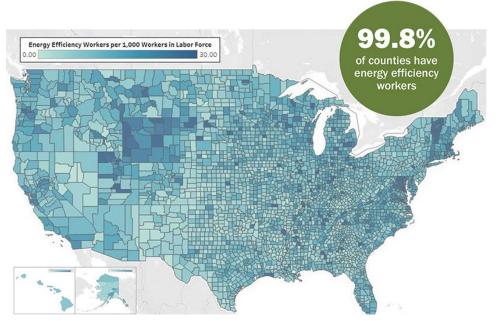
The Load Serving Entity Reliability Obligation would directly address resource adequacy concerns by introducing a formal reliability standard and a mechanism to ensure sufficient resources meet this standard. The paper's authors say the proposal would preserve the market's competitive and customer choice elements while ensuring there are enough resources able to perform during reliability events.

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Regulators Debate Competition in Entergy's Texas Footprint (p.16)

Welch: Democrats Face Hard Choices on Cuts to Biden's Budget

Energy Efficiency Measures in the Reconciliation Bill Could Create More than 1M Jobs



Rep. Peter Welch (D-Vt.) made a pitch for retaining energy efficiency funding in the Democrats' budget reconciliation bill. (p.6) | E4TheFuture/BW Research

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Grid Operators Seek Policy Role, Reliability 'Safety Valve'

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Conn. DEEP Releases Final Version of Integrated Resource Plan (p.23)

MISO Draws on Storage Model for DER Aggregations



PJM Requests Rehearing of MSOC Change

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2021 Annual Subscription Rates:

Plan	Price
Newsletter PDF Only	\$1,520
Newsletter PDF Plus Web	\$2,000

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NetZero Insider is now live! See p.13 for this week's coverage.

Stakeholder Soapbox

Transmission Planning Needs to be Improved — And We Already Know How to Do It

By Johannes P. Pfeifenberger and Rob Gramlich



Johannes P. Pfeifenberger | The Brattle Group



Rob Gramlich | Grid Strategies

Both reliability and clean energy related public policies are increasing the need for and benefits of large-scale regional and interregional transmission to avoid increased total electricity costs. Most studies of decarbonization find that a cost-effective end result requires at least a doubling of the delivery capacity of the U.S. transmission network.

Proven industry practices show that the industry already knows how to put together transmission plans based on co-optimizing generation and transmission to reliably and cost-effectively link anticipated future generation with anticipated future load. Any reasonable estimate of future generation reveals that each region will have a generation mix that is very different from today's. But as FERC said in its recent Advanced Notice of Proposed Rulemaking, "transmission planning processes generally do not plan for the needs of anticipated future generation."

In a new report, analysts from the Brattle Group and Grid Strategies offer some solutions that need to become standard practice, based on some proven examples of forwardlooking, multi-benefit planning by some RTOs/ISOs and other grid planners in the U.S. and abroad. (See related story, New Tx Study Calls for Holistic Planning Across Regions.)

The U.S. has been investing between \$20 billion and \$25 billion annually in improving the nation's transmission grid. Over 90% of these investments are justified based on: (1) the local reliability criteria of transmission owners, including the replacement of the many aging transmission facilities built before the 1970s; (2) the local and regional reliability upgrades triggered by generation interconnection requests, which are now dominated by renewable generation and storage resources in many regions; and (3) the reliability criteria associated with regional planning processes

conducted by grid operators. To date, only a small portion of transmission spending is justified on economic criteria and full analysis of broader regional and interregional benefits

The prevalent approach to transmission planning can be described as inefficiently reactive and incremental. It fails to take account of the large economies of scale and scope that exist in more holistic forward-looking plans. It fails to capture the co-benefits that exist in "reliability," "economic," and "public policy" based transmission facilities. Improved practices will significantly reduce electricity costs relative to status quo planning.

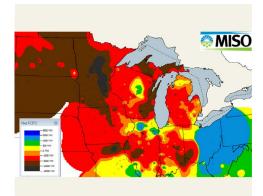
Costs associated with the prevalent planning approaches can be shown to be excessive when comparing studies under the current approach versus a holistic plan. For example, our report compares the results of a recent "regional" offshore wind analysis with the results of PJM's generation interconnection studies. PJM's study shows that the current generation interconnection study process (evaluating one interconnection cluster at a time) approximately doubles the transmission-related costs of integrating offshore wind generation compared to a more proactive, regional study process.

Improve Planning Processes

The planning processes can be improved by taking advantage of the last decade's proven industry experience. MISO's Multi-Value Project planning effort was a great example. It was **proactive** by incorporating anticipated future generation and load. It was multi**value**, considering reliability, public policy, production costs and other benefits. It was scenario-based, finding a "least regrets" set of lines that were valuable under multiple potential future states. And it was portfoliotbased, finding efficiencies and a less contentious cost allocation approach compared to considering projects individually.

MISO's MVP plan is only one example. SPP's Integrated Transmission Planning, numerous CAISO economic planning efforts, New York's public policy transmission planning, and ERCOT's CREZ and long-term system assessment approaches are all great examples of what can and should be done routinely.

These examples of successful, effective and proactive transmission planning demonstrate that we have proven and workable planning methodologies that can be employed. RTOs,



Transmission interconnection capacity deficit in MISO I MISO

their stakeholders and members, states, and FERC should see to it that these methods become the rule, not the exception. Thus far we do not have any good examples of **joint** interregional planning efforts that could lead to efficient interregional transmission infrastructure, but we'll need to have that as well to achieve an efficient, reliable and resilient network.

The Planning Imperative

It will be critical to improve the existing processes for transmission planning and generation interconnection with proactive approaches that employ the above methodologies. Without such improved planning, we will not be able to build the more cost-effective, more flexible electricity grid necessary to meet reliability, economic and public policy needs at lower overall costs. In fact, without improved planning processes we may not even be able to bring online the clean-energy resources necessary to achieve the public policy mandates in place today.

Johannes P. Pfeifenberger, The Brattle Group's practice leader for electricity wholesale markets and planning, is an economist with a background in electrical engineering and over 25 years of experience in electricity markets, regulation and

Rob Gramlich is founder and president of Grid Strategies LLC, which provides economic policy analysis for clients on electric transmission and power markets in pursuit of low-cost decarbonization. He serves as executive director of Americans for a Clean Energy Grid and the WATT Coalition.



Grid Operators Seek Policy Role, Reliability 'Safety Valve'

More Collaboration Needed to Accommodate Renewables, EIPC Paper Says

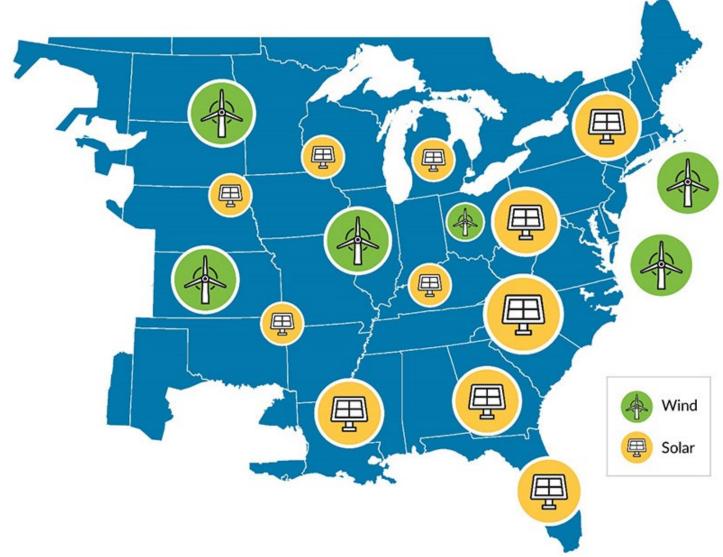
By Rich Heidorn Jr.

Grid operators and planners need "a seat at the policymaking table" and a reliability "safety valve" to ensure efficient and reliable integration of renewables, the Eastern Interconnection Planning Collaborative said in a white paper Wednesday.

The EIPC was formed in 2009 under an agreement by 19 planning coordinators from the Eastern and Central U.S. — including MISO, SPP, PJM, ISO-NE and NYISO — with funding from the Department of Energy.

Its new report, titled "Planning the Grid for

- a Renewable Future," contains no new data but makes three main recommendations for adapting the Eastern Interconnection to the increase in inverter-based renewables:
- Enhance policy coordination across the "three-legged stool" of planning, cost allocation and siting: "Enhancing planning alone will do little to manifest the significant transmission needed to achieve a high-renewable future unless policymakers also deal with the issues of who pays for the new transmission ... and challenges in siting new transmission, including issues of property rights, land use, and environmental and social justice."
- Establish a system of monitoring and course correction as events unfold: Regulators, industry and stakeholders should have the "opportunity to both monitor and correct course in a timely fashion if a particular [policy] path is leading to unnecessarily higher costs, limited choice for customers or negative reliability impacts."
- Enhance collaboration: To "ensure that public policy and the physics of the power system work harmoniously together," EIPC says policymakers considering renewable portfolio standards, carbon dioxide standards, or other energy-related goals should invite system planners and operators to



Representative renewable growth based on data from members of the Eastern Interconnection Planning Collaborative | Eastern Interconnection Planning Collaborative



provide input "as to the full-range of planning and operational challenges, costs and trade-offs associated with the proposed set of standards. Understanding the full range of implications can be extremely challenging, which sometimes more high-level analyses used in the legislative process can overlook."

The paper acknowledged the issues it raised "should not surprise industry leaders."

But it said that because of the size and diversity of the Eastern Interconnection, "the insights among the planning coordinators through this effort provide a robust view on the lessons learned in planning the transmission grid to support high-renewable systems."

The report says the growth of wind and solar resources is shifting resource adequacy risks beyond peak load periods, necessitating "more detailed modeling and integrated resource planning." It also said additional transmission is needed to integrate renewables and meet increased demands for electrification of the transportation and industrial sectors.

To respond, there should be "a seat at the policymaking table for power system operators and planners to articulate the system reliability needs and how they are changing, so that public policy has built-in processes to account for these needs," EIPC said. "Grid operators and planners need to be more engaged in the discussions."

The report said planners need more sophisticated modeling because of the growth

of rooftop solar, backup generators, home chargers for electric vehicles, the conversion of gas and oil heating to heat pumps and whole-building battery backups. "As with operations, system planners must have adequate visibility into the locations and level of penetration of distributed energy resources so that the impact on the bulk system can be accurately modeled and controlled."

In addition to transmission upgrades, integrating renewables may require "nontraditional assessments," such as electromagnetic transient (EMT) studies to determine the impact of interruptions caused by lightning and system faults.

It praised the "proactive" implementation of IEEE 1547, the standard for interconnection and interoperability of DERs, as an example of "good, enhanced consultation." (See State Regulators Endorse IEEE DER Standard.) "State utility commissions must adopt the new requirements if they are to be effective," it said.

The lack of standardized performance reguirements for inverter-based renewables has caused "significant delays" in the interconnection study queues of system planners, it said. "To address this issue, there must be transparency of the control systems by the designers and vendors, so that they can be validated by the resource owners and system planners to ensure system reliability."

The report predicts energy markets will face increasing challenges in obtaining reliability services such as generator ramping, voltage support, reactive power, frequency response and system inertia that have historically been

supplied by legacy synchronous resources at no cost or through regulated rates. "As resources become more diversified, the reliable and efficient delivery of electricity will require the development of additional market products to properly incentivize those ancillary services the grid needs," it said. "Additionally, falling marginal energy prices due to the increase in renewable resources has already put pressure on existing resources that rely on energy or capacity revenues to remain operational."

The group said regulators could consider a "reliability safety valve" in any future legislation to address unintended consequences that could impact grid reliability as new policies are implemented.

"The intent of the 'timeout' to address an identified reliability problem isn't to block progress on the intended policy objective," it said. "Rather, it is designed to ensure a limited surgical opportunity to address particular reliability issues that may arise either during the regulatory process in developing a final rule or during its implementation."

Previous EIPC reports have examined gas-electric coordination, transmission planning and system inertia. (See Study: Frequency Response OK in Eastern Interconnection.)

In addition to the RTOs, the EIPC includes Associated Electric Cooperative Inc.; Dominion Energy; Duke Energy; NextEra Energy's Florida Power & Light; PPL's Louisville Gas & Electric/Kentucky Utilities; South Carolina Public Service Authority (Santee Cooper); Southern Co.; and the Tennessee Valley Authority.

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Welch: Democrats Face Hard Choices on Cuts to Biden's Budget

Energy Efficiency Measures in the Reconciliation Bill Could Create More than 1M Jobs

By K Kaufmann

A webinar on Oct. 5 was ostensibly about energy efficiency jobs, but the discussion with Rep. Peter Welch (D-Vt.) inevitably drifted to the current battle over the bipartisan infrastructure bill and the Democrats' \$3.5 trillion budget reconciliation bill now unfolding in Congress.

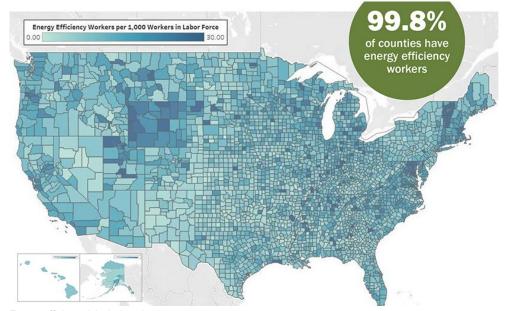
Welch reported he was one of about 10 lawmakers on a Zoom call with President Biden and Vice President Kamala Harris on Oct. 4. and "he and she were both very realistic. He's committed to everything in his \$3.5 trillion program. But the reality is Sen. [Joe] Manchin [D-W.Va.] thinks that is too expensive, and Sen. [Kyrsten] Sinema [D-Ariz.] thinks that, too," Welch said. "And we've got 48 votes in the Senate without them, so we've got to come to some resolution.

"There was a realistic discussion about the urgency of Democrats making the painful choices that we have to," he said, although no specific programs that might be trimmed were mentioned. "This bill is largely paid for, but on climate initiatives, where the clock is ticking, we're going to do everything we can as soon as we can, no matter what."

Welch's remarks came as Biden and progressives in the House of Representatives were trying to find a compromise figure, as reported in The Washington Post, with Biden suggesting \$1.9 trillion to \$2.2 trillion and the progressives countering with \$2.5 trillion to \$2.9 trillion.

Welch was optimistic that energy efficiency measures he has sponsored would survive the hard decision-making to come. One, the bipartisan Hope for Homes Act, would provide incentives for homeowners to make energy-efficient upgrades to their homes, while the Federal Buildings Clean Jobs Act, sponsored with Rep. John Sarbanes (D-Md.), would fund energy-efficient retrofits of government buildings, he said.

"Energy efficiency does three things," Welch said. "One, it saves money; if you reduce the use of whatever fuel it is, you're saving money. No. 2, it increases local jobs. ... In each of our congressional districts where there are energy efficiency initiatives, it results in good jobs for good people. And third, it reduces carbon emissions.



Energy efficiency jobs in America | E4TheFuture/BW Research

"What is so tremendous about so many of the energy efficiency initiatives is that they have to be done at a micro level," he said. "They have to be done in your home; they have to be done in the homes of black and brown citizens. And the more we have folks in the neighborhood participating in the program, the more we have local workers getting the benefits of the buildout, the more successful the program is going to be."

Home Retrofits and Climate Goals

The problem with energy-efficient jobs, however, is that they are hard to count, said Philip Jordan, vice president of BW Research, which conducts an annual energy efficiency job survey for E2 and E4TheFuture, both clean energy advocacy groups that focus on economic and job growth.

"The Bureau of Labor Statistics doesn't track energy efficiency as a standalone [category] because much of the work is done across other industry sectors," Jordan said during last week's webinar, rolling out the results of this year's survey. "So, these are electricians and plumbing and HVAC and engineers and architects and assemblers."

Based on interviews with more than 30,000 businesses across the country, the 2021 survey report counted 2.1 million Americans working in energy efficiency, accounting for more jobs than any other sector of the energy industry.

The industry took a hit during the first stages of the COVID-19 pandemic, but it has been slowly rebounding, according to the report.

Retrofitting all 111 million U.S. residential units — homes and apartments — built before 2000 could create more than 1 million fulltime jobs for 10 years, while saving Americans an estimated \$66 billion per year on utility bills, the report says.

Efficiency may also be critical for the U.S. and individual states to meet carbon-reduction goals. The American Council for an Energy Efficient Economy (ACEEE) has estimated that robust energy efficiency measures could get the U.S. halfway to its 2050 climate goals, yet few states have specific energy-efficiency targets. A recent report from the ACEEE found that out of 17 states with 100% clean energy standards, only two — Virginia and Washington state — have specific energy-efficiency

Similarly, while 24 states and D.C. have set carbon reduction goals, only New York and the district have set targets for decreases in energy consumption. Adoption of such targets could reduce the cost of meeting clean energy standards by managing demand on the grid, accelerate building and transportation electrification and "advance equitable decarbonization strategies" to ensure all consumers benefit from the clean energy transition, the ACEEE report says.



New Tx Study Calls for Holistic Planning Across Regions

Brattle Group, Grid Strategies Hope to Influence FERC Transmission Planning ANOPR

By Michael Kuser

A new study on regional and interregional transmission planning pinpoints inefficiencies that hinder the integration of new renewable resources and recommends solutions to save the industry time and money and keep customer rates down.

The Brattle Group and Grid Strategies released their report Thursday ahead of today's deadline for submitting comments on FERC's Advance Notice of Proposed Rulemaking (ANOPR) (RM21-17). The commission is looking at potential changes to improve electric regional transmission planning, cost allocation and generator

interconnection processes.

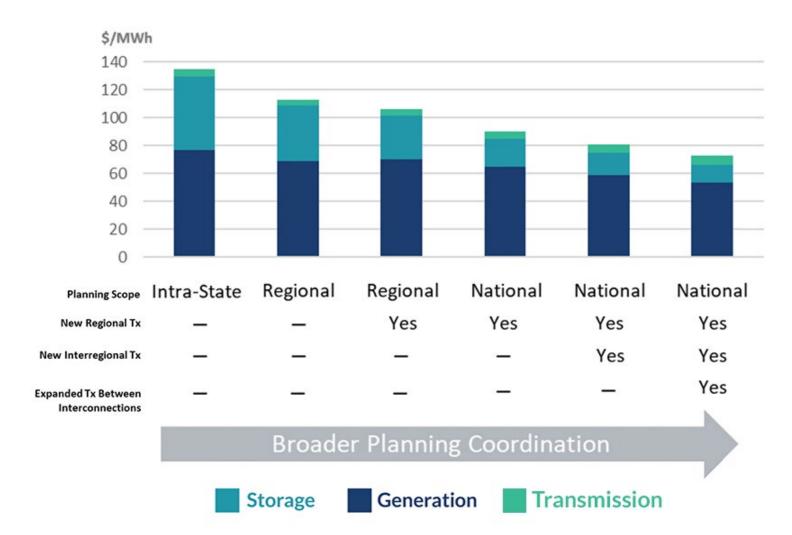
The report finds systemic under-planning and under-investment in transmission. It recommends "incorporating realistic projections of the anticipated generation mix, public policy mandates, load levels and load profiles over the lifespan of the transmission investment," rather than planning piecemeal on a case-bycase basis.

Transmission costs may grow as a percentage of total electricity costs but are still small relative to generation and present a more cost-effective solution that reduces systemwide costs and mitigates electricity rate increases, the report said.

"I think it's hard to even say that we're doing transmission planning, except for limited instances ... like in the New York public policy work ... and MISO MVPs [Multi-Value Projects]," Grid Strategies CEO Rob Gramlich told RTO Insider. "But just to comply with NERC regulations each year and make some upgrades here and there ... is hard to call planning."

Questions for the Future

The commission in its ANOPR gave several examples of questions it wants to address, starting with whether the existing regional planning processes appropriately consider the transmission needs of anticipated future generation, and whether reliability, economic



Electricity system costs by type and transmission planning scenario | Peter R. Brown and Audun Botterud, MIT



considerations and public policy requirements are inappropriately siloed from one another.

"The geographic scope of regional and interregional RTO planning processes tends to be narrowly focused in its consideration of the transmission-related benefits' geographic scope, typically quantifying only a subset of transmission-related economic and public policy benefits," the planning report said.

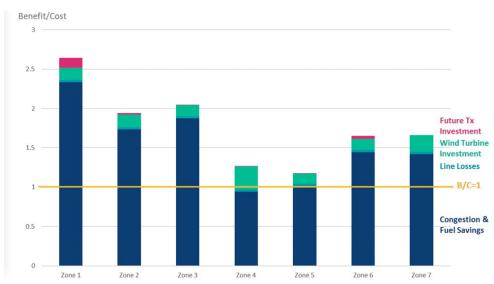
FERC also posed the question of how to appropriately identify and allocate the costs of new transmission infrastructure in a manner that satisfies the commission's cost-causation principle: that costs are allocated to beneficiaries in a manner that is at least roughly commensurate with estimated benefits.

Planners now consider only benefits that accrue to their own region without considering the broader set of interregional benefits, the report said.

"Projects near the regional boundaries, such as an upgrade to a shared flowgate, can address the needs of neighboring regions and need to be considered if the goal is to determine the infrastructure that most lowers cost," the report said.

Without considering interregional needs, quantified benefits will be understated, and even "regional" projects near RTO seams could fail to meet applicable benefit-cost thresholds for regional market-efficiency and public policy needs simply because the planning process ignores the benefits that accrue on the other side of the seam, the report said.

A key driver of MISO's MVP cost allocation process was state representatives requesting the RTO to evaluate cost-effective transmission solutions that could meet the region's



MISO's \$6.6 billion worth of MVP projects approved in 2011 are now estimated to provide economic net benefits of \$7.3 billion to \$39 billion over the next 20 to 40 years. | The Brattle Group

combined state-level renewable portfolio standards.

"A high-level outlook of how states wish to pursue meeting their goals, or a more detailed set of scenarios, would greatly improve the ability of RTOs to plan their future system without having to develop a specific portfolio of resources to do so," the report said. (See Tensions Boil over MISO South Attitudes on Long-range Transmission Planning.)

"The findings reinforce that there are many ways FERC can improve the current planning processes, particularly by ensuring that well known and previously tested transmission benefits are fully quantified," said Barbara Tyran, director of the American Council on Renewable Energy's Macro Grid Initiative, which supported the planning study.

New public policies and regulatory guidance is needed to implement improved planning processes that can achieve more efficient results, the report said.

FERC also asked whether and how to better coordinate between regional and local transmission planning processes to identify more efficient or cost-effective solutions; and whether it is necessary, and how, to more clearly identify the lines of regulatory authority and oversight between states and federal authorities.

Grid operators and planners need to be part of the policymaking process to ensure efficient and reliable integration of renewables, the Eastern Interconnection Planning Collaborative said in a white paper Wednesday. (See related story, Grid Operators Seek Policy Role, Reliability 'Safety Valve'.)





Southeast

Panelists: SEEM Can't Be Southeast's End Goal

By Holden Mann

ATLANTA — Participants in the Smart Electric Power Alliance's Solar and Energy Storage Southeast conference on Monday described the proposed Southeast Energy Exchange Market (SEEM) as an important first step in an ongoing conversation on alternative market structures in the Southeast.

"I certainly don't think that this is the end of a process," Chris Demko, associate general counsel for Southern Co., told the "Market Reform in the Southeast" panel. "It is supposed to be a sort of demonstration of innovation that we're looking to see. If there's value there [in other regions], how can we import that without all of the headaches?"

SEEM is intended to reduce trading friction across 11 Southeastern states by introducing automation, eliminating transmission rate pancaking, and allowing 15-minute energy transactions. Proponents, who comprise more than a dozen utilities and cooperatives in the Southeast, including Duke Energy and Southern, also claim it will promote the integration of renewable generation resources like wind and solar.

These promises have been disputed by some stakeholders, such as the American Council on Renewable Energy (ACORE), which published a report last month suggesting that other models surpassed SEEM's purported benefits. (See Report: SEEM's Benefits Beaten by Other Models.) An alliance of environmental groups has repeatedly pressed FERC to reject the proposal in favor of a technical conference on other potential market structures (ER21-1111, et al.), and several North Carolina lawmakers wrote the commission in August supporting this idea. (See NC Legislators Join Call for Southeast Technical Conference.)



Chris Demko of Southern Co. and Jennifer Chen of CO2efficient | © RTO Insider LLC



From left: Simon Mahan, Southern Renewable Energy Association; Chris Demko, Southern Co.; Jennifer Chen, CO2efficient; and Joshua Brooks, Brooksform | © RTO Insider LLC

Participants in Monday's panel did not go that far, but several speakers emphasized that SEEM is not the only possible model for improving trading efficiency and promoting the adoption of renewable resources. Jennifer Chen, senior policy counsel at clean energy consultancy CO2efficient, pointed out alternative governance models that ACORE and others have suggested, as well as specific policies found in other regions that might be used in the Southeast.

"There are good practices that we can leverage from each of these regions," Chen said. "For example ... PJM's tariff itself funds the consumer advocates in PJM states and enables consumer advocates to hire an executive director, hire consults, perform studies, [and] travel to meetings. ... There are differences across the regions that we can leverage in terms of best practices for governance."

Demko emphasized that while other governance models deserve consideration, regulators should not focus on the imperfections of the current proposal and potentially lose the opportunity for at least a partial improvement.

"This is a real option that can be delivered within a year, provided FERC accepts it," Demko said. "This is something that is real and achievable; it's not a hypothetical proposal and wouldn't require scrapping the existing

market that is delivering some of the most reliable electricity in the country."

Joshua Brooks, co-founder and CEO of consultancy Brooksform, suggested that SEEM and other proposed market reorganizations are ultimately "trying to come up with business models that are more closely mapped to the physics of how electricity works," which could prove useful to market design in general. But the underlying benefit of SEEM or any other structure is the opportunity to push a historically change-averse region toward accepting that new ideas don't need to be

"It's the Southeast, right? They are going to have to get familiar with the idea of ... just changing something a little bit," Brooks said. "And what the outcome is may not be technologically related to it at all. I think [SEEM] would be really interesting to look at and study, same with the Southern [energy imbalance market]."

Brooks said he's seen a "reticence to change" over the 12 years that he's been engaged in policy regulatory discussions in the region.

"So I think the folks who would make the decision aren't even looking at it as a technical jump ... [it's a way to] be familiar with the process and see where they could jump in on the next piece."



CPUC Opens Investigation of Utility Safety

All Gas and Electric Corporations Under Its Jurisdiction Subject to New OIR

By Hudson Sangree

The California Public Utilities Commission launched a proceeding Thursday to evaluate and improve the safety cultures of electric and gas utilities, with the aim of preventing the state's utility infrastructure from causing disasters like those of the last 11 years.

The new order instituting rulemaking (OIR) is significantly broader than prior safety culture investigations because it covers all gas and electric utilities under CPUC jurisdiction. Previous efforts focused on Pacific Gas and Electric after the San Bruno pipeline explosion of 2010 and Southern California Gas following the massive leak at its Aliso Canyon natural gas storage facility in 2015.

At least a half-dozen catastrophic wildfires blamed on electrical equipment since 2015 have made the safety practices at PG&E, Southern California Edison and other utilities a paramount concern. The November 2018 Camp Fire, for instance, killed 84 people and leveled the town of Paradise. State fire investigators determined the cause was PG&E's failure to replace a century-old "C" hook on one of its transmission lines.

PG&E is now under investigation for starting this year's Dixie Fire, the second largest wildland blaze in state history. The California Department of Forestry and Fire Protection seized PG&E equipment hit by a falling fir tree, and the federal judge overseeing PG&E's probation in the San Bruno case has questioned the utility's safety practices regarding shutting down power lines that show signs of trouble. (See PG&E Denies New Manslaughter

"Safety culture is an organization's values,

principles, beliefs and norms shared by individuals within the organization, manifested through their planning behaviors and actions," CPUC President Marybel Batjer said before Thursday's unanimous vote. "It shows how members of an organization work toward safe operations on a daily basis and how that translates into safety outcomes."

The new OIR is intended to fulfill recent legislative directives, the CPUC said.

Senate Bill 901 and Assembly Bill 1054 were passed in 2018 and 2019 to help investor-owned utilities cover billions of dollars in wildfire costs under California's strict liability rules while also requiring the utilities to submit to wildfire prevention and safety culture evaluations by the CPUC. (See Calif. Lawmakers Rush to Pass Utility Wildfire Aid and California Wildfire Bill Goes to Governor.)

"Safety culture assessments of electrical corporations are required as part of [AB 1054] and SB 901]," the proposed decision on the OIR said. "AB 1054 directs the commission's Wildfire Safety Division, now the Office of Energy Infrastructure Safety (OEIS), to conduct annual safety culture assessments of each electrical corporation, the first of which will be published in fall 2021. The AB 1054 assessments are specific to wildfire safety efforts and include a workforce survey, organizational self-assessment, supporting documentation, and interviews."

"SB 901 directs the commission to establish a safety culture assessment for each electrical corporation, conducted by an independent third-party evaluator," it said. "SB 901 requires that the commission set a schedule for each assessment, including updates to the assessment, at least every five years, and prohibit the electrical corporations from seeking reimbursement for the costs of the safety culture assessments from ratepayers."

The CPUC will use the new proceeding to implement the bills, especially SB 901, Batjer said.

"This OIR will help us fulfill [our] mission by requiring utilities to proactively prioritize safety to better serve the public," she said.

The proposed decision includes a preliminary scope of safety culture audits, but details remain to be worked out with stakeholder input. Parties have 45 days from Thursday to submit their written comments.



Firefighters try to protect a home in Greenville, Calif., a community destroyed by the Dixie Fire in August. | National Forest Service



PG&E Shuts off Power During Wind Storm but Limits PSPS

Strong Offshore Winds Arrive at Dangerous Time in Fire Season

By Hudson Sangree

Pacific Gas and Electric implemented extratargeted public safety power shutoffs (PSPS) Monday as powerful offshore winds gusted through drought-stricken Northern and Central California, prompting a red-flag warning from the National Weather Service.

The weather conditions were like those in October 2017, when firestorms driven by high winds and dry conditions tore through Napa, Sonoma and neighboring counties, killing 44 people and leveling thousands of structures. The 22 major wine country fires, some of which PG&E equipment started, were some of the most destructive fires in state history

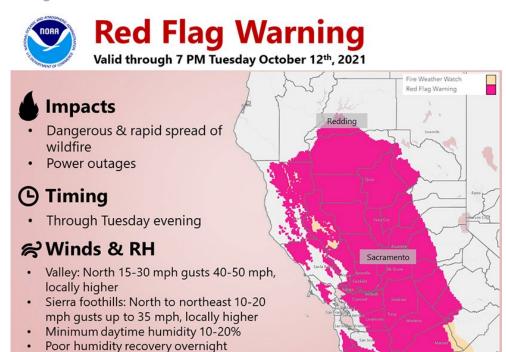
Napa and Sonoma were among more than 20 counties affected by Monday's PSPS, including Monterey and Santa Barbara counties in Central California.

"This safety shutoff is due to a dry, offshore wind event expected to start Sunday night and bring wind gusts of up to 50 mph by Monday morning," PG&E said in a news release. "As a result of this wind event, combined with extreme to exceptional drought conditions and extremely dry vegetation, PG&E began sending advanced notifications Saturday to customers where PG&E may need to proactively turn off power for safety to reduce the risk of wildfire from energized power lines."

The state's largest utility said it expected to blackout 25,000 customers in "very targeted" areas starting at 4 a.m. Monday and continuing through Tuesday.

The number of customers potentially affected was a small fraction of those impacted by PG&E's PSPS events in October 2019, which left nearly 2.4 million residents in the dark, some for up to a week, and caused an uproar among ratepayers and public officials. (See California Officials Hammer PG&E over Power Shutoffs and Calif. Regulators Bash PG&E's Power Shutoffs.)

PG&E's widespread use of PSPS in 2019 followed the wine country fires and the Camp Fire of November 2018, which killed at least 84 people and razed much of the town of Paradise. State fire investigators determined the cause of the Camp Fire was a broken PG&E transmission line that sparked dry vegetation. The fire exploded, driven by offshore



The National Weather Service declared a red-flag warning Monday because of high winds and low humidity.

winds like those that blew Monday.

NWS Sacramento

In September 2020, PG&E blacked out 172,000 customers, or about 499,000 residents, in portions of 22 counties in the Sierra Nevada foothills, the Sacramento Valley and the northern San Francisco Bay Area. Since then, under intense pressure from the California Public Utilities Commission and the governor's office, PG&E has made efforts to limit the scope and duration of its PSPS events. (See CPUC Orders Changes to PG&E Shutoff

The utility set up a Wildfire Operations Center, which is staffed 24 hours a day in fire season. It is installing 1,150 weather stations, adding more than 400 high-definition fire cameras, and reserving 65 helicopters to speed line inspections and restoration work after shutoffs, it said.

The addition of 1,000 sectionalizing devices and switches have helped limit the size of PSPS outages, PG&E said.

"The scope of [Monday's] overall event represents less than 0.5% of all PG&E customers," the utility said, adding that "weather 'allclears' will occur as early as Monday evening

with restoration expected to begin Tuesday afternoon."

"Once conditions are clear, PG&E electric crews will begin patrolling in the air, in vehicles and on foot to visually check de-energized lines for hazards or damage to make sure it is safe to restore power," it said.

A tree falling on a PG&E line is suspected of starting this summer's Dixie Fire, the second largest in state history, and a tree falling on a PG&E line, which remained energized despite a surrounding PSPS event, started last year's fatal Zogg Fire, the California Department of Forestry and Fire Protection (Cal Fire) concluded.

Last month, the Shasta County district attorney's office filed four manslaughter charges against PG&E in the Zogg Fire, marking the fourth time in five years the utility has faced charges in disasters related to its gas and electric systems. (See PG&E Denies New Manslaughter Charges.)

PG&E pleaded guilty to 84 counts of involuntary manslaughter in the Camp Fire, but it has denied the most recent manslaughter charges.



Western Utilities to Explore Market Options

Effort Will Fall Short Unless it Leads to Western RTO, Critics Say

Continued from page 1

Xcel's Public Service Company of Colorado (PSCo), Platte River Power Authority and Black Hills Energy, all members of the working group, had planned to join the WEIM but paused those plans in June to explore other options. (See Xcel Delays Joining EIM to Examine Options.)

The move followed a decision by Colorado Springs Utilities (CSU) to exit a joint-dispatch agreement with the three other Colorado utilities to join the WEIM. CSU instead opted to join SPP's Western Energy Imbalance Service (WEIS), with the intention of becoming a full RTO member.

The exploratory group said its efforts, expected to continue for several years, won't affect the energy imbalance markets anytime soon.

"WMEG's discussions will not impact participation in or evaluation of those markets in the short-term, as the group is focused on long-term market solutions," the utilities said last week.

Asked if the effort could lead to an RTO, Xcel spokeswoman Julie Borgen said, "the Western Markets Exploratory Group agrees on some core principles, including that any market or potential RTO that it would join or establish must outweigh the costs, and provide more value than the existing [SPP and CAISO energy imbalance models]."

"It's essential that the companies involved are able to meet their state and local carbon reduction targets, while also maintaining reliable, affordable service for customers," Borgen said.

A Western RTO?

Reaction to the WMEG announcement focused on the need for a Western RTO rather than piecemeal approaches.

"The West needs and deserves an RTO," Vijay Satyal, Western Resource Advocates' regional energy markets manager, told RTO Insider. Satyal said he hoped the coming together of private and public utilities from across the West would lead toward that goal. However, "if this announcement is a rushed measure to show something is happening and doesn't reflect public interest goals, that can create a bigger concern for everybody," he said.

The West's market is split between CAISO



A wind farm and power lines in Eastern Nevada | © RTO Insider LLC

and the rest of the West, leading to market inefficiencies and a lack of coordination, he said.

The WMEG shows utilities are "aligning to agree to come to the table for a long-term market solution, but that's not enough," Satyal said. "What we need is a market in the West that is a full RTO, one that is automated, transparent and has a fair governance structure that promotes clean energy and a decarbonized grid of the future."

In addition, he said, an RTO would "create a centralized situational awareness of the larger grid that can ultimately enhance grid reliability."

Advanced Energy Economy Managing Director Amisha Rai said in a statement Oct. 5 that "it's good to see the utilities publicly acknowledge the benefits of regional markets and collaboration, but as described, this announcement by utilities falls short of the urgency of the moment."

"The stakes are too high for slow and small steps," Rai said. "An RTO is needed to achieve truly reliable, affordable and expanded clean energy in the region. Utilities and state leaders should not delay any longer in moving away from the status quo toward real, meaningful change."

Momentum for a Western RTO had been building this year. While two-thirds of the nation's electricity load participates in organized wholesale markets, the West remains a collection of 38 balancing authorities with limited cooperation.

The development of a single RTO covering the entire U.S. portion of the Western Interconnection could save the region \$2 billion a year in energy costs by 2030, according to findings from a state-led study funded by the U.S. Department of Energy. (See Study Shows RTO Could Save West \$2B Yearly by 2030.)

The *study* also found that a full Western RTO would be more effective at reducing renewable resource curtailments and CO_2 emissions than under other configurations in which the region is broken up into two separate markets.

Citing potential benefits, Colorado and Nevada passed bills in June requiring transmission owners to join an RTO by 2030.

And FERC Chairman Richard Glick called for a Western RTO along with a growing number of policymakers, public interest groups and



industry leaders. (See Glick Says West Should 'Finish the Job' on RTO.)

Glick said at a FERC technical conference in June that "the time is right for the states, the region's utilities and other key stakeholders to go ahead and finish the job" and form an organized market in the West.

Prior efforts to form a CAISO-led RTO failed because California politicians refused to cede authority over CAISO, a state public benefit corporation, and because other Western states were leery of joining a Californiacontrolled RTO.

SPP and CAISO Comment

SPP has been pitching its benefits as the would-be leader of a Western RTO. Members of its WEIS have signaled interest in joining an SPP-led RTO, CEO Barbara Sugg told WECC's Board of Directors in June. SPP's proposed Western RTO would provide a day-ahead market and regional transmission planning, she said. (See SPP CEO Pitches WECC

on Western Benefits.)

SPP signed an agreement in August to operate Northwest Power Pool's resource adequacy (RA) program in the Western Interconnection, working with NWPP and its RA participants to help develop, implement and operate the program. (See SPP to Operate NWPP's Resource Adequacy Program.)

Responding to a request for comment on the WMEG. SPP said it "believes there is vast potential for continued market development in the West. We launched the Western Energy Imbalance Service market in the West this year, and we've been responding to interest from additional Western entities about their specific needs in a market offering."

"We look forward to the possibility of expanding our Western market and having further discussions with these entities and others about how SPP can assist utilities in achieving clean energy goals while providing reliable, affordable energy to customers," the RTO said.

CAISO is renewing its effort to expand the WEIM from a real-time to a day-ahead market with a stakeholder meeting scheduled for this Wednesday. It had put the plans on hold last year amid heat waves and blackouts. (See Heat Waves, Blackouts Slow Western EIM Expansion.)

CAISO CEO Elliot Mainzer said that "with the continued expansion of the Western EIM and our planned Extended Day-Ahead Market Forum on Oct. 13, we are heartened to see the growing interest in regional market development represented by the Western Markets Exploratory Group (WMEG)."

"At the ISO, we will continue to advance pragmatic, actionable market enhancements that optimize transmission and resource diversity across the widest geographical footprint possible and enable our many partners to continue to evolve together toward a fully integrated Western electricity market," Mainzer said.

Tom Kleckner contributed to this story.

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Oregon Group Contemplates RTO for a 'Decarbonized World'

By Robert Mullin

A Western RTO would likely take shape for reasons much different from those that motivated the creation of organized markets in other parts of the U.S.

That view was widely shared among members of Oregon's RTO Advisory Committee last Wednesday, when it met for a second time to hammer out the contents of a study on the benefits and risks of RTO membership, due to the legislature by the end of the year.

During the committee's first meeting in September, Adam Schultz, the Oregon Department of Energy's Electricity and Markets Policy Group lead, promised that the second gathering would address a key question: What problem is the state attempting to solve by joining an RTO?

The answers for other organized markets usually centered on the anticipated cost savings to utilities — and their ratepayers — from the centralized dispatch of generation and regional transmission planning.

But the views expressed Wednesday pointed to a different factor driving the need for a Western RTO: namely, its potential role in decarbonization.

'Feeling of Desperation'

What's changed?

"I'd say it's the conversation around our state's mandates on procuring more clean energy, but also around the impacts and effects

of climate change is having on our system," said Nicole Hughes, executive director of advocacy group Renewable Northwest.

"Ten years ago, we weren't seeing the radical climate [and] weather impacts; we weren't dealing with the wildfire situation that we are today," Hughes said. "So I think for some people involved in this conversation, there's a feeling of desperation that if we aren't doing everything that we could possibly do, to continue to live the lifestyles that we are hoping to live, then we're not doing enough."

For Renewable Northwest members, an RTO would be "one of the solutions" to decarbonizing the electricity sector, Hughes said.

Speaking from the virtual audience, Michael Jung, vice president of government affairs at generation and transmission cooperative PNGC Power, said his group's members are committed to achieving carbon neutrality by 2033. Jung said PNGC's membership of publicly owned utilities has in the past relied on the vast and "cheap" hydroelectric system managed by the Bonneville Power Administration to serve their customers "and never really had to think very hard about what to do to shape the future."

But BPA's "preference" customers confront a future in which the Federal Columbia River Power System will no longer be able to fully meet their needs. "The easy way out is no longer going to be an option," Jung said.

"In the context of our carbon commitment, we really do believe that a Northwest RTO is going to be an essential ingredient towards

giving us options that go beyond just the BPA preference power portfolio, and giving us a market that we can turn to to meet our needs, particularly in clean power, as well as facilitating the delivery across the transmission network, which may or may not be BPA[-operated]," he said.

Sarah Edmonds, director of transmission services at Portland General Electric, said an RTO is "unique" in offering the "integrated solution" needed to facilitate "deep decarbonization and clean energy integration" through better utilization of "resource solutions that don't look like our traditional set of generation resources" on the grid.

"And when I say 'integrated,' I'm emphasizing the fact that the RTO brings all of the inputs and outputs from the market optimization part of the RTO, the transmission planning and the resource adequacy piece - potentially. And because those pieces are under one roof, they're able to leverage each other, and the data that's produced from these different functions and mechanisms can be integrated to provide that solution where all the pieces are coming together," Edmonds said.

Mary Wiencke, vice president of market, regulation and transmission policy at Pacifi-Corp, cautioned that an RTO by itself will not reduce carbon emissions.

"I think the idea is to operate the system more effectively and enable that decarbonization to happen more efficiently, more cost effectively," she said.

But Wiencke said any RTO dispatch model would need to consider state policies, such as California's carbon pricing, a policy soon to be adopted by Washington state as well. "Those state policies will need to be reflected in the market rules in some fashion." she said.

"I think one thing for you all to consider is that all seven RTOs/ISOs that have been formed were formed in a carbon environment. This is an opportunity for the region to consider what an RTO would look like in a decarbonized world," said Ravi Aggarwal, a BPA manager and ex officio member of the RTO Advisory Committee.

'Art of the Possible'

During the committee's first meeting in September, it was Aggarwal who posed the idea that the Pacific Northwest consider an "incremental" approach to developing an RTO.



BPA transmission line in Umatilla County, Ore. | © RTO Insider LLC



(See Oregon RTO Committee Ponders Paths to Regionalization.) On Wednesday, he clarified that he wasn't advocating for foregoing the pursuit of an RTO with the looser arrangements that exist in the region today.

But Aggarwal pointed out that the Northwest is unique in that it contains BPA, a non-FERC jurisdictional entity that controls about 70% of the region's transmission and faces possible statutory limitations related to how it can participate in an RTO.

"If you look at the history, it took us about four years just to form a regional planning organization — Northern Grid — and that's just one functionality of many that an RTO serves," Aggarwal said, recounting other incremental developments such as the expansion of the Western Energy Imbalance Market (WEIM) (which BPA will joint next year) and the creation of the Western Resource Adequacy Program by the Northwest Power Pool. (See RA Program Will Require Restructuring of NWPP.)

"All those are incremental steps that move us probably closer to an RTO construct. It doesn't take us directly to an RTO, but it builds a pathway to maybe eventually get to an RTO," whether within an area like the NWPP footprint or West-wide, he said.

Spencer Gray, executive director of the Northwest & Intermountain Power Producers Coalition, said his organization has supported the incremental steps the region has taken so far but thinks those efforts might be reaching the limits of their effectiveness.

"I think we're going to get up to the edge of not being able to do much more, to evolve our grid to deal with emerging issues like the commitment of Washington and Oregon to 100% clean grids. We're not to that edge yet; I think perhaps the [WEIM] day-ahead market possibly will be the edge of that functionality that can be bolted on to our existing grid without a more fundamental shift, which an RTO represents," Gray said.

Wiencke said the need to decarbonize might outpace the timeline for creating an RTO.

"The conversation, I think, is really about urgency, and really about accelerating the decarbonization process, and I think there's a lot of things that are needed to achieve that, including potentially an RTO," Wiencke said. "However, I think there's real tension there, because an RTO is going to take a long time to put together and to put in place, and I don't know how to advise on sort of accelerating the development of an RTO."

Oregon Public Utility Commissioner Letha Tawney pointed to other "constraints" beyond BPA's jurisdictional status that have consigned the Northwest's electricity sector to a policy of incrementalism — both rooted in California.

The first is CAISO's state-run governance model, which Tawney believes California lawmakers would be willing to amend.

More intransigent though is the state's resource adequacy model — overseen by the California Energy Commission rather than CAISO — which Tawney thinks the legislature is less likely to change.

"To incorporate [California] in the [RTO] dispatch, to take advantage of all the solar that they want to send out on a daily basis, and all of the investment they're making in batteries, we will face a real challenge if we try to bring both the RA construct and a market construct together," Tawney said. A governance change for RA program "isn't even on the table right now."

"There isn't that sort of perfect RTO that we're comparing to; we're comparing to the art of the possible, given the existing landscape we're operating in," she said.

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Regulators Debate Competition in Entergy's Texas Footprint

By Tom Kleckner

Texas regulators last week discussed the lack of competition in Entergy Texas' footprint in the state's southeastern portion, questioning whether the costs that previous commissions have allowed the utility to recover have benefited ratepayers.

At issue is a transmission-to-competition rider the Public Utility Commission approved in 2006, allowing Entergy to recover \$14.5 million annually over a 15-year period for expenses incurred in 1999 through 2005, plus carrying costs, a figure that amounted to \$207 million. The order was a result of 2005 legislation (House Bill 1567), which allowed an investor-owned utility to recoup spending more for capacity under power purchase agreements than were included in its last rate case (31544).

"It troubles me that ratepayers in the southeast spent [\$200 million] on the transition to competition, and they have nothing to show for it," Commissioner Jimmy Glotfelty said during the PUC's open meeting Thursday.

The order stipulated three true-up periods every five years, with the last occurring this year. Entergy's final true-up, approved by the PUC on Thursday, reflected a cumulative overcollection of \$3.1 million (51806).

The utility, then known as Entergy Gulf States, opted out of ERCOT's competitive market, eventually joining MISO in 2013.

"It seems to me competition has been good for the rest of the state," Glotfelty said. "If this moves us toward a competitive market in that area, I think that would be prudent. Stakeholders need to tell us is it's time to move forward with competitive choices in the southeast region."

Commissioner Will McAdams echoed Glotfelty's comments, saying expanding competition into the southeast has been "heavily debated" within the state legislature, where he once worked. He also noted opinions over whether Entergy Texas should join ERCOT's competitive market have gone back and forth.

The February winter storm "has made people evaluate that maybe [competition] is not such a good thing," McAdams said. "If consumers and ratepayers want to see any type of competitive benefit in the future, we should provide them a venue at the PUC during the interludes between legislative sessions,



ERCOT's Dan Woodfin (left) and Kenan Ogelman brief the PUC on the grid operator's summer performance. | Texas Admin Monitor

where they can speak in front of their elected representatives."

Commissioner Lori Cobos reminded her peers that one of the reasons Entergy joined MISO was that it wanted to "garner some of the benefits of being in an actual RTO or ISO."

"As a commission, we should continue to review whether that is producing the benefits that were proffered to us as joining MISO. This merits a lot deeper consideration," Cobos said.

After listening to the debate, PUC Chair Peter Lake offered his opinion on what Entergy's customers can do.

"If they want to have that conversation, they should let us know," he said.

ERCOT to Continue Conservative Ops

ERCOT staff told the commission that they will continue with their conservative operations approach through the winter and into next summer because of maintenance outages during the shoulder months.

After assuring the commission they would recall or deny thermal maintenance outages should unseasonably warm or cold weather create tight conditions, staff did just that on Friday, issuing an advanced action notice for Monday. The grid operator had said it expects to withdraw or delay approved or accepted outages from 3 to 9 p.m. to scrounge up 94 MW of capacity to meet expected demand.

According to the notice, ERCOT expects wind and solar contributions to amount to about 6 GW from 6 to 7 p.m.

Dan Woodfin, senior director of system operations, told the PUC the amount of thermal capacity taken offline for maintenance outages has increased this fall to 18 GW, up from 10 GW a year ago.

Woodfin and Kenan Ögelman, vice president of commercial operations, also briefed the PUC on the recently completed summer season that they summarized as cooler than normal, wetter than normal, less windy than normal and conservative.

Average daily temperatures were 1 to 2 degrees cooler than normal, without the widespread temperatures across the state that generally mark Texas summers. ERCOT did set new monthly peaks for June (70.2 GW) and September (72.2), but the summer peak of 73.5 GW on Aug. 31 was far short of the projected 77.2 GW.

Additional solar resources led to higher solar generation June through August, peaking at a record 7.04 GW on Aug. 31. Wind energy also set a new demand peak, hitting 23.6 GW



on June 25.

Ögelman said prices were relatively low during the summer, with few spikes. ERCOT committed more resources through reliability unit commitments than it has in previous summers — for more than 2,000 effective hours, compared to about 200 in 2020 — and spent more than \$50 million each month during the summer procuring non-spin reserves and other ancillary services.

ERCOT has drafted a nodal protocol revision request (NPRR) that will allow non-controllable load resources to participate in non-spin reserves, Ögelman said. The *measure* has cleared the Technical Advisory Committee and goes before the Board of Directors next. (See ERCOT Technical Advisory Committee Briefs: Sept. 29, 2021.)

"There's no good reason not to allow load to participate," Ögelman said when asked the reason for the change. "You want all the resources that can provide value to that space providing value to that space. Secondarily, this adds more liquidity to that market."

When Ögelman told the commissioners the NPRR may not be implemented until the middle of next summer, Lake said softly, "We can work on that."

PUC Clarifies Securitization Order

Staff have filed draft orders codifying the commission's response to ERCOT's requests for debt-obligation orders that would allow the grid operator to securitize \$2.9 billion

in market debt as a result of high charges incurred during February's storm (52321, 52322). (See Texas PUC Finances Market Debt over Lt. Gov.'s Objections.)

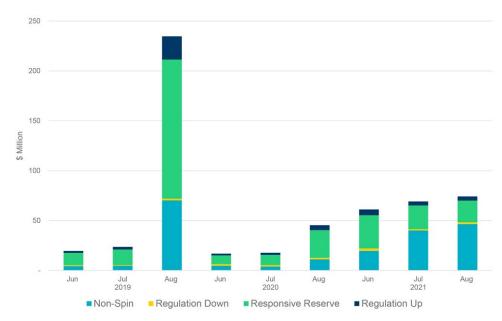
The commissioners agreed that companies that opt-out of *ERCOT's proposal* to finance \$2.1 billion in debt would have to form a new entity if they want to start serving unaffiliated customers. Upon re-entering the market, the entities would be assessed uplift charges.

An NPRR wending its way through the ERCOT stakeholder process would strengthen the grid operator's market-entry qualification and continued participation requirements. The commissioners decided to wait on the NPRR, rather than direct ERCOT to develop and implement it.

In another storm-related docket, the commission agave staff the go-ahead to publish a *rulemaking* for public comment that cuts the high systemwide offer cap (HCAP) from \$9,000/MWh to \$4,500/MWh. It will become effective Jan. 1 (52631).

The HCAP is currently set by rule at \$2,000 after it was stuck at \$9,000 for too many consecutive hours during the storm but was to revert back to \$9,000 on Jan. 1. The cap was designed to incent generation to come online during tight conditions. (See "Offer Cap Could be Halved," *Texas PUC Directs Tx Construction in Valley*.)

"By no means will this be the only action we take on the ERCOT market design structure,"



With the exception of August 2019, ERCOT's ancillary services expenditures this summer exceeded the previous two. | ERCOT



The Entergy Texas footprint creeps close to Houston. | *Entergy*

Lake promised.

Status Reports for Valley Project

Following the PUC's directive last month to three utilities that they add a second 345-kV circuit to an existing transmission line in the Rio Grande Valley, Cobos requested quarterly updates on the project (52682).

Cobos *asked* that effective Nov. 1, AEP Texas, Sharyland Utilities and South Texas Electric Cooperative file progress reports detailing tasks, time estimates, coordination with ERCOT, delays, and reliability and safety measures necessary to complete construction.

In other actions, the PUC:

- rejected Entergy Texas' application to acquire a proposed 100-MW solar facility in southeast Texas, agreeing with an administrative law judge that the utility did not prove the acquisition was a cost-effective way to provide consumer benefits when compared to alternatives (51215);
- signed off on a unanimous settlement agreement between AEP Texas, staff and other parties under which the utility will refund \$23.4 million to ratepayers for transition bonds issued by its AEP-Central Division (51484);
- granted requests by Southwestern Public Service (52072) and Texas-New Mexico Power (52153) to adjust their energyefficiency cost recovery factors for the 2022 program year by \$6.3 million and \$7.2 million, respectively; and
- assessed a \$56,000 administrative fee against AEP Texas for exceeding SAIDI and SAIFI standards by more than 5% during its 2019 reporting year (52034).

Study Suggests Texas LSEs Can Provide Reliability

White Paper 1 of Dozens of Proposed Revisions to ERCOT Market

Continued from page 1

Written by consulting firm Energy and Environmental Economics (E3) with the help of R Street Institute senior fellow Beth Garza, ERCOT's former market monitor, the suggested market design is one of dozens of proposals and recommendations supplied to the Public Utility Commission as it works to address flaws laid bare during the February winter storm in its blueprint for a redesigned market (52373).



Beth Garza, R Street Institute | © RTO Insider 110

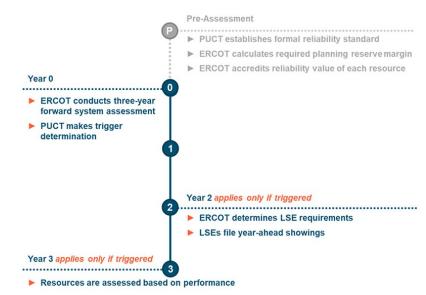
"This discussion was coming whether we wanted to have it or not," Beth Garza told RTO Insider. "It's time for an examination of what we want from the ERCOT energy market. As always, it takes a crisis to force that decision."

"It offers the best pathway I've seen on electric reliability in the state of Texas," tweeted former Montana regulator Travis Kavulla, now NRG's vice president of regulatory affairs. "We're at a seminal moment where Texas decides either to have a centralized or [government]-led procurement for reliability — or where the hard work of reliability is done by the decentralized, competitive retail market that's flourished in the state."

Under E3's proposal, the PUC would determine a formal system reliability standard, such as one day in 10 years, and ERCOT would calculate the required seasonal reserve margin to meet the standard.

The grid operator would then accredit each resource's reliability value for each season. Intermittent resources and others with dispatch limitations would be accredited according to their expected performance during reliability events. ERCOT would then give a threeyear forward assessment of whether it has sufficient accredited resources to satisfy the seasonal reserve margin necessary to meet the reliability standard.

That would trigger the PUC's LSE Reliability Obligation, with each load-serving entity retail electric providers, cooperatives and municipalities — assigned a seasonal reliability requirement based on its projected firm load during critical system hours. LSEs serving



E3's white paper says the LSE Reliability Obligation's components provide a balanced and comprehensive solution to help ensure ERCOT system reliability. | Energy and Environmental Economics

interruptible loads would receive a reduced reliability requirement. Any LSEs unable to reach their seasonal requirement on a yearahead forward basis would be assessed a penalty that the grid operator could use to procure accredited resources and correct the deficiency.

Resources accredited with a reliability value and obligated as part of an LSE's portfolio would be required to offer into the energy market during designated reliability events, with penalties assessed for nonperformance.

"We had to offer enough specificity so that people had a working understanding of what this proposal looks like, but to be careful of not being too prescriptive of what's being defined," Garza said. "The ERCOT energy-only market does a lot of things really well. What it doesn't do, and never will, is provide any certainty for installed capacity. It incents and hopes people will react and respond."

Garza, who was brought in by NRG and Exelon to provide an independent analysis of ERCOT's market design and to recommend "practical reforms," said the paper leans on proposals from the Australian and Albertan markets, the only two similar to the Texas grid. Those markets have also been the subject of restructuring discussions and legislation intended to ensure resource adequacy, the report says.

To reach greater certainty in resource adequa-

cv. Garza said. ERCOT first needs to specify quantities, how they will be measured and who is going to provide the capacity.

"If you need requirements, the best place to put those is on the LSEs," she said. "We're acknowledging the competitive retail world here. We will allow those retailers to figure out how to make those obligations in a way that suits the customers' needs and expectations. That's what makes this mechanism much more practically attractive than a centrally dispatched market."

The LSE Reliability Obligation differs from a capacity market in that instead of one entity buying capacity on behalf of everyone else and spreading the costs to them, Garza said, LSEs will "go out and figure out the best way to do that."

"We would describe [the proposal] as a really good idea," she said. "It's not a good idea [that] you can snap your fingers and it's implemented. Significant processes and mechanisms have to be developed and defined. There are some market power issues that have to be addressed. The PUC has to make those decisions."

The PUC will review the various recommendations to modify the market and prevent a repeat of February's near collapse. Several workshops will be held before the final blueprint is released in December.



Texas Senators Call for New RRC Weatherization Rules

By Tom Kleckner

Saving the Texas Railroad Commission's (RRC) proposed weatherization rules for natural gas facilities don't align with the state legislature's intent, a Senate committee has sent a letter to the agency urging it to revise its rulemaking.

"It has become abundantly clear that failure to properly identify and weatherize critical natural gas infrastructure contributed to widespread power outages across the state," the letter says. "The commission's proposed rules contemplate designating all natural gas infrastructure assets as critical without regard to whether these assets directly support critical generation."

During a Sept. 28 hearing before the Senate Business and Commerce Committee involving the RRC, which regulates the state's oil and natural gas industries, the senators learned that under the commission's proposed weatherization requirement, facilities can avoid the rule by not declaring themselves as critical infrastructure and paying a \$150 opt-out fee. A Federal Reserve Bank of Dallas report said it can cost between \$20.000 and \$50.000 to weatherize new and existing wellheads. (See "State Senate Grills Gas Regulator," Texas PUC Finances Market Debt over Lt. Gov.'s Objections.)

The letter, signed by all nine members of the committee, said rather than designate all facilities as critical, the RRC should start with gas-fired units and work backward through the supply chain to prioritize those elements "most directly essential to electric generation."



Texas Sen. Charles Schwertner leads the Business and Commerce Committee's Sept. 28 meeting. | Texas

"We sent this letter to the RRC to provide guidance as they proceed in their rulemaking process," committee Chair Charles Schwertner (R) tweeted. "I will continue to hold these agencies accountable."

Separately, Rep. Jon Rosenthal (D) filed a bill last week to close the loophole. "It is vital

that we fix this oversight, so that Texans may finally have a reliable power grid," Rosenthal tweeted

The RRC on Thursday requested the state's natural gas operators to "take all necessary action" to prepare for winter weather, according to the Houston Chronicle. ■









2 New ERCOT Directors Named, Replacing Current Board



Paul Foster (left), Franklin Management, and Carlos Aguilar, Texas Central Partners | Franklin Management/Texas Centra

By Tom Kleckner

The Texas Public Utility Commission on Monday announced that a new chairman and second independent director have been selected for ERCOT's Board of Directors, replacing the eight market segment representatives sitting on the board.

The PUC said in a release that the ERCOT Board Selection Committee had chosen Paul Foster, president of Franklin Management and founder of Western Refining, as the board's chair and Carlos Aguilar, CEO of Texas Central Partners, as the first two directors for ERCOT's new board.

Foster and Aguilar will join PUC Chair Peter Lake, interim ERCOT CEO Brad Jones and the Office of Public Utility Counsel's Chris Ekoh on the board. Lake is a non-voting member, as will be ERCOT's CEO.

The PUC said the board's composition meets the requirements of Senate Bill 2, which replaced the five independent directors and

eight market segment representatives with eight independent directors chosen by a selection committee appointed by Texas' political leadership.

The two directors will give the board a quorum and allow it to meet this morning without the previous directors to consider ERCOT's request for an expedited approval of amended bylaws to comply with SB2.

The PUC release quotes the commission and ERCOT's leadership with expressing "their gratitude to the outgoing board members for their service to Texas."

SB2 requires each board member to be a Texas resident with executive-level experience in finance, business, engineering, trading, risk management, law or electric market design. When the February winter storm nearly brought the ERCOT system to total collapse in February, Texans frustrated with the ensuing long-term outages directed their ire toward the six board members who lived outside the state. (See ERCOT Chair, 4 Directors to Resign.)

The remaining six board members are expected to be named in the coming months. The selection committee is working with a search firm to find the directors. (See Search Firm Chosen to Find New ERCOT Board Members.)

Foster has previously chaired the University of Texas System Board of Regents and been a member of the Texas Higher Education Coordinating Board, the University of Texas System Lands Advisory Board and the El Paso Branch of the Dallas Federal Reserve Bank.

Aguilar has a background in global businesses and public-private development projects; his company is working to develop a high-speed train between North Texas and the Houston area. He has an undergraduate degree in mechanical engineering from Duke University and a doctorate in technological economics from the University of Stirling in Scotland.

"We welcome these highly qualified leaders, their expertise and insights into our relentless pursuit of grid reliability," Jones said in a statement.



Overheard at 2021 ISO-NE Regional System Plan Forum

ISO-NE hosted a virtual public forum on Wednesday to discuss its draft 2021 Regional System Plan (RSP), which generally uses a 10-year planning horizon to estimate the need for energy resources.

However, several studies are underway looking beyond 10 years to assess reliability with a decarbonized grid. Planning is also necessary for a future grid that is prepared to respond to extreme incidents like calamitous weather or cybersecurity events.

Here is some of what we heard during the forum.

Storage, Cybersecurity Keys for King

Before he was elected to two terms as Maine's governor, U.S. Sen. Angus King (I-Maine) worked for the development of hydroelectric and biomass projects and energy conservation in New England with two companies, one of which he owned and sold before entering elected politics.

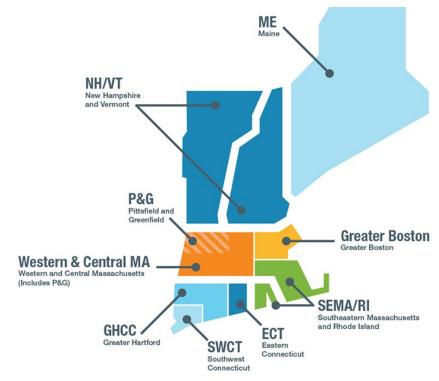
King said the key to decarbonizing the power grid with 80% of electricity coming from renewables by 2030 is long-duration battery storage.

"I think the single biggest step is storage," King said. "That's the thing that is most important and allowing us to go to a decarbonized future."

King said he does not see a limit to wind and solar technology, which is "improving daily; as



U.S. Sen. Angus King (I-Maine) | ISO-NE



Key transmission planning study areas in New England. | ISO-NE

their efficiency is going up, their cost is going down dramatically." Instead, the problem is what fills in the gaps.

"Storage is the real Green New Deal," King said. "If we can deal with that issue and can come up with the technology for grid-scale, long-duration storage, then we are well on our way to a decarbonized future."

The grid of the decarbonized future also needs protection from bad cybersecurity actors. King said Russia and China were maliciously working to gain access to New England's power grid as he spoke at the forum.

"I can guarantee you, right now at this very moment, there's somebody in Moscow or St. Petersburg or Beijing or Shanghai working on how to penetrate ISO-NE; how to plant malware; how to create the opportunity to get in our data systems, to get in our transformers," King said. "This is the most significant national security challenge that we face right now. The next 9/11 will be cyber."

King added that RTOs have done well at "being ahead of this problem," though they "can't ever stop."

"This is a constantly evolving threat," King

said.

As co-chair of the *Cyberspace Solarium Commission*, King said he had spent the last three years establishing a national cybersecurity strategy.

"I can tell you this is a grave threat, and you're the target," King said. "We need to establish a new relationship between the federal government and the private sector because 85% of the targets are in the private sector."

King said that the natural gas pipeline system is "not adequately protected." Because more than 60% of New England's electricity comes from natural gas, King said that if something happens to the pipeline system, "we're offline."

Panel Discusses Extreme Events

NERC CEO Jim Robb said during a panel discussion on preparing and responding to extreme events that there have been a "cascading series" of weather incidents that have impacted the power grid. However, the "granddaddy of them all" was in Texas last February when a winter storm caused the ERCOT system's near collapse and long-term outages.

"These weather events impact not only generation availability and deliverability but also loads," Robb said. That is the "triple whammy" of not knowing what loads are being served, not having the infrastructure to deliver it and not knowing whether the generation "is going to show up."

"There's going to be a new set of tools needed because I think we've tortured the ones we used for our grandfather's electric systems about as far as they can go into the new world," Robb said.

Bill Magness, the former CEO of ERCOT who was fired in the wake of the storm, said it led to the largest controlled load shed in U.S. history, but "we did keep the system under control."

"While we had horrendous impacts on human

life, on the economy ... we were able to hold on to the system, not go into a blackout and come out of it with the system intact," Magness said.

A big issue, according to Magness, was the freezing up of generation units.

"It was an extreme weather event, but being prepared for those worst cases is critical," Magness said. "You can have the fuel, but if you don't have the ability to run the plant, you're not going anywhere."

Henderson Remembered

During opening remarks, ISO-NE Director Vickie VanZandt paid tribute to Mike Henderson, the RTO's former director of regional planning who died May 22, a little more than a year after his retirement. The meeting was

dedicated to Henderson.

Much of Henderson's tenure at ISO-NE focused on the creation and evolution of the

"Mike was at the heart of the regional and interregional planning process in New England from the late '90s until his retirement last year," VanZandt said. "From the first through RSP 19. Mike's fingerprints were all over each of these reports."

The RSP process, according to VanZandt, has been recognized by FERC as an example of how a regional planning process should be performed, which was a testament to Henderson's passion for the project and his work overall, she said.

- Jason York















Conn. DEEP Releases Final Version of Integrated Resources Plan

By Jason York

Connecticut can follow multiple pathways to achieve a carbon-free electric supply by 2040, according to the final version of the state's integrated resource plan, the biennial look at future electric needs and the strategy to meet them.

Officials from the Department of Energy and Environmental Protection (DEEP) held a virtual press conference Thursday to discuss the latest IRP, Connecticut's first assessment of pathways to a zero-carbon electric sector, as directed by Gov. Ned Lamont through a 2019

Among the key findings was that storage and demand management will play a vital role "in ensuring reliability of the grid and minimizing wasted generation." DEEP Commissioner Katie Dykes said companies are working hard to enhance long-duration storage technology, and she applauded the U.S. Department of Energy's "Long Duration Storage Energy Earthshot" that establishes a target to reduce the cost of grid-scale energy storage by 90% for systems that deliver 10 or more hours of output within the decade.

"That's all good news for people who care about achieving both reliability and a decarbonized grid," Dykes said.

DEEP is also seeking stakeholder and market input on storage procurement. The Connecticut General Assembly this spring passed legislation that targets 1 GW of energy storage deployment by the end of 2030 and gives DEEP procurement authority. The department can also issue requests for proposals for transmission and distribution grid-connected energy storage, which would factor toward deployment targets. (See Connecticut General Assembly Passes Energy Storage Bill.)

"We're eager to hear from market participants or stakeholders about how such a storage procurement should be conducted in order to enhance the opportunities for long-duration storage," Dykes said.

"Timely" enhancements to energy and ancillary services markets would also allow storage resources "to compete and be valued in the wholesale markets," Dykes added.

Increased investment in long-duration storage also yields environmental justice benefits, Dykes said. Use of batteries would allow Connecticut to transition away from fossil fuel

units that are used to maintain reliability but also comprise the "heaviest contributors" of emissions in environmental justice communi-

"We're especially motivated with this storage procurement, as well as the focus on other types of investments around demand response and transmission," Dykes said. "That can help to ensure we can scale up the investment of resources that can maintain reliability with the least emissions possible, [which is] critical for us to achieve our decarbonization goals and our commitments to advancing environmental justice."

Continued Push for ISO-NE

The IRP continues Connecticut's call for changes in market design and transmission planning by ISO-NE. Dykes said the RTO has made progress on the New England states' concerns around transmission planning. It has also worked to eliminate the minimum offer price rule (MOPR) with input from NEPOOL stakeholders.

"We believe that wholesale market reforms are greatly needed much beyond just eliminating the MOPR," Dykes said. "We need to ensure that the wholesale markets that we're relying upon have reforms to energy and ancillary services markets that will help to ensure that carbon-free resources that are needed to maintain reliability are being pro-

cured as much as possible and valued in the wholesale markets that Connecticut chose to rely on more than two decades ago. We believe that's really where the focus needs to be on if we're going to find some compatibility between our state public policies and the design of wholesale markets."

While governance is not explicitly spelled out in the IRP, "at first blush," Dykes said, "incremental changes" by ISO-NE signal that the RTO wants to engage more with the states. Those changes include annual open Board of Directors meetings focused on wholesale electricity markets and system planning, a process potentially linked to the biennial Regional System Plan public forum.

Dykes said governance concerns also relate to ensuring broader accessibility to and transparency in ISO-NE's processes for "all stakeholders and affected ratepayers in the region."

"These incremental steps reflect the progress New England states have made in elevating the need for governance reforms, as a critical issue in our region," Dykes said. "I'm convinced that we will not succeed in achieving better transmission planning and investment, or market designs that are more compatible with state public policies and consumer needs, unless we make transformative changes to the governance structures and transparency of ISO-NE." ■



Connecticut DEEP Commissioner Katie Dykes | © RTO Insider LLC



NEPOOL Participants Committee Briefs

BOSTON — For the first time since March 2020, following 20 months of exclusively virtual meetings because of the COVID-19 pandemic, the NEPOOL Participants Committee on Thursday met in-person, at the Colonnade Hotel in the city's Back Bay.

There were strict safety protocols in place to attend the meeting. Everyone who attended had to be fully vaccinated and have provided verification in advance of the meeting. There is also a citywide mask mandate in Boston, which meant that all attendees wore masks or face coverings at all times except when actively eating or drinking.

ISO-NE Responds to NESCOE, Pledges Annual Open Board Meeting

In response to the New England States Committee on Electricity (NESCOE) vision statement last October and the organization's report to the region's governors on "Advancing the Vision," ISO-NE's Board of Directors issued a formal response Sept. 23, which the committee reviewed last week.

Among the initiatives and studies is a pledge to hold an annual open meeting. Beginning next year, the board will hold an open meeting focused on the electricity markets on even-numbered years; in odd-numbered years, the meeting will focus on transmission planning, with a potential link to the biennial Regional System Plan public forum, which was most recently held on Oct. 6. (See related story, Overheard at 2021 ISO-NE Regional System Plan Forum.)

The board said it has directed RTO management to prioritize transmission planning studies and analysis of market designs in support of the states' clean energy goals.

"The board remains committed to working with the states and NEPOOL to achieve the region's goals for a clean energy system that is reliable and efficient." the board said.

ISO-NE has already begun its 2050 Transmission Study, the board noted, as requested by the states. The study will take a high-level look at scenarios to reliably incorporate clean energy and distributed energy resources beyond the RTO's current 10-year planning horizon. The RTO will also work with the states to draft corresponding changes to the tariff to enable this type of transmission study on a recurring basis, the board said.

The board also noted that ISO-NE is evaluating "wholesale market frameworks that reflect states' policies" through a series of working group sessions of the PC. The group

has been considering a regional net carbon price, a Forward Clean Energy Market and a hybrid of the two concepts. Its work will be presented in the second quarter of 2022. The RTO is also developing a proposal to eliminate the minimum offer price rule from its capacity market.

Energy Market Value Falls

ISO-NE's energy market value for September was \$497 million (through Sept. 29), down \$188 million from the updated August valuation and \$290 million higher than the same month in 2020, according to COO Vamsi Chadalavada's monthly report to the PC.

September natural gas prices were 12% higher than in August. Average real-time hub LMPs were 5% lower at \$46.48/MWh. Daily uplift payments totaled \$1.3 million over the period, down \$2 million from the adjusted August value and \$1.1 million less than September 2020.

Four new resources totaling 325 MW applied for an interconnection study: one battery and three solar-plus-solar projects, with in-service dates ranging from 2022 to 2023. The RTO is currently tracking 294 generation projects that total approximately 32,907 MW.

— Jason York



Then-FERC Commissioner Neil Chatterjee speaks at a previous NEPOOL Participants Committee meeting at the Colonnade Hotel in Boston. | NEPOOL



FERC OKs MISO Hybrid Resource Accreditation Plan

By Amanda Durish Cook

FERC last week approved MISO's two-part plan to accredit hybrid resources for participation in capacity auctions.

The commission said MISO's plan "sufficiently captures the critical characteristics of hybrid resources" (*ER21-2620*). The RTO considers hybrid resources as renewable generation and energy storage joining the grid at the same interconnection point.

The accreditation will be handled in two parts because MISO currently lacks the operational data it uses to base accreditations on. The grid operator will first rely on the combined value of its existing unforced capacity values for each element of the hybrid resource, up to the resource's limit of interconnection service. When staff collects enough operational data, the unforced capacity will be determined "based on historical performance, availability and type and volume of interconnection service."

MISO will collect from hybrid resource owners their top eight daily peak hours per season's operating history. It said owners must operate their resources as an integrated whole and under one dispatch. Owners of combined resources that intend to dispatch them individually must register the units as co-located resources, not hybrid resources, MISO said.

FERC said the accreditation "identifies and establishes a reasonable accreditation methodology for a unique resource type with distinct operational characteristics."

"This framework is consistent with how MISO currently initially determines capacity accreditation for wind and solar resources with insufficient operational data and then subsequently bases capacity accreditation on historical performance, availability, and type and volume of interconnection service," the commission wrote.

To date, only a handful of hybrid projects have successfully connected to the MISO system from the interconnection queue. MISO said this summer that it has 30 hybrid projects and 2.1 GW worth of capacity wending their way through the queue. Most of the projects marry solar and battery storage, the grid operator said.

The RTO's queue numbers likely underrepresent the number of hybrids that will eventu-

ally materialize in the footprint. Staff has said interconnection customers sometimes request two separate applications for the storage and generation components and others request surplus interconnection capability for storage that's added later. (See MISO Prepares Hybrid Participation Model for Unknown Numbers.)

In public meetings, some MISO stakeholders have said most solar generation built today either has some storage connected to it or contains later plans for storage additions.

Great Plains Institute (GPI) and Clean Grid Alliance have said the RTO should move more quickly to make its markets friendlier to hybrid resources.

GPI conducted an informal survey among 21 member developers of Clean Grid Alliance, finding that many plan to bring hybrid resources online in MISO over the next three years. The institute said 90% of survey respondents said they were actively pursuing some kind of hybrid project, with 75% expecting to bring a hybrid resource online within three years.

"Growing interest indicates that we are likely entering a phase of accelerated deployment," GPI said. ■



AES Lawai solar and storage project | National Renewable Energy Laboratory



MISO Draws on Storage Model for DER Aggregations

By Amanda Durish Cook

MISO said last week it will pivot to its existing electric storage resource participation model in allowing distributed resource aggregations into its markets under FERC Order 2222.

The announcement scraps MISO's original plan to use a modified version of dispatchable intermittent resource participation model for DER aggregations. (See MISO Assembling Order 2222 Compliance Plan.)

"We're creating an entirely new model that largely leverages our [electric storage resource] model," Market Design Adviser Michaela Flagg said during a Distributed Energy Resources Task Force teleconference Oct. 5.

Under the new plan, all aggregations will be responsible for self-committing in the markets, instead of just those 1 MW in size or smaller. MISO will recommend that aggregators perform DER forecasting and reflect it in offers. The RTO also said it won't dictate state-of-charge parameters, leaving those to aggregators.

The new DER aggregation model will use all eight of the operating modes in MISO's electric storage model, with commitment statuses including:

- injecting,
- emergency injecting,
- · withdrawing,
- emergency withdrawing,
- continuous, or the ability to move between injecting and withdrawing,
- available,
- · not participating or
- outage.

MISO expects the injecting, withdrawing and continuous modes will be most popular with aggregations.

The grid operator will likely require aggregators enrolling DERs to choose between demand response, distributed storage or distributed generation. Some stakeholders said having DERs declare just one registration type ignores DER's other uses. One stakeholder likened it to a "choose-your-own adventure" book that disadvantages partici-



| Entergy

pating aggregators.

MISO's response is that aggregators will be responsible for understanding DERs' capabilities in their aggregations and should tailor the offers accordingly.

Kristin Swanson, the RTO's DER program director, said it's up to aggregation management to choose whether a DER will generate, inject or conserve energy. She said the market cannot currently choose between two separate bids from the same resource and the RTO's real-time modeling cannot accommodate two resource types from a single resource.

"That's not something we're capable of doing right now," Swenson said.

MISO won't finalize a registration process until February.

Staff still plans to limit DER aggregations to a single pricing node they say will keep pricing simple and ensure that aggregations don't aggravate transmission constraints.

Swenson has said Order 2222's instruction

that MISO cross the "distribution barrier is going to be a new experience." She also called the 100-kW minimum size threshold "pretty tiny."

"MISO's not the only party that has to be ready in order for this to work," she said during a Sept. 30 Reliability Subcommittee meeting.

Some stakeholders have asked MISO to keep cybersecurity at top of mind when designing communication modes with distribution operators.

Swenson has said she expects MISO's first tariff filing, should FERC accept it, will require adjustments over time.

"We know we're not going to have a perfect, comprehensive tariff filing in April, and we'll never have to touch it again. We're very aware that this is an emerging class of grid services," she said.

Swenson also said MISO will maintain a "parking lot" list of DER ideas beyond Order 2222 compliance that it can't currently accommodate because of current system limitations.



MISO, SPP: Economics Secondary in Joint IC Planning

By Amanda Durish Cook

MISO and SPP said on Friday that a weak economic showing isn't necessarily a dealbreaker in building transmission projects to accommodate generation from the RTOs' overflowing interconnection queues.

Staffs told stakeholders Friday that their joint targeted interconnection queue (JTIQ) project has identified 11 projects in the upper Midwest that relieve most MISO-SPP constraints. but with a 0.33:1 combined benefit-to-cost ratio. The projects, tested with five other combinations of effective projects, are valued at \$2.445 billion.

The grid operators also continue to consider a \$424 million package that incorporates a long-distance, 345-kV line from Big Stone, S.D., to Alexandria, Minn.; a 345-kV line on the northeast side of Kansas City; and a transmission facility on the west side of Minneapolis. The multi-pronged project shows a combined 2.08:1 B/C ratio, but SPP experiences a negative 0.06:1 economic benefit ratio because of downstream impacts on

other transmission lines.

If a project shows a negative B/C ratio to one RTO, it won't automatically quash its chances of being approved, staff said.

MISO and SPP's second round of evaluations tested 28 RTO-originated and stakeholdersubmitted transmission solutions using their respective reliability and economic models. Eight solutions failed to relieve any transmission constraints, staff said.

The RTOs identified several projects crisscrossing South Dakota, Minnesota and Missouri during a first round of research under their joint targeted interconnection queue study. (See MISO, SPP Name Projects to Help Queue Troubles.)

Kelsey Allen, SPP's lead engineer of transmission planning, said the JTIQ work began primarily as a reliability study, and the RTOs don't intend to switch up projects now to chase higher adjusted production cost (APC) benefits.

The RTOs said they will have a final study

report ready in December. Multiple stakeholders asked for an additional call to discuss project evaluation and selection before staff issues the final report.

MISO and SPP might use each footprint's APC metric to determine cost allocation, increased transfer capability and real-time congestion reductions. The two could also assign some project costs to individual interconnecting generators based on avoided network upgrades.

SPP senior engineer Neil Robertson said the RTOs continue to collaborate on a final cost-allocation approach. He said it's not easy to boil projects down to benefit dollars, so staffs may develop a rubric to divide costs that uses a scoring system for benefits like APC savings and new megawatts from the interconnection queues.

"I think anyone would want to see a simple benefit sheet in dollars." he said. "You're taking very different perspectives and traditional planning calculations and trying to compare them to one another. It's apples to oranges."



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MISO Market Subcommittee Briefs

Concerns Develop over FTR Market

By Amanda Durish Cook

An emerging underfunding trend has led to some early concerns for MISO's congestion-hedging market.

MISO says there's a burgeoning mismatch between awarded auction revenue rights (ARRs) and actual congestion patterns in the footprint. As a result, load-serving entities hold a historically smaller share of financial transmission rights (FTRs) and the congestion value associated with ARRs is falling, the RTO said.

Staff's John Harmon said during a Thursday Market Subcommittee teleconference that the trend began in December 2019.

The grid operator said while it won't propose FTR market changes for the 2022-23 planning year, it said "substantial foundational rule changes" could be on the horizon to better line up ARR awards and congestion patterns. The RTO has hired an outside consultant to investigate its FTR-ARR auction structure.

ARRs and FTRs in MISO are issued based on transmission capacity and used by LSEs and other market participants as financial hedges against congestion charges in the day-ahead market. The grid operator funds FTRs through day-ahead congestion costs. An ARR is the LSE's entitlement to a share of revenue from FTR auctions because of their historical use and investment in the transmission system.

MISO Independent Market Monitor David Patton *observed* that FTR obligations in 2020 exceeded congestion revenues by \$74.6 million, a 4.1% shortfall.

MISO said increasing wind generation has reduced the volume of ARRs. Wind generation ARRs tend be about one-third of those associated with retiring baseload generation.

"Even though wind can produce up to 20 to 25% of energy, it has a smaller share of auction revenue rights," Harmon said.

MISO said its FTR-ARR market was developed to "protect long-term rights with provisions for very limited, incremental portfolio change."

Harmon said the recent move to lower generation shift factor cutoffs from 1.5% to 0.5% in the day-ahead market should better line up congestion with FTR rights. MISO will moni-



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tor the change's effects before proposing any changes to its FTR market structure, he said. A lower generation shift factor allows staff to redispatch generators to improve transmission constraints.

Bill Booth, consultant to the Mississippi Public Service Commission, suggested MISO restrict participation in the FTR auctions to LSEs and those with long-term power contracts. WEC Energy Group's Chris Plante has said it doesn't seem fair that "a significant amount of day-ahead congestion revenue is allocated to entities that are not allocated any of the transmission system cost."

Stakeholders have also recommended MISO revive its dormant FTR working group to examine potential changes to FTR and ARR mechanisms.

Harmon said MISO isn't supportive of eliminating FTRs altogether, as some have suggested. "That would be a substantial overhaul of how we allocate congestion in our day-ahead market," he said.

MISO Encourages Accurate Renewable Forecasts

MISO is proposing that its tariff contain direction on member-derived forecasts for dispatchable intermittent resources.

The RTO has said for months that its output forecasts for intermittent resources are consistently more accurate than those created by its members.

"As we get high wind and solar penetration, accuracy of forecasts is going to important for reliable operations and market efficiency,"

Congcong Wang said of MISO's day-ahead market and reliability commitment division.

The grid operator is proposing tariff language that members' maximum forecast limits "reflect the most likely forecast outcome, and be directly derived from an accurate, and statistically unbiased forecast, using the most current forecast data available for the specific dispatch interval."

The RTO also said that the forecast should be "directly derived" from a resource's capabilities, actual generation data and weather predictions "relevant as of the time of submission." It plans to file with FERC by December.

Staff will also periodically check its market participants' forecasts to see if they continue to be less accurate than MISO's. Wang said staff will reach out to market participants with chronically inaccurate forecasts before forcing them to use MISO's forecasts. After that, a market participant can submit evidence to regain control of its forecasting.

More than 95% of MISO's nearly 270 intermittent resources already use the grid operator's renewable output forecasts. The RTO estimates that its footprint will contain more than 30 GW of wind and about 11 GW of solar in the next few years.

Some stakeholders have asked whether MISO couldn't simply dictate that holdouts use MISO's forecasts instead of making their own.

Wang said the language represents a "first big step" from the tariff being silent on forecast accuracy to prescribing careful forecasting. She said MISO doesn't want to be too prescriptive in members' forecasting.

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MISO News

Tx Customers Ask for Additional **Load-forecasting Data**

MISO transmission customers are asking for more insight into staff's weekly load forecasts.

McNees Wallace and Nurick attorney Ken Stark, appearing on behalf of the Coalition of MISO Transmission Customers, said MISO is an outlier among RTOs because it doesn't make its load forecasting data over the next week available to customers.

"MISO provides a day-ahead forecast by local balancing authority; however, that forecast is much less valuable than a current day plus six-day forward-looking forecast," he said.

Stark said if large transmission customers had access to more specific load data, they might have been able to prepare and assist during the maximum generation alert and conservative operations declaration for the Midwest region Oct. 5. The event was unexpected because of mild weather and systemwide load of 72 GW.

He asked that customers have access to seven-day load forecasting data on the local balancing authority or local resource zone level. Stark also said MISO could make the data available to customers via a secure portal if the RTO is worried about revealing nonpublic data.

IMM: June 10 Emergency Unnecessary

MISO's Independent Market Monitor has concluded that the RTO did not need to escalate a maximum generation alert to a maximum emergency on June 10.

The brief emergency resulted in a surfeit of load-modifying resource (LMR) response and non-firm imports. (See "MISO Defends June Emergency Declaration," MISO Market Subcommittee Briefs: July 8, 2021.) Ultimately, the event generated \$2 million in day-ahead margin assistance payments to resources "that had to be held down to make room for the additional supply," the IMM's David Patton said.

"The combination of commitments, LMRs and higher imports led to a surplus in the Midwest exceeding 10 GW for most of the event," he said.

Patton called for a more "surgical" method for deploying LMRs so that MISO is more precise in ordering curtailments. The grid operator has about 11.5 GW in LMRs participating as capacity, split 60-40 between demand response and behind-the-meter generation.

"We're a unique RTO that ... has 16, 17 GW import capability," he said.

Patton suggested MISO attempt modeling that contemplates non-firm imports when it is struggling and its neighbors aren't.

He said suggested the grid operator delay making real-time commitments until control room operators are certain they're necessary.

In this year's State of the Market report, Patton asked the RTO to create an "uncertainty product" from fast-start resources to replace the expensive, out-of-market commitments that control room operators make. He said the system's rising numbers of intermittent generators necessitates another class of energy reserves.

VolL Pricing at Dead Buses Questioned

The subcommittee meeting contained another disagreement over MISO's policy of pricing

dead buses at their \$3,500/MWh value of lost load (VoLL).

Some stakeholders question how MISO can price dead buses at the VoLL when generators are unable to deliver power to custom-

Kevin Vannoy, MISO's director of market design, said it's an incorrect assumption that all dead buses can be traced to a catastrophic event. He said that sometimes, it's as simple as a generator being offline.

"The value of energy is the value of energy whether it's theoretical or possible," Vannoy said.

"It's a theory that cost \$90 million," Booth said, referencing VoLL pricing during Hurricane Laura.

The RTO originally said force majeure events that lead to dead buses should not be priced using VoLL. (See MISO to Outline New Pricing Plan for Hurricanes.) It said VoLL is appropriate to price capacity emergencies, even when they're caused by force majeure, but that local and systemwide transmission emergencies should be shielded from the pricing.

"The procedures don't speak to the cause of the emergency; they give us the tools to manage the emergency," Vannoy told stakeholders during July's subcommittee meeting.

Patton said February's arctic event was a "garden variety" combination of transmission and capacity emergencies. He said it becomes difficult after emergencies to separate those caused by unavailable transmission or inadequate capacity.

"The distinction is really, I think, harmful," Patton said in July.







NYISO News



NYPSC: Utilities Ready for Winter; Electric and Gas Prices Increasing

By Michael Kuser

New York regulators on Thursday heard that the state's utilities are confident they will have sufficient electric and natural gas capacity to power customers through this coming winter, though customer bills will likely increase 13 to 20% from last winter (21-M-0243).



Tammy Mitchell, NYDPS I NYDPS

"These increased supply prices are not unique to New York state, but are in fact being experienced nationally and globally as the economy begins to recover and demand for natural gas increases after a pandemic-low level,"

Tammy Mitchell — director of the Department of Public Service's Office of Electric, Gas and Water — told the Public Service Commission.

U.S. natural gas prices have more than doubled since this time last year and are at a level not seen since 2014, she said. In Europe and Asia, wholesale prices are more than five times what they were a year ago.

"With many New Yorkers already suffering from arrears, falling behind and being in the unfortunate position of having to choose between paying for heat or feeding their families. I want to ... encourage



NYPSC Chair Rory Christian | NYDPS

New Yorkers in need to take advantage of several federal, utility and community-based programs available throughout the state that provide support," newly appointed PSC Chair Rory Christian said.

The price issues seem to be downplayed, Commissioner Diane Burman said. She said she was concerned that there's going to be "a major sticker shock" if the current price trends hold.

Burman also pointed to natural gas storage and pipeline constraints and referred to the gas hook-up moratoriums of recent years: "What does it mean in terms of interruptible customers remaining on oil? What does that mean in terms of possible lost economic development opportunities if people come and they need access to gas and they can't get it?" (See Online Protesters Reject NY Gas Supply Plans.)

With the advent of efforts to reduce greenhouse gas emissions in New York, the role of energy efficiency, demand response and electrification of heating will grow in importance, and staff will continue to brief the PSC on the transition of the natural gas industry, Mitchell said.

"There also is an interdependency between the electric and gas systems, as well as a high correlation between electricity supply prices and natural gas prices, since gas generators are typically the marginal units," Mitchell said. "This interdependency was highlighted during the 2013-2014 polar vortex that resulted in all-time high winter peak demand on the electric system at the same time that cold weather impacted the operation of some generating facilities."

Grid Prepared for Winter

DPS staff concluded that the grid is prepared to reliably meet the state's upcoming winter electric demands, staffer Richard Quimby

NYISO expects to have 35,744 MW in net capacity resources available during the winter to serve forecasted peak load of 24,025 MW, including operating reserves, Quimby said. A winter protocol is in place to facilitate communication between state agencies and NYISO in circumstances where fuel supply for generation facilities may be at risk.

As part of the DPS' winter assessment, staff reached out to major generation facilities owners in southeast New York who own about 12,000 MW of dual-fuel generation capability, he said.

"We found that these owners are continuing to implement lessons learned from past winter experiences, including having increased pre-winter on-site fuel reserves, having firm contracts with fuel oil suppliers, conducting more aggressive replenishment plans, and having more proactive pre-winter maintenance and facility preparations," Quimby said.

DPS staff also met with NYISO and discussed its procedures and protocols for the winter period.

In recent years NYISO has instituted various changes to help ensure electrical reliability

during periods of tight natural gas supply, including closely monitoring generator fuel levels and replenishment. In addition, NYISO has improved communications with interstate pipelines, local gas distribution companies and neighboring RTOs during periods of tight electric operating conditions, Quimby said.

Hurricane Ida Update



Kevin Wisely, NYDPS **NYDPS**

Kevin Wisely, director of the Office of Resilience and Emergency Preparedness, gave the PSC an update on lessons learned from Hurricane Ida, which affected approximately 90,000 electric customers and caused

a peak of 52,000 outages in New York during the early morning hours of Sept. 2. (See Experts Call for Tx Reinforcements, Microgrids in Gulf System After Ida.)

"The intense and severe nature of the rainfall caused numerous flooding issues throughout Westchester County and in the New York City area," Wisely said.

Westchester's flooding also caused issues with telecommunications equipment. "Verizon was able to quickly reroute incoming local 911 calls to predesignated backup sites so that no calls were lost," he said. "Overall, the utilities responded, repaired and restored customers as quickly and safely as possible."

Utilities must consider additional resilience improvements to system design, including such projects as substation location considerations for areas prone to flooding beyond that of just the coastal, river and creek impacts incurred during storms such as Superstorm Sandy and tropical storms Lee and Irene, Wisely said.

"Storm events such as Ida highlight the fact that municipal stormwater drainage systems and infrastructure must be enhanced also to handle larger volumes of rainfall over shorter periods of time," he said. "With those types of storms in mind, utilities must continually reassess infrastructure vulnerabilities across the entirety of their service territories, determine appropriate resiliency projects to mitigate potential weather risks and make their infrastructure more adaptable to weather extremes."



PJM Requests Rehearing of MSOC Change

By Michael Yoder

PJM last week requested a rehearing and clarification of FERC's order to replace its market seller offer cap (MSOC), arguing that the commission's decision to side with the RTO's Independent Market Monitor may lead to over-mitigation of the market (EL19-47).

FERC on Sept. 2 approved the Monitor's unit-specific avoidable-cost rate (ACR) proposal and required PJM to revise its tariff. That followed FERC's order in March requiring PJM to revise the MSOC to prevent sellers from exercising market power in the capacity market, having been convinced by the Monitor's arguments. (See FERC Backs PJM IMM on Market Power Claim.)

In its request filed Oct. 4, PJM said it "remains concerned" that the unit-specific review of all resources "may prove to be a significant overreach" to address concerns raised by the commission.

"The harm of over-mitigation under a unit-specific ACR approach is real and will inhibit the ability of capacity market sellers to base their offers on their respective cost estimates and assumptions about what is likely to occur three years in the future," PJM said. "This is because each capacity market seller's evaluation of risk relating to actual costs and revenues varies for various resources ... and it is not appropriate for PJM or the Market Monitor to substitute their assessment of the risks for the capacity market seller's demonstrable assessment of the risks."

Because unit-specific reviews involve applying criteria that can "engender significant debate" and "charges of subjectivity" in the application of its components, PJM said disputes will "likely arise" under the revised MSOC because of disagreements over "sufficient support for the valuation of various risks in the unit-specific net ACR calculation."

"In fact, all of the unit-specific offer caps requested to date for the upcoming BRA [Base Residual Auction] have already been rejected by the Market Monitor," PJM said. "Thus, contrary to the commission's finding, the concerns that the Market Monitor will not entertain alternative expectations of risk is not speculative. These disputes will ultimately prove disruptive to the [capacity] auction process given that they will likely end up at the commission — with limited time for resolution before the auction window opens."

It noted that FERC had acknowledged in its order that replacing the existing MSOC with a unit-specific net ACR "will likely create more work for the Market Monitor and sellers by requiring the individual review of a higher number of capacity offers." The commission had relied on the Monitor's position "that its staff would be capable of any additional review resulting from its own offer cap proposal" to determine the new approach would not prove to be excessively burdensome.

But FERC failed to note that the RTO is ultimately responsible for making final determinations on all requested unit-specific ACRs, PJM argued, and it never indicated the reviews could be completed within the 25day period allotted under the tariff to review the requests. The RTO said the larger volume of unit-specific requests expected under a net ACR approach would make reviews even more difficult. PJM "repeatedly expressed concerns of the administrative burdens" that would result from setting the MSOC at a capacity resource's net ACR, it said.

The RTO also said the commission may have "inadvertently included default gross ACR values for demand resources and energy efficiency resources" in the tariff changes it ordered, which would make those resources subject to the MSOC and in conflict with an exemption elsewhere in the tariff.

"The current ACR calculation is not designed with demand resources or energy efficiency resources in mind," PJM said. "Specifically, since avoidable costs are the costs that a demand resource or energy efficiency resource would not inquire absent the load curtailment or shift, the relevant input would be the cost for such load curtailment or shift. However. such costs are difficult to calculate since the cost of curtailment varies by industry, time and individual customer needs."

Last month, PJM requested a delay of the BRA for the 2023/24 delivery year by almost two months, citing the commission's Sept. 2 order. The RTO said the auction delay was necessary to give capacity market sellers and the Monitor a "realistic opportunity" to appeal the RTO's final decisions on unit-specific offer cap requests resulting from the MSOC rules change. (See PJM Proposing 2-Month Capacity Auction Delay.)

Additional Rehearing Requests

Several other stakeholders also requested

rehearing last week.

Exelon and Public Service Enterprise Group said in a joint filing that FERC's order "employed a machete, slashing off the default MSOC" instead of using a "scalpel to fix the discrete problem" of recalibrating the number of expected performance hours.

"In selecting this remedy, the commission never found the broader Capacity Performance framework, including the opportunity cost-based default MSOC, to be unjust and unreasonable," the companies said.

Vistra said the commission's order "contains at least three fatal market design flaws": it was "based on the erroneous assumption that the marginal offer must be reviewed in all circumstances"; it "adopts technology-specific default offer caps that assume resources face zero risk associated with their PJM capacity supply obligations"; and it "unduly limits the costs a resource owner can include in a resource's offer."

"Each of those flaws, standing alone, renders the commission's replacement rate unjust and unreasonable," Vistra said.

A joint filing by Calpine, LS Power, Talen Energy, the Electric Power Supply Association and the PJM Power Providers Group said a rehearing is required because the commission "failed to properly consider the alternatives" and instead "adopted an MSOC that fails to properly reflect the risks and costs imposed on suppliers and is at odds with PJM's Capacity Performance structure."





Estate of GreenHat's Kittell Lobbies FERC to End Enforcement Action

By Michael Yoder

The estate of one of the owners of GreenHat Energy moved last week that FERC drop its enforcement action and investigate two of its employees after it emerged that Office of Enforcement lawyers violated communication rules (IN18-9).

In a motion filed Oct. 5, lawyers for the estate of Andrew Kittell, one of three owners of GreenHat, argued that a series of emails between Enforcement's Division of Investigations (DOI) lawyers Thomas Olson and Steven Tabackman were "not only unlawful, but deceptive." FERC released the emails Oct. 1 after Olson, who is part of the litigation staff in the GreenHat proceeding, disclosed them to Enforcement management.

In May, the commission issued a show-cause order to GreenHat and its owners with \$229 million in potential civil penalties over the company's 890 million MWh default of its financial transmission rights portfolio in PJM in 2018. (See GreenHat Energy, Owners Face \$229M FERC Fine.)

In a report released as part of the order, Enforcement staff alleged that GreenHat's owners violated the Federal Power Act and PJM's tariff and Operating Agreement by engaging in a "manipulative scheme" in the FTR market. The order directed the participants to demonstrate why GreenHat should not be assessed a civil penalty of \$179 million and owners John Bartholomew and Kevin Ziegenhorn assessed civil penalties of \$25 million each. GreenHat, Bartholomew, Ziegenhorn and the

estate of Kittell were also required to explain why they should not have to disgorge \$13.1 million in unjust profits, plus interest.

"As we already have shown, the merits case against the estate is fatally flawed," Kittell's lawyers said. "Enforcement's conduct is disturbing. And the only remaining purpose the commission might have for continuing this matter — stripping Andrew Kittell's widow and two children of their limited remaining assets, when it is this investigation that took Andrew's life — is a distastefully misguided use of the commission's enforcement powers."

In July, the estate told FERC that Kittell, 50, killed himself by jumping off the San Diego-Coronado Bridge in California on Jan. 6. His death had been made public in April when his obituary was published, but the cause of death had been unknown.

FERC Emails

Olson notified the commission that he received emails through his personal Gmail accounts on Sept. 17 and 18 from Tabackman, who was serving as decisional staff in the GreenHat case. The two were discussing a pair of U.S. Supreme Court case decisions that Tabackman believed could strengthen FERC's case.

Tabackman urged Olson not to reveal where he received the information on the cases, saying, "You never heard that here."

Olson questioned Tabackman if he sent information on 1940's U.S. v. Summerlin and 2006's Marshall v. Marshall with the GreenHat case in mind, "or something else?"

Tabackman responded, "Yes — you should be familiar with them — though you should not mention how you came upon them."

Olson received another email from Tabackman on Sept. 18, which referenced his work with the decisional team, and he realized the emails "constituted a violation of the commission's separation-of-functions regulation."

The regulation does not allow any employee assigned to work on an Enforcement proceeding or assist in a trial "to participate or advise as to the findings, conclusion or decision, except as a witness or counsel in public proceedings."

FERC on Oct. 1 also removed Tabackman as a counsel of record in its federal court case.

Kittell Estate and FERC Response

In its motion, the Kittell estate argued that the commission should drop all Enforcement action against it, ban Tabackman and Olson from any future involvement in the investigation and "order other offices within the commission to investigate what happened."

"Tabackman and Olson both knew at the time they were on opposite sides of the wall," Kittell's lawyers said. "They used Gmail instead of official FERC email to avoid detection. They used words that confirm deceptive intent."

The estate also cited its reply in August to the show-cause order, arguing that Enforcement officials made statements that "sought to intentionally deceive the commission about the mathematical fact that the bilateral trades actually reduced the size of the default, thus benefiting PJM stakeholders."

"Normally a litigant responds when facing allegations that it filed an intentionally deceptive pleading," Kittell's lawyers said. "But Enforcement never did, conceding our point. While everyone owes a duty of candor to the commission, that duty is even higher for the commission's own lawyers. That duty was breached here."

On Wednesday, litigation staff responded to the motion by the Kittell estate, saying Enforcement "followed proper procedure" through the disclosure of the emails. "This, and not termination of the proceeding or removal of litigation staff members, is the appropriate remedy for this violation," they said.



GreenHat listed its address as 826 Orange Ave., Suite 565, Coronado, Calif. — a UPS store between a nail salon and a RiteAid. | Google



PJM Operating Committee Briefs

Synchronous Reserve Deployment Initiative

PJM stakeholders will vote next month at the Operating Committee on two different proposals seeking to improve the deployment of synchronized reserves during a spin event.

Ilyana Dropkin, an engineer in PJM's performance compliance department, provided a summary of the initiative, developed in the Synchronized Reserve Deployment Task Force (SRDTF), at last week's OC meeting. The task force was endorsed at the March OC meeting, and stakeholders received education around synchronized reserves and created a matrix to develop proposals. (See PJM OC Endorses Synchronized Reserve Discussion.)

Synchronized reserve events are emergency procedures triggered by PJM to maintain grid reliability in accordance with NERC's Resource and Demand Balancing (BAL) standards. The RTO invokes those procedures under conditions such as the loss of multiple generating units at the same time or a sudden influx of load.

The task force examined ways to secure controlled deployment of synchronized reserves throughout emergency events by using tools like real-time security-constrained economic dispatch (RT SCED) to have consistent pricing and dispatch signals. The goal was to ensure BAL compliance during the recovery and maintain a reliable transition in and out of emergency events and to also define clear rules and expectations that address how PJM operators approve RT SCED cases around a synchronized reserve event.

Dropkin said the task force developed two different proposals: PJM's intelligent reserve deployment (IRD) proposal, and a separate one by the Independent Market Monitor. In a nonbinding poll taken by stakeholders, PJM's proposal received 75% support, while the IMM's received 9% support. Sixteen percent of stakeholders preferred the status quo.

Michael Zhang, senior lead engineer in PJM's markets coordination department, provided a first read of the PJM proposal. He said IRD is a SCED case that simulates the loss of the largest generation contingency on the system and for which the approval of the case will trigger a spin event.

The proposal calls for taking the megawatts of the largest generation contingency and adding them to the RTO forecast to simulate the unit loss, Zhang said. PJM would then be allowed to flip condensers and other inflexible synchronized resources cleared for reserves to energy megawatts and procure additional reserves to meet the next largest contingency.

Zhang said some of the significant changes over the status quo include updating the economic basepoints to replace all-call instructions and having active constraints controlled by IRD so that deployed resources don't have negative impacts on the constraints.

"IRD is an out-of-the-box solution," Zhang said. "It's fully optimized to deploy reserves and optimize economic solutions."

Siva Josyula of Monitoring Analytics provided a first read of the IMM proposal. Josyula said the concept is to make sure reserves are deployed in proportion to the cause of the spin event and the resources that are deployed during a spin event are those that clear and



Siva Josyula, Monitoring Analytics | © RTO Insider LLC

are being compensated for providing synchronized reserves.

The proposal calls for using a reserve deployment tool that generates new dispatch signals, Josyula said. The total megawatts to deploy is equal to those lost or required for area control error recovery.

Manual 1 Changes Endorsed

Stakeholders unanimously endorsed manual changes to enshrine emergency protocols created in the wake of the onset of the COVID-19 pandemic at last week's Operating Committee meeting.

Chris Moran, senior lead analyst with PJM's NERC compliance team, reviewed the updates to Manual 1, Attachment F: Control Center and Data Exchange Requirements, which details how the RTO's market operation control centers conduct remote operations in emergency situations. Moran first presented the manual changes at the September OC meeting. (See "Manual 01 Changes," PJM Operating Committee Briefs: Sept. 10, 2021.)

The attachment was originally developed and implemented at the start of the pandemic to provide guidance for remote operations in case of control center staff illnesses. The temporary attachment, which took effect in April 2020, was set to expire Dec. 31.

As the pandemic progressed, Moran said, it became evident to PJM staff that the attachment needed to become a permanent part of the manual and to apply more broadly than just COVID-19. He said the language changes include replacing COVID-19 with "exceptional circumstances," which PJM defines as "an event or effect that can be neither anticipated nor controlled, including, but not limited to, any act of a public enemy, war, insurrection, riot, fire, severe weather, natural disaster, flood, civil unrest, explosion, pandemic or

Month	% Available Reserves	Max % Available Reserves (by Month)
December	18.29%	24%
	23.52%	
	21.61%	
	10.86%	
January	23.73%	27%
	10.44%	
	18.72%	
	26.25%	
February	18.13%	21%
	20.69%	
	17.31%	
	13.14%	

PJM's estimated 2021/22 winter weekly reserve targets | PJM



other public health emergency."

Moran said the RTO had made one change to the proposed definition after the September OC meeting, removing language that said an emergency was valid if "reasonably determined by PJM." Moran said existing manual language puts the decision to implement remote operations "solely on the market operation centers."

"The market operation centers are the ones who have to make the call whether or not they need to conduct remote operations," Moran said. "This is a last-resort option."

The attachment changes also include updating NERC contact information for PJM.

Adrien Ford of Old Dominion Electric Cooperative thanked PJM for bringing the issue forward to the committee and making changes to "appropriately focus that the [control centers] would be making the decision" on remote operations.

Winter Weekly Reserve Target Update

Patricio Rocha Garrido of PJM's resource adequacy planning department reviewed the results of the 2021/22 winter weekly reserve target analysis, saying the numbers differed slightly from 2020/21.



Patricio Rocha Garrido. PJM | © RTO Insider LLC

The targets for December, January and February are 24%, 27% and

21% respectively, compared to 23%, 27% and 23% last year.

The December value is slightly higher because PJM is "seeing a little bit more load

uncertainty" in the month, Rocha Garrido said, while February is seeing a "little less load uncertainty."

Rocha Garrido said the targets are part of the reserve requirement study and help PJM staff to coordinate planned generator maintenance scheduling over the winter months. The objective is to "cover against uncertainties" related to load and forced outages by ensuring that the loss-of-load expectation (LOLE) for winter is "practically at zero," he said.

The winter weekly reserve target for each month is the highest weekly reserve percentage, rounded up to the next integer value. Rocha Garrido said the targets are only recommendations to PJM's Operations Department.

Rocha Garrido also presented the target numbers in a separate presentation at the Oct. 5 Planning Committee meeting. The OC and the PC will be asked to endorse the results at their November meetings.

Day-ahead Schedule Reserve (DASR)

David Kimmel, senior engineer in PJM's Performance Compliance Department, reviewed preliminary proposed changes to the 2022 day-ahead scheduling reserve (DASR) requirement.

The DASR is the sum of the requirements for all zones within PJM and any additional reserves scheduled in response to a weather alert or other conservative operations. It is the sum of the three-year averages of both the under-forecasted load forecast error (LFE) and eDART forced outage rate component.

Kimmel said the final 2022 DASR requirement is 4.43%, slightly lower than the 2021 requirement of 4.78%. He said the number comes from the LFE component of 2.04%,

which is down 0.14% from last year, and the forced outage component of 2.39%, down 0.21% from last year.

The value will be incorporated into Manual 13 changes and be effective through April 30, after which it will be replaced with the dayahead secondary reserves. Kimmel said the change is dependent on FERC's review and action on reserve price formation and PJM's operating reserve demand curve (ORDC).

The OC will be asked to endorse the changes at its November meeting.

Manual Updates

Several manuals were reviewed in first reads as part of a periodic review:

- Manual 3: Transmission Operations. Lagy Mathew of PJM's transmission operations department reviewed the updates, which included minor changes such as removing a reference to NERC standard PRC-001 because of its retirement.
- Manual 10: Pre-Scheduling Operations. Vince Stefanowicz, senior lead engineer in PJM's generation department, reviewed updates as a result of FERC's approval of changes to black start unit testing.
- Manual 14D: Generator Operational Requirements. Stefanowicz also reviewed updates to Manual 14D that include the addition of several new sections, such as one describing eDART modeling requirements.
- Manual 13: Emergency Operations. PJM's Brian Oakes reviewed updates that include notes to articulate the expectations of members' load shed plans. ■

- Michael Yoder

	Load	d Forecast	Error Com	ponent	Forc	ed Outage	Rate Con	ponent	Day Ahead
	80t	h Percenti	le Absolute	e Error	А	II Forced (Outage Tic	kets	Scheduling
Season	2019	2020	2021	Rollup	2019	2020	2021	Rollup	Req.
Winter	2.06%	2.05%	1.87%	1.99%	2.81%	2.19%	2.50%	2.50%	4.49%
Spring	1.84%	2.73%	1.95%	2.17%	2.24%	1.71%	2.35%	2.10%	4.27%
Summer	2.48%	1.94%	1.99%	2.13%	2.43%	2.34%	2.81%	2.52%	4.66%
Fall	1.13%	1.37%		1.25%	2.08%	2.38%		2.23%	3.48%
Annual				2.04%				2.39%	4.43%



PJM PC/TEAC Briefs

Transmission Expansion Advisory Committee

NJ OSW Proposals

PJM received 79 proposals addressing both the onshore and offshore demands of New Jersey's ambitious offshore wind program as part of the RTO's "state agreement approach" under FERC Order 1000.

Aaron Berner, senior manager in PJM's transmission planning department, presented the results of the competitive solicitation process at last week's Transmission Expansion Advisory Committee meeting. The submission window was open from April 15 to Sept. 17.

Berner said proposals were received from both transmission owners and merchant developers and included 57 projects that featured cost commitment provisions to cap costs. He said through "multiple combinations" of different proposals, even more potential solutions are available beyond the initial 79 proposals.

Specific details of the proposals were not provided.

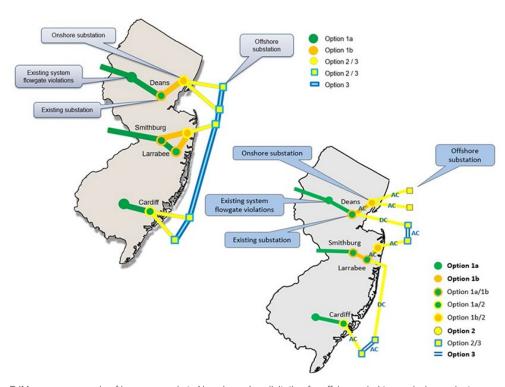
The four project categories included:

- Option 1a: onshore upgrades on existing facilities, with 45 proposals submitted;
- Option 1b: onshore new transmission connection facilities, with 22 proposals submitted:
- Option 2: offshore new transmission connection facilities, with 26 proposals submitted, and;
- Option 3: offshore network with eight proposals submitted.

"We're characterizing this as a very robust response," Berner said. "We have a number of different types of proposals that have been received for all of the options."

Berner said PJM is "moving forward" to begin evaluating some of the issues around reinforcing networks and preparing reviews of the offshore elements of the proposals. He said PJM is collaborating with consultants with offshore wind expertise to "better evaluate" the projects.

Staff from PJM and the New Jersey Board of Public Utilities provided details last month to stakeholders during a special meeting of the



PJM gave an example of how proposals to New Jersey's solicitation for offshore wind transmission projects may look. | PJM

Planning Committee, advising them on how the winning proposal would link to the new offshore wind projects New Jersev is soliciting. (See PJM, NJ Staff Brief Stakeholders on State Agreement Approach.)

The BPU has already awarded three offshore wind projects in two solicitations: the 1,100-MW Ocean Wind 1 and 1,148-MW Ocean Wind 2 projects, both developed by Ørsted. and the 1.510-MW Atlantic Shores project. a joint venture between EDF Renewables North America and Shell New Energies US. The BPU is planning to hold three more solicitations over the next five years to help the state reach its goal of supplying 7,500 MW of offshore wind by 2035. (See: NJ Awards Two Offshore Wind Projects.)

Berner said the BPU has issued a guidance document indicating certain processes to be employed going forward during the project evaluations. New Jersev retains the right to elect to move ahead with any of the projects and is targeting the end of 2022 to make final decisions.

Transource Update

Berner provided an update on the Independence Energy Connection (IEC) East and

West transmission project in Maryland and Pennsylvania and its impact on the 2021 RTEP.

The Pennsylvania Public Utility Commission voted 4-0 in May to reject a series of related applications and petitions filed by Transource Energy for the siting and construction of high-voltage electric transmission lines in Franklin and York counties. The PUC denied the project based on concerns about whether the need established in the PJM planning process met the requirement for needs specific to Pennsylvania. (See Transource Tx Project Rejected by Pa. PUC.)

Transource's plan for the eastern section of the project originally proposed extending 15.8 miles of transmission lines from a new Furnace Run substation in York County, Pa., to the Conastone substation in Harford County, Md. An updated configuration released in October 2019 increased the size of the new substation in Pennsylvania and added four miles of lines connecting to an existing right of way that would feed into two upgraded Baltimore Gas and Electric substa-

The western segment of the IEC project called for a 230-kV double circuit transmis-



sion line running 28.8 miles from Franklin County, Pa., into Washington County, Md.

Berner said PJM performed a sensitivity study to determine any reliability impacts associated with the removal of the IEC project from the RTEP. He said PJM found "a number" of thermal issues, but none of the issues needed immediate addressing.

"The magnitude of these violations is not significant at this point, so we're not concerned about moving forward quickly with a reliability reinforcement," Berner said.

The PJM Board of Managers endorsed the RTO's recommendation to suspend the IEC project at its Sept. 22 meeting because of the "permitting risks" and to remove it from the pending RTEP models, Berner said. He said PJM has yet to do a benefit-to-cost ratio recalculation associated with the project.

PJM will begin to review any impacts to the interconnection queue following the determination of reinforcements for the baseline RTEP reliability, Berner said, and will include the update in future market efficiency studies.

Berner said PJM is not cancelling the IEC project at this time and will allow it to play out in the courts. Transource officially appealed the PUC decision in June, filing cases in the U.S. District Court for the Middle District of Pennsylvania and another in the Commonwealth Court of Pennsylvania. (See Transource Challenges Pa. PUC Decision in Court.)

"We're going to let this continue to work its way through the various processes," Berner

said. "But we felt it was prudent to move forward with suspending the project."

Planning Committee

Reserve Requirement Study Results Endorsed

Stakeholders at last week's Planning Committee meeting unanimously endorsed an installed reserve margin (IRM) of 14.7%, up slightly from the 14.4% required in 2020.

Patricio Rocha Garrido of PJM's resource adequacy department reviewed the 2021 reserve requirement study (RRS) results, which determine the RTO's IRM and forecast pool requirement (FPR) for 2022/23 through 2024/25 and establish the initial IRM and FPR for 2025/26. The results are based on the 2021 capacity model, load model and capacity benefit of ties (CBOT).

Rocha Garrido said the results differed slightly from the numbers presented at the August PC meeting. (See "2021 IRM Results," PJM PC/TEAC Briefs: Aug. 31, 2021.) In the process of reviewing the preliminary results, PJM discovered that some of the generating units were duplicated and had to be removed from the study, he said.

The calculated IRM moved from 14.64% to 14.66%, Rocha Garrido said, and the recommended IRM was bumped up from 14.6% to 14.7%. The recommended FPR also went from 1.0887 to 1.0894.

Adrien Ford of Old Dominion Electric Coop-

erative asked if the removal of the generators impacted previous years of the RRS or if it was just this year.

Rocha Garrido said the units were introduced erroneously this year, so the error only applied to the 2021 study.

He said the recommended FPR of 1.0894 was a modest increase from 1.0865 for 2020. The FPR is the most important parameter of the study because it is used in the reliability requirement calculation for Reliability Pricing Model auctions.

The 2021 capacity model is driving the increase in both the FPR and the IRM, Rocha Garrido said, with the average effective equivalent demand forced outage rate (EEFORd) of 5.8%, compared to 5.78% in the 2020 RRS. The higher average EEFORd was caused by the increase in the average unit size, going to 175 MW in the 2021 RRS compared to 159 MW in 2020 because of the removal of effective load-carrying capability (ELCC) resources from the model.

"Having more smaller units is better for reliability than having larger units," Rocha Garrido

The CBOT — the help PJM can expect from imports during peak loads — is also estimated to increase pressure on the FPR and IRM. Rocha Garrido said imports from neighboring grid operators as a share of all generation decreased from 1.54% in 2020 to 1.47% in

A review and vote on FPR and IRM will take



Transource's proposed alternative plan for the eastern segment of its Independence Energy Connection project | Transource



place at the November Members Committee meeting with final approval at the December PJM board meeting.

Manuals 14A and 14B Updates

Jonathan Kern of PJM's transmission planning department *provided* an update to *Manual 14A:* New Services Request Process and Manual 14B: PJM Region Transmission Planning Updates reflecting proposed changes to the generator deliverability test and related procedures. Kern presented the initial draft of the proposed changes at the August 10 PC meeting. (See "Winter/Light-Load Generator Deliverability Update," *PJM PC/TEAC Briefs: Aug. 10, 2021.*)

The purpose of the changes is to consider the "evolving resource mix" in PJM's planning process, Kern said, and is relevant to the interconnection queue studies and the RTEP baseline studies.

Kern said PJM intended to provide a first read of the manual updates at the PC meeting, but the RTO is still in the process of "fine-tuning the procedure to ensure repeatability" and that the results "make sense." He said PJM is also examining the impacts to the interconnection queue.

Most of the analysis is expected to be completed by November, Kern said.

"Since there are a lot of changes, this extra time will allow stakeholders some time to digest the proposed changes." he said.

PJM has added proposed changes to the summer period to go along with the winter and light-load periods since the information was first presented in August to "harmonize"

MAAC	Summer P80%	Summer P90%	Winter P80%	Winter P90%	LL P80%	LL P90%
Solar Fixed	67%	N/A	5%*	N/A	23%	N/A
Solar Tracking	89%	N/A	5%*	N/A	33%	N/A
Onshore Wind	N/A	38%	N/A	73%	N/A	66%
Offshore Wind	73%	N/A	96%	N/A	92%	N/A

PJM West	Summer P80%	Summer P90%	Winter P80%	Winter P90%	LL P80%	LL P90%
Solar Fixed	76%	N/A	5%*	N/A	22%	N/A
Solar Tracking	84%	N/A	5%*	N/A	29%	N/A
Onshore Wind	N/A	52%	N/A	84%	N/A	77%
Offshore Wind	N/A	N/A	N/A	N/A	N/A	N/A

DOM	Summer P80%	Summer P90%	Winter P80%	Winter P90%	LL P80%	LL P90%
Solar Fixed	77%	N/A	5%*	N/A	29%	N/A
Solar Tracking	85%	N/A	5%*	N/A	38%	N/A
Onshore Wind	N/A	45%	N/A	78%	N/A	70%
Offshore Wind	68%	N/A	98%	N/A	95%	N/A

^{*} No generator ramping requirements

The proposed default deliverability requirements for wind and solar under PJM's proposal for generator deliverability test modifications of light-load, summer and winter periods | PJM

the three tests, Kern said. He added that the ramping limits for wind and solar were also refined for the three periods using ELCC studies.

Manual First Reads

Several manual updates resulting from cover-to-cover reviews received first reads:

• Michael Herman of PJM's transmission planning department provided a first read of Manual 14B: PJM Region Transmission Planning Process Update. Herman said one of the most significant changes came with the addition of a new section adding detail around the incorporation of end-of-life (EOL) needs in the RTEP, which were part of the tariff attachment M-3 discussions. In December, FERC rejected a stakeholder proposal

to move EOL projects under the RTO's planning authority, siding with transmission owners who argued that it would violate their rights. (See FERC Rejects PJM Stakeholder EOL Proposal.) The commission also accepted the TO sector's own tariff amendments concerning EOL projects in August 2020, rejecting arguments in rehearing requests by more than a dozen load-side stakeholders. (See FERC Accepts PJM TOs' End-of-life Revisions.)

- John Reynolds of PJM's resource adequacy planning department provided a first read of Manual 19: Load Forecasting and Analysis Update.
 Reynolds said the most significant change was adding battery storage to the list of forecasted items in the load forecast model overview in Section 3.1.
- Joseph Hay of PJM's infrastructure coordination department *provided* a first read of Manual 14F: Competitive Planning Process Update changes to the proposal fee structure to conform to the PJM Operating Agreement. Hay said the language in Manual 14F was not in agreement with the latest changes to the OA, which states, "All proposals in any RTEP window are subject to a non-refundable deposit of \$5,000, except for project proposals submitted with cost estimates of \$5 million or less. In addition to the \$5,000 non-refundable deposit, the proposing entity must pay all actual costs incurred by PJM to evaluate the submitted project proposal."

The committee will be asked to vote on the manual changes at next month's meeting. ■

2021 RRS Study results:

			•		
RRS Year	Delivery Year Period	Calculated IRM	Recommended IRM	Average EFORd	Recommended FPR*
2021	2022 / 2023	14.93%	14.9%	5.08%	1.0906
2021	2023 / 2024	14.76%	14.8%	5.04%	1.0901
2021	2024 / 2025	14.68%	14.7%	5.02%	1.0894
2021	2025 / 2026	14.66%	14.7%	5.02%	1.0894
	2021 2021 2021	RRS Year Period 2021 2022 / 2023 2021 2023 / 2024 2021 2024 / 2025	RRS Year Period IRM 2021 2022 / 2023 14.93% 2021 2023 / 2024 14.76% 2021 2024 / 2025 14.68%	RRS Year Period IRM IRM 2021 2022 / 2023 14.93% 14.9% 2021 2023 / 2024 14.76% 14.8% 2021 2024 / 2025 14.68% 14.7%	RRS Year Period IRM IRM EFORd 2021 2022 / 2023 14.93% 14.9% 5.08% 2021 2023 / 2024 14.76% 14.8% 5.04% 2021 2024 / 2025 14.68% 14.7% 5.02%

2020 RRS Study results:

RRS Year	Delivery Year Period	Calculated IRM	Recommended IRM	Average EFORd	Recommended FPR*
2020	2021 / 2022	14.73%	14.7%	5.22%	1.0871
2020	2022 / 2023	14.51%	14.5%	5.08%	1.0868
2020	2023 / 2024	14.42%	14.4%	5.04%	1.0863
2020	2024 / 2025	14.39%	14.4%	5.03%	1.0865

^{*} FPR = (1 + IRM)*(1 - Average EFORd)

The 2021 reserve requirement study (RRS) results versus the 2020 RRS results | PJM

- Michael Yoder

PJM MIC Briefs

By Michael Yoder

ARR/FTR Market Task Force Proposal

Members endorsed a PJM and joint stakeholder proposal at last week's Market Implementation Committee meeting to address the RTO's auction revenue rights (ARRs) and financial transmission rights (FTRs).

The proposal, which was worked on at the ARR/FTR Market Task Force, was endorsed with 244 "yes" votes (84%), surpassing the necessary 50% threshold to move on for a vote at the Markets and Reliability Committee. In a separate vote asking if stakeholders prefer the proposal over the status quo, the proposal received 247 "yes" votes (93%).

Three other proposals presented for a non-sector-weighted vote at the MIC failed to reach the 50% threshold to be considered for endorsement at the MRC. An endorsement vote at the MRC will face a sectorweighted vote on the issue.

Brian Chmielewski, manager of PJM's market simulation department, reviewed the PJM/joint stakeholder proposal, saying it was "strongly driven" by the findings of a report developed by London Economics International (LEI), a consultant hired by the RTO to conduct a "holistic review" of the ARR/FTR market.

LEI was hired on the recommendation of the "Report of the Independent Consultants on the GreenHat Default," which called for an outside expert to review PJM's FTR market and other PJM markets to evaluate the risks and the benefits of rule changes. (See "PJM Seeking" Consultant on ARR/FTR Task Force," PJM MIC Briefs: May 13, 2020.)

Chmielewski said the PJM proposal aimed to consider the LEI recommendations and address concerns raised by the Independent Market Monitor and stakeholders regarding the ARR/FTR market. He said the proposal also sought to maintain the consultant's conclusion that the existing FTR product is "reasonable and generally achieving the intended purposes" of serving as a financial equivalent to firm transmission service and "ensuring open access to firm transmission service by providing a congestion-hedging function."

PJM's proposal was broken into three separate areas as recommended by LEI, Chmielewski said, with an ARR track for "equity," an FTR track for "efficiency," and a transparency track for "simplicity."

Chmielewski said the ARR section was the main part of PJM's proposal, and "far and away" the most time was spent speaking about the equity area and the allocation of rights. He said the ARR section was designed to answer a primary concern that the ability



Brian Chmielewski, PJM | © RTO Insider LLC

for some load to "efficiently hedge congestion costs can be deteriorated at times" when a "misalignment" occurs between the allocation of ARRs and congestion charges paid by load.

Some of the main features of the PJM proposal include a guarantee of 60% of network service peak load for each load-serving entity (LSE), Chmielewski said, which is meant to "protect zonal native load hedging ability with additional up-front capability." He said the proposal also expands the source/sink availability for ARRs so that they "align with any source/sink that is available for bid in the annual FTR auction."

Market Monitor Joe Bowring reviewed the IMM proposal, which only garnered 40 votes in favor (14%). Bowring said the purpose of the ARR/FTR design is to return congestion payments to the load that pays congestion.

Congestion is an overpayment by load, Bowring said, and 100% of that overpayment should be returned to load. Bowring disagreed with the LEI recommendation that load should be satisfied with receiving 50% to 75% of what is owed to load.

Greg Poulos, executive director of the Consumer Advocates of the PJM States, said he will present the IMM proposal at the MRC on behalf of the advocates as an alternative if the PJM/joint stakeholder proposal fails to be endorsed.

Erik Heinle of the D.C. Office of the People's Counsel reviewed the group's proposal, which was identical to the PJM proposal except that 100% of the surplus allocation was given to ARR holders. The OPC proposal received 95 votes in favor (34%).

Jau-Jia Guo of American Electric Power re-

				MISO	Bis	
					РЈМ	
	CAISO					
			ERCOT			
		CAISO	ERCOT	MISO	PJM	
300 am	Installed capacity	79.8 GW	81.3 GW	MISO 197.6 GW	PJM 184.7 GW	
300 ses			Eliteritario de la constante de	- hooliga tast		
200 am.	capacity	79.8 GW	81.3 GW	197.6 GW	184.7 GW	
200 mm.	capacity Peak load	79.8 GW 44.3 GW	81.3 GW 74.8 GW	197.6 GW 127 GW	184.7 GW 148.2 GW	
200 pp.	capacity Peak load People served	79.8 GW 44.3 GW 30 million	81.3 GW 74.8 GW 26 million	197.6 GW 127 GW ~42 million 15 states + parts of	184.7 GW 148.2 GW 65 million	
JOHN SERVICES	reak load People served States covered	79.8 GW 44.3 GW 30 million 1	81.3 GW 74.8 GW 26 million 1	197.6 GW 127 GW ~42 million 15 states + parts of Manitoba	184.7 GW 148.2 GW 65 million 13 states plus DC	

Key market components of RTOs/ISOs across the country. | London Economics



viewed the company's proposal that called for a commitment to implement a more "granular" ARR/FTR product design, including quarterly peak and off-peak ARR products. The AEP proposal received 57 votes in favor (21%).

The PJM/joint stakeholder proposal will now go to the MRC for endorsement.

Energy Efficiency Add-back Endorsed

Stakeholders endorsed the PJM/IMM proposal addressing the energy efficiency (EE) add-back in Reliability Pricing Model (RPM) auctions.

The proposal, which called for modified language to section 2.4.5 of Manual 18 to reflect revisions to the EE add-back method, was endorsed with 208 "yes" votes (90%). Members also endorsed changes to the status quo with 207 votes in favor (90%).

Jeff Bastian, senior consultant with PJM's market operations, reviewed the joint PJM/ IMM proposal addressing the calculation of the EE add-back mechanism. Members unanimously endorsed an issue charge presented by the Monitor at the August MIC meeting. (See "Energy Efficiency Add-back Issue Charge Endorsed," PJM MIC Briefs: Aug. 11, 2021.)

Bastian said the EE add-back mechanism is applied to capacity auctions to prevent the "adverse reliability impact" associated with double-counting EE as both a capacity resource and a reduction in the forecasted peak load. Bastian said the current method of determining the add-back megawatt quantity applied to a Base Residual Auction does not require it to match the megawatt quantity of EE resources that clear in that auction.

The add-back quantity in a BRA will normally exceed the cleared quantity, Bastian said, resulting in an artificial increase in the clearing price. The proposal rewrote language in



Tom Hyzinski, GT Power Group | © RTO Insider LLC

Manual 18 to permit PJM to calculate the EE add-back in the capacity market clearing so that the total EE add-back megawatts offset the total cleared EE megawatts in the BRA.

Bastian said the solution "introduces an iterative approach into the auction clearing process" so that the EE add-back megawatt quantity applied to an RPM auction matches the megawatt quantity of EE resources cleared in the auction.

Bastian said PJM is seeking final endorsement at the Oct. 20 MRC to have the manual language in place for the 2023/24 BRA. PJM is currently asking FERC for a delay of the BRA, pushing the date from Dec. 1 to Jan. 25. (See PJM Proposing 2-Month Capacity Auction Delay.)

Start-up Cost Offer Development

Nicole Scott and Tom Hauske of PJM provided a first read of two proposals addressing start-up cost offer development worked on in the Cost Development Subcommittee, while some stakeholders questioned the scope of the changes coming from the subcommittee.

Scott said the issue charge for start-up costs was developed in the CDS for review and possible modifications to Manual 15. Scott said some of the key work activities included the calculation of start-up cost-based offers for steam units, combustion turbine units, combined cycle units and diesel units and a discussion on the consistency of start-up cost parameters with the start-up and notification

The CDS developed two proposals for consideration, Scott said, the first a joint PJM/ IMM proposal and the second a clarification proposal from stakeholders. Scott said the two proposals agree on most of the start-up cost changes to Manual 15, but they differ around the issues of start-up costs, start fuels. station service and additional labor costs for combined cycle units.

Hauske said the PJM/IMM proposal calls for providing an equation to calculate start-up cost, addressing station service for noncombined cycle units, more clarification around the start maintenance adder and a definition for equivalent service hours.

Hauske said the main issue the PJM/IMM package attempted to address is the discrepancy in Manual 15 on how start-up costs are calculated. He said the manual currently allows combined cycle units to include fuel cost after a generator breaker closure and the synchronization to the grid in their calculation of start-up costs that other unit types like steam and nuclear cannot utilize.

The PJM/IMM proposal revises Manual 15 calculations for start-up cost, start fuel and station service to be consistent for all unit types, Hauske said, and it only includes costs prior to first breaker closure and after the last breaker opens.

Tom Hyzinski of GT Power Group provided additional information of the clarification proposal. Hyzinski said the proposal was meant to offer an alternative to the PJM/IMM proposal that tries to maintain the status quo but contains some clarifications to the manual language to highlight current practices.

Hyzinski said the PJM/IMM proposal does more than just clarify language by "making a substantive change" to the way start-up costs are recovered for combined cycle units. He said the clarification proposal attempts to explain the current actual practice with combined cycle units without making significant manual updates.

Calpine's David "Scarp" Scarpignato said he was under the impression the CDS was mainly focused on minor clarifications like the Manual 15 revisions regarding the incremental and no-load energy offers endorsed at the September MIC meeting. (See "Manual 15 Revisions Endorsed," PJM MIC Briefs: Sept. 9, 2021.)

Scarpignato said the manual changes presented in the PJM/IMM proposal are "extremely substantive."

Dave Anders, PJM's director of stakeholder affairs, said the CDS has a charter approved by the MIC and can take on work within the scope of the charter. Anders said the subcommittee simply needs to let the committee to which it reports know what is being discussed.

Scarpignato said he would still like to see the issue come through the MIC where there is more stakeholder participation. He requested that a second first read be conducted at the November MIC to go over the issues more thoroughly with the committee.

"I know you guys understand it, but it's pretty detailed for the rest of us," Scarpignato said.

Bowring said he wanted to see the issue proceed for a vote at the November MIC since it has been "thoroughly reviewed" at the CDS, but he said he wouldn't be opposed to having more discussion.

"I think people understand it; some just don't like it," Bowring said. "It is complicated, but lots of stuff at PJM is complicated." ■

Company Briefs

Consumers Energy Gains \$1B **Investment from Regions Bank Merger**



CMS Energy, the parent company of

Consumers Energy, recently sold Ener-Bank USA and announced it plans to use the proceeds for key initiatives within the company. An estimated \$1 billion obtained from the sale will go toward building more reliable and cleaner energy infrastructures in Michigan, as well as helping fund Consumers' clean energy initiatives.

EnerBank USA, headquartered in Salt Lake City, is a home improvement point-ofsale lender and had been under the CMS umbrella for nearly 20 years. Regions Bank, a subsidiary of Regions Financial Corporation, acquired the lender.

More: MLive

David Hang Joins US Wind's Leadership Team

Offshore wind developer US Wind said it has added David Hang to its executive management team as COO.

With more than 20 years of experience in the financial and commercial sectors, Hang will oversee the company's day-to-day operations and work with the CEO to lead the larger commercial strategy for constructing projects.

More: North American Windpower

Docs Show Enbridge Paid Police for Arresting, Surveilling Protesters

Enbridge reimbursed Minnesota police \$2.4 million for arresting and surveilling hundreds of demonstrators who oppose construction of its Line 3 pipeline, according to documents obtained through a public records request.

According to the documents, Enbridge has paid for officer training, police surveillance

of demonstrators, officer wages, overtime, benefits, meals, hotels and equipment. The police have arrested more than 900 demonstrators.

Enbridge replaced the Line 3 pipeline through Minnesota to carry oil from Alberta to Lake Superior in Wisconsin. The new pipeline carries a heavy oil called bitumen, doubles the capacity of the original to 760,000 barrels a day, and carves a new route through pristine wetlands. The project was meant to be completed and functioning on Oct. 1.

More: The Guardian

Dominion Energy to Sell Questar Pipeline to Southwest Gas for \$1.9B



Dominion Energy last week announced it has reached

an agreement to sell its Questar Pipeline subsidiary to Southwest Gas Holdings for \$1,975 billion.

The all-cash deal, which includes the assumption of \$430 million of debt, is expected to close in the fourth quarter.

Questar Pipeline is an interstate natural gas pipeline business that provides natural gas transportation and underground storage services in Utah, Wyoming and Colorado. The company owns and operates 1,867 miles of natural gas pipeline.

More: Virginia Business

EV Startup Volcon Goes Public

Volcon, an electric vehicle startup that makes off-road vehicles, recently went public, just weeks after rolling out its first commercial vehicle, and saw its shares surge in its first day of trading.

Volcon's shares, initially priced at \$5.50, began trading on Oct. 6 on the Nasdaq exchange and opened at \$9.01. The price jumped as high as \$15.50 at mid-day and closed at \$10.86 — up 97% from the initial price.

The company's debut on Wall Street came less than a month after it introduced an all-electric motorcycle with a 100-mile range, starting at \$7,995.

More: Austin American-Statesman

Ex-SCANA CEO Gets Prison Sentence for Role in Failed Nuclear Project



Kevin Marsh, the former CEO of SCANA

who helped cover up the failure of the V.C. Summer nuclear project, was sentenced to two years in prison last week.

Marsh pleaded guilty earlier this year to federal conspiracy fraud charges. He also agreed to pay \$5 million in restitution and to fully cooperate with law enforcement until the conclusion of investigation and prosecution related to the project. During the sentencing, Judge Mary Lewis also imposed an additional \$200,000 fine.

More: WLTX, The State

Tesla Moving HQ to Austin



Speaking to shareholders last week, Tesla CEO Elon Musk announced the company has decided to move its corporate headquarters from California to Austin, Texas.

Tesla is building a \$1.1 billion manufacturing facility in southeastern Travis County.

Musk had previously threatened to move the company's headquarters from Palo Alto, Calif., to Texas or Nevada in 2020, after disagreements with California lawmakers.

More: Austin American-Statesman

Federal Briefs

Biden Nominates Veteran Auditor to Lead TVA Watchdog Agency

Ben Wagner, an investigator and auditor in TVA's Office of Inspector General for 31 years before his retirement in 2017, was

picked by the White House last week to lead the inspector's office at TVA. If confirmed. Wagner will fill a role that has been vacant since Richard Moore left the job in September 2017.

Prior to his retirement, Wagner served

in several senior executive positions in the Office of Inspector General, including senior advisor of stakeholder relations and deputy inspector general where he led audits, evaluations, investigations and administrative functions.

Wagner will be only the second presidentially appointed inspector general, if he is

More: Chattanooga Times Free Press

DOE Announces Clean Energy Cybersecurity Accelerator Program



The Department of Energy and the National Renewable Energy Lab last week announced the launch of the Clean Energy Cybersecurity Accelerator, which was cre-

ated to help accelerate the development of new cybersecurity solutions for the grid.

The program will support efforts to modernize the grid, address cybersecurity vulnerabilities, and create a grid that will withstand the transition to a clean energy economy to reach net-zero emissions by 2050.

More: Energy.gov

EPA Strategic Plan Touts Climate, Environmental Justice Goals



EPA Administrator Michael Regan told employees in an internal email that the agency has renewed its commitment to three institutional principles espoused

by William Ruckelshaus, the agency's first administrator, which are to "follow the science, follow the law, and be transparent."

Regan also said EPA's plan includes goals to tackle climate change and to champion environmental justice and civil rights.

The EPA's strategic plan, covering fiscal years 2022 through 2026, has seven goals and four cross-agency strategies. Those

four strategies focus on scientific integrity, children's health, workforce equity and engagement with state, local and tribal governments. Along with climate change and environmental justice, the plan's goals are enforcing environmental laws, clean air, clean water, waste cleanup and environmental emergencies, as well as chemical safety.

More: E&E News

Granholm Announces News Members of Secretary of Energy Advisory Board

The Department of Energy last week announced the new members of the Secretary of Energy Advisory Board (SEAB), which is an important component of the department's strategy to improve its research and development portfolio and program activities.

Arun Majumdar, who previously served on the SEAB, will serve as chair. Madelyn Creedon will serve as vice chair. Former FERC Chair Norman Bay was one of 16 others also appointed to the board.



Members of the board are appointed for a twoyear term and represent academic institutions, nuclear security experts, labor unions, utility companies, energy equipment manufacturers, low-income con-

sumers, and non-governmental organizations. The board meets quarterly to advise Energy Secretary **Jennifer Granholm** on how best to achieve the priorities of the department, help identify issues related to its activities, and offer suggestions for improvements to its operation.

More: Energy.gov

NRC Picks Dorman to Lead Operations Staff

The Nuclear Regulatory Commission last week selected Daniel H. Dorman as its next executive director for operations, effective Oct. 10.

Dorman previously served as the commission's deputy executive director for reactor and preparedness programs.

More: Power Engineering

States Push to Surpass World Emissions Norms on Aviation

Five states last week wrote a letter to President Biden saying the administration should exceed global standards designed to curb emissions from aviation.

Illinois, Massachusetts, Oregon, California and Minnesota and the International Council on Clean Transportation said the EPA should move ahead of the U.N.'s aviation agency in approving standards to curb greenhouse gases and air pollution from new aircraft engines entering into service after 2030.

The latest U.S. policy "favors aspirational goals and (sustainable aviation fuel) tax credits over legally binding GHG targets," the letter said. Last month, the White House announced it was aiming for 20% lower aviation emissions by 2030. However, by trying to go it alone on aviation standards, the U.S. would diverge from the system of global standards developed through the International Civil Aviation Organization.

More: Reuters

State Briefs REGIONAL

Graham, Ziegner Appointed to NARUC Board of Directors



The National Association of Regulatory Utility Commissioners last week announced the appointment of Commissioners **Art Graham** and David Ziegner as members of the board of directors.

Graham, a member of the Florida Public Service Commission, is currently a member of NARUC's Executive Committee. He also serves on the Association's Committee on Electricity, Subcommittee on Clean Coal and Carbon Management, and the Washington Action Program.

Ziegner, a former member of the NARUC Executive Committee, is a member of the Committee on Electricity, Subcommittee on Clean Coal and Carbon Management, and Subcommittee on Nuclear Issues-Waste.

More: NARUC

ARIZONA

APS Profitability, Recovery for Coal Investments in Jeopardy

The Corporation Commissioners last week voted 4-1 to approve a significant reduction in potential profits for Arizona Public Service. The company, which currently receives a 10% return on equity, had that number cut to 8.7% in its latest rate case.

Commissioner Justin Olson said he thinks it is an appropriate response to the compa-

ny's struggles following the last rate case passed in 2016.

APS CEO Jeff Guldner told commissioners any reduction below 9.1% would hamper the company's ability to make investments in the grid to handle the influx of people and businesses moving to the state.

More: ABC 15

CALIFORNIA

Law Bans Gas Lawn Mowers and Leaf **Blowers**



Gov. Gavin Newsom last week signed a law that will outlaw the sale of new gaspowered lawn mowers, leaf blowers and chain saws as early as 2024.

The law requires all newly sold small-

motor equipment primarily used for landscaping to be zero-emission by that target date or as soon as the Air Resources Board determines it is feasible. New portable gas-powered generators must also be zero-emission by 2028.

Assemblyman Marc Berman said the state has set aside \$30 million to help landscapers and gardeners make the transition to zero-emission equipment, but an industry representative said that is inadequate for the estimated 50.000 small businesses that will be affected.

More: Los Angeles Times

Solar, Storage Licensing Requirement on Hold for at Least a Year

The attorney general last week filed a written stipulation agreeing to voluntarily stay the enforcement of the Contractor State License Board's (CSLB) July 27 decision that limited the ability of solar contractors to install solar-plus-storage projects. As a result, contractors may continue to install the systems on and after Nov. 1.

The stay agreed to by the CSLB stands until "this action is finally resolved, and the Petitioner-Plaintiff has agreed to withdraw its motion in exchange," as stated in the stipulation. Now, contractors holding a C-46 solar license can continue to install systems for at least 12-18 months, and possibly longer, depending on the outcome and timeline of any new regulations.

More: Solar Power World

IOWA

Iowa City Reaches Carbon Emission Goal 9 Years Early

Iowa City last week said it has lowered carbon emissions by 49% since 2010 and beat its goal of lowering carbon emissions by 45% by 2030.

The city has programs in place that will help it reach its goal of net-zero carbon emissions by 2050.

More: The Daily Iowan

NEW YORK

Port of Coeymans to Serve as **Assembly Area for Sunrise Wind**



Lt. Gov. Brian Benjamin and Ørsted CEO David Hardy on

Friday announced that the Port of Coeymans will serve as the assembly area for construction of wind turbine platforms for the Sunrise Wind project off the east end of Montauk Point.

The port is located on the Hudson River, about 10 miles south of Albany. The announcement comes nine months after officials unveiled plans for a wind tower factory at an expanded Port of Albany. The parts will be shipped down the Hudson by barge to their installation points off the coast.

"We're super-committed to making this a local business," Hardy said. "We're building the American supply chain from the ground up."

More: Times Union

OREGON

Program Would Cap, Reduce Fossil **Fuel Emissions from Cars, Trucks**



Under orders from Gov. Kate Brown, the Department of **Environmental Quality** developed the Climate Protection Program a new set of rules that would cap greenhouse gas emissions from fossil fuels and reduce them over time.

The proposed program would cut emissions from gasoline, diesel, propane, kerosene and natural gas suppliers by 80% by 2050.

By capping emissions from fuels, it targets the state's largest source of carbon dioxide emissions: cars, trucks and other transportation made up 36% of emissions in 2019.

The rules could change as the DEQ finalizes them for approval by the Environmental Quality Commission.

More: Oregon Public Broadcasting

UTAH

Rocky Mountain Power Will Not Run On 100% Renewable Energy by 2030

Rocky Mountain Power CEO Gary Hoogeveen last week admitted that the company will not be able to be on 100% renewable energy sources by 2030 and that the date would likely be closer to 2050.

The announcement will not impact Salt Lake City and other communities' participation in the Community Renewable Energy Program, which puts the cities on 100% "clean electricity" by 2030.

More: Fox 13

VIRGINIA

Document Details Payments from Dominion to Media, Lobbyists

A document in the ongoing review of Dominion Energy's finances revealed hefty dollar amounts from the electric monopoly to media and lobbyists, including a columnist who wrote editorials about Dominion for a large state newspaper and former lawmakers who lobby the current ones.

Such costs are not paid by ratepayers, but information about them was turned over by the company in its ongoing "triennial review" at the State Corporation Commission.

Dominion paid \$263,644 over four years to Gordon Morse, a political columnist at The Virginian-Pilot who also wrote unsigned editorials related to Dominion. Two former lawmakers. Del. John H. Rust Jr. and Sen. John Watkins, also received at least \$264,944 and \$92,297, respectively, from the utility.

More: Richmond Times-Dispatch

WASHINGTON

Avista Submits Clean Energy Implementation Plan

Avista Utilities, an operating division of

Avista Corp., filed its first Clean Energy Implementation Plan (CEIP) with the Utilities and Transportation Commission on Oct. 1. Avista is the first utility to file a CEIP in the state.

The CEIP is a road map of specific actions

Avista plans to take over the next four years to show the progress being made toward clean energy goals established by the Clean Energy Transformation Act. The act requires all generation be greenhouse gas neutral by 2030 and 100% renewable by 2045.

In 2019, Avista announced a goal to serve its customers with 100% clean electricity by 2045 and to have a carbon-neutral supply of electricity by the end of 2027.

More: Avista







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