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Your Eyes and Ears on the Organized Electric Markets
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ISSN 2377-8016 : Volume 2017/Issue 29 July 25, 2017

PJM Stakeholders See Capacity Auction Flaws, Offer Solutions

Public Power Takes Gripes to Congress

By Rich Heidorn Jr.

While PJM stakeholders were meeting last week to consider yet more changes to the Reliability Pricing Model, public power representatives took their case to Congress, telling the House Energy and Commerce Committee last Tuesday that they should be released from participating in the increasingly complicated capacity construct.

American Municipal Power and Old Dominion Electric Cooperative told the committee that FERC should allow public power utilities to fill their needs through bilateral contracts or self-supply instead forcing them to participate in mandatory capacity markets. AMP — which provides power supply and other services to 135 members in Delaware, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Virginia and West Vir-

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By Rory D. Sweeney

VALLEY FORGE, Pa. — PJM's Capacity Construct Public Policy Senior Task Force has been working at a torrid pace to develop potential rule changes in time for next year's capacity auction.

After little more than four months of meetings, PJM and stakeholders have offered four proposals to fix what many see as flaws in the RTO's capacity construct. The main issue is how to accommodate state actions — such as energy credits or tax incentives, which subsidize certain generation types — without allowing them to influence clearing prices.

The Two-Stage Proposals

PJM led with a "repricing proposal" released

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SPP, Mountain West Members Get Acquainted

By Tom Kleckner

DENVER — Before introducing a panel of Mountain West Transmission Group representatives during SPP's recent Markets and Operations Policy Committee meeting, COO Carl Monroe assured everyone that they were sitting inside the cavernous Colorado Convention Center by pure happen-

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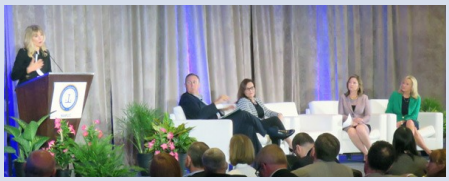
From left to right: Mary Ann Zehr (Tri-State); Rodney Bailey (WAPA); Katie Hardman (Colorado Springs Utilities); Joe Taylor (Xcel Energy); Carl Monroe (SPP); Dory Batka (Black Hills); Andy Butcher (Platte River Power Authority). | *© RTO Insider*



NARUC Summer Policy Summit

MISO, Stakeholders Differ on New Queue Plan

By Amanda Durish Cook

Stakeholders are at odds with MISO over some aspects of the RTO's new interconnection queue rules during a time when the queue is beset by "unprecedented" backlogs.

RTO staff said the sheer volume of prospective projects is creating an overwhelming definitive planning phase (DPP) study cycle this year.

"It's the largest queue we've ever had — over 200 projects," Patrick Brown, executive director of transmission asset management, said at a July 18 Interconnection Process Task Force (IPTF) meeting. MISO is reviewing project applications and will update the list of queue projects based on study findings by the end of July.

But multiple stakeholders have asked that queue implementation details be fleshed out in joint discussions involving either the Plan-

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Payment Frequency	PDF-Only	PDF & Web
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STAKEHOLDER SOAPBOX

NARUC Meeting App Would Conflict with Regulators' Own Privacy Rules

By Michael Murray

Murray

At last week's National Association of Regulatory Utility Commissioners Summer Policy Summit in San Diego, attendees were encouraged to download an app to facilitate in-person meetings. There's just one problem: Were it subject to the privacy rules adopted by commissions in several states, the app would be in violation.

Privacy rules prevent electric and gas utilities from selling or disclosing personal information except under certain, carefully monitored circumstances. Customer protections, such as clear notices to users about what data are being collected, are absent from the app. This leads to an embarrassing double standard for some state regulators. While commissioners enjoy the conveniences provided by the "NARUC 2017" app, their own rules would outlaw similar practices in their home states.

For example, take California's rules. In 2011, the Public Utilities Commission issued a lengthy privacy decision that requires software companies that access customer data held by a regulated utility to provide written privacy policies that are "meaningful, clear, accurate, specific and comprehensive." But, confusingly, the app links to *two* privacy policies that are sometimes in conflict with one another. The policies also do not explain what personal information is captured by the user's mobile device — a clear violation of California's rules.

Another California requirement is for software companies to distinguish "primary purposes" from "secondary purposes" of the personal data used. A primary purpose could be "to help you save energy and money in your home with tailored recommendations on your smartphone," while a secondary purpose could be, for example, selling the data to make extra money. Secondary uses are explicitly prohibited without the prior written consent of the customer. Unfortunately, NARUC 2017's terms say vaguely, "We will collect and use of [sic] personal information solely with the objective of fulfilling those purposes specified by us and for other compatible purposes." Thankfully, the app's developer has an agreement with NARUC not to sell any users' personal data, according to the company's CEO. But if a complaint were filed in California against a similar app maker, the commission would likely find the software unlawful.

Other commission-approved rules require companies to make informational disclosures to consumers prior to releasing personal data. By standardizing disclosures, the idea is that companies are prevented from writing their own vague or misleading language that exploits customers. For instance, Pacific Gas and Electric's form for demand response is four pages long, and deviations from the form are not allowed.

Outside of California, Colorado and Illinois regulators have approved standardized disclosure language. But the NARUC 2017 app does not ask for any specific authorization at all, and, when it does, the authorization language is fluid. Both of its policies say that the app maker "may revise these terms of use at any time without notice." Changing terms without notifying users is anathema to privacy advocates and consumer groups who fought for rules that ban the practice.

Finally, California's rules enshrined the principle of "data minimization," the idea that only the personal data necessary for the task should be collected. Presumably, an app to help people at conferences meet face to face would need information like your name, title, organization, location and which sessions you want to attend. However, the NARUC 2017 app requires users to give it permission to much more, such as the right to read and modify any file stored on your device; to create new Bluetooth connections; and to control the phone's networking settings — none of which are clearly tied to helping people meet at a conference.

It is ironic that many state commissions publicly take a "tough on privacy" stance that is at odds with their national association's practices at its summer conference. But the double standard is not altogether surprising. Since the advent of smartphones, consumers have routinely traded their personal data for access to free services. Commission requirements for paper forms appear increasingly out of step with modern technology.

Mission:data points to California, Texas and Illinois as states leading in energy data transparency. | *Mission:data Coalition*

Over time, as sharing personal data such as banking transactions and health data with tech companies becomes easier, it is worth re-examining the utility industry's practices. Is it reasonable to give away the data on your phone with a single click, while your utility bills require filling out a four-page legal form?

To be clear, the NARUC 2017 app would only violate commission rules if it accessed users' energy information or customer account information held by utilities. Apps that do not request data from a utility operate without commission oversight.

Nevertheless, as leaders in the public sector, state commissioners and their national association should lead by example. Entrepreneurs in software and energy management have a saying: "Eat your own dog food." It means that entrepreneurs should use their companies' products in their personal lives, to live by their creed. We encourage NARUC to do so as well.

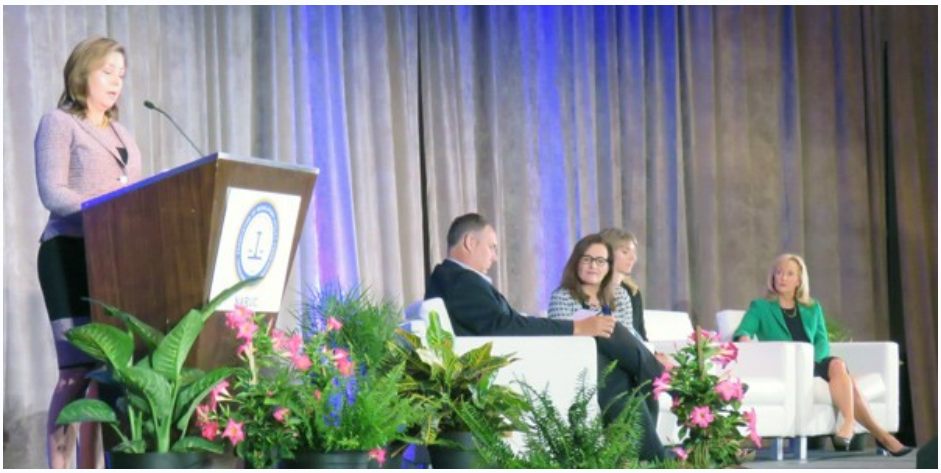
Michael Murray is president of Mission:data Coalition, a national coalition of more than 40 innovative technology companies that empower consumers with access to their own energy usage data. We strongly believe that energy management technologies can flourish while simultaneously protecting customer privacy. For more information about privacy and state private rules about energy, see our whitepaper, "Got Data?"

If you'd like to contribute an op-ed article, email the editor at rich.heidorn@rtoinsider.com.

NARUC Summer Policy Summit

Industry, Regulators See Changing Energy Landscape

By Jason Fordney



NEI President Maria Korsnick speaks at a panel including PG&E CEO Geisha Williams (third from right). | *© RTO Insider*

SAN DIEGO — New electricity business and regulatory models will be needed in the U.S. to transition to a future with more distributed and renewable resources, changing customer needs and new technologies, market participants and regulators said this week.

Industry representatives and state regulators gave an overview of the changing landscape at the National Association of Regulatory Utility Commissioners Summer Policy Summit. Common themes were the growth of distributed resources, managing large amounts of new renewables and developing new approaches as more electricity consumers also become producers.

Pacific Gas and Electric CEO Geisha Williams said that the key is to implement renewables, distributed generation and other new technologies "and not leave anybody behind." About 40% of the utility's customers are low-income, and they should not have to choose between paying for electricity and other critical expenses such as health care, she said.

The model of billing energy consumers purely based on the amount of electricity they use is becoming obsolete, Williams said. "That model is fundamentally at risk at this point."

Many electric consumers are also producers, as behind-the-meter and distributed resources grow. Retail energy sales in the future "may very well likely not be a one-size-fits-all," she said, similar to how mobile phone users have different data plans because they have widely different needs. This could entail using a tiered approach, service and access charges and new incentives for capital investment.

It is important that regulators and lawmakers put the right policies in place to implement new technologies and practices in an affordable way, Williams said, adding that "affordability is a strategic imperative to us."

The country's generation and distribution systems "are really undergoing a period of very dramatic change," Nuclear Energy Institute CEO Maria Korsnick said. She contended that nuclear, particularly small modular reactors, should play a role in maintaining clean and affordable energy.

"Small modular reactors could be game-changers in many respects," Korsnick said, providing smaller increments of power compared with a large central station plant and giving utilities more discretion in meeting demand. Modular reactors can also bring off-grid power to remote places and cycle up and down like a natural gas plant — but with no emissions.

In Pennsylvania, distributed resources are "popping up as a result of new opportunities," Public Utility Commissioner John Coleman said. The agricultural sector is learning that biodigesters can help manage waste products while producing electricity. The question is to how to compensate these new resources.

As for the traditional ratemaking model: "Maybe it is at risk," Coleman said. "Maybe it is time to start thinking of some of these things in a different way."

The Pennsylvania PUC is surveying industry on new compensation approaches and ways to incentivize investment. He noted that the majority of the state's consumers are served by competitive suppliers and electricity rates have dropped by about 30%. Natural gas plants are also rapidly replacing coal-fired units in the state.

Other than distributed resources, utility-scale generation is also changing, according to Ohio Public Utilities Commissioner Beth Trombold. The state has a potential 8,000 MW of new gas-fired generation coming online, with four gas plants under construction, one certified and four more under review. There is about 1,200 MW of new wind and 400 MW of new solar waiting in the wings, which will greatly increase the amount of renewables in the state.

Ohio is also in the middle of a grid modernization program and asking, "What kind of regulations and technological innovation are out there to enhance the customer-utility relationship?" Trombold said.

California Public Utilities Commission Chairman Michael Picker said that integrating renewables in the state has not been as challenging as was feared, and it is now more important to consider where they are placed.

Legislation is in the works in California to achieve a zero-carbon electricity grid by 2045 and the state recently extended its cap-and-trade program to 2030. (See *California Zero-Carbon Power Bill Advances* and *California Lawmakers Extend Cap-and-Trade*.)

"At this point, it's not about getting more, it's what you get, where you get it … and when it's available," Picker said of renewable generation. The state is experiencing lower electricity demand overall but higher peaks. The PUC is moving away from "silos" in terms of what kind of resources are put on the grid, but back to an integrated resource plan model, he said.

In terms of reducing greenhouse gases, more of the transportation sector must be electrified, he said. The transportation sector emits 40% of GHG in the state; gas for heating and other uses emit about 30%, while just 20% is emitted from the electricity generation.

NARUC Summer Policy Summit

Influx of Data Centers a Game Changer for Grid

By Jason Fordney

SAN DIEGO — The digital economy is driving construction of a massive amount of data and storage infrastructure that has many implications for the electricity grid, industry participants and regulators said last week.

Data centers are seen by states as bringing economic development, but they also create electricity and water demand that requires attention from regulators. Utilities and municipalities are designing tariffs specifically for data centers, which require significant infrastructure development within a certain utility footprint, Illinois Commerce Commissioner John Rosales said at a July 17 panel of the National Association of Regulatory Utility Commissioners' Summer Policy Summit.

Rosales and others noted that the demand for data and storage infrastructure will only grow. "We are not putting down our smartphones or tablets anytime soon," he said.

Commonwealth Edison Vice President Sheila Owens said that Northern Illinois houses 70 data centers with aggregate demand of more 200 MW, the largest 15 of which have annual demand growth of about 20% a year. She noted a dramatic statistic: 90% of the data ever created were generated in the past two years.

"Data centers are the manufacturers of the 21st century in our digital economy," Owens said. She added that Chicago's transportation access and colder climate benefit data center efficiency by reducing cooling costs.

Data centers have a high incentive to use energy and water efficiently, and many companies have sustainability offices that research siting concerns for them, Owens said. Legislation in Illinois has created incentives for using solar energy, including credits to commercial facilities. Data center operators tend to be interested in clean energy.

Former Florida Public Service Commissioner Eduardo Balbis said the number of data centers will increase in the U.S. as new technology, such as autonomous vehicles, is developed. He urged that state regulators partner with data center operators on energy-usage programs in order to attract the facilities.

States are now waiving taxes to account for data centers or adjusting rates, and regulators should give utilities flexibility to partner with data center operators, Balbis said.

Growth in DER Creates New Challenges

By Jason Fordney

SAN DIEGO — CAISO expects new aggregated distributed energy resources to enter its markets this year, creating new technical and regulatory challenges as the grid operator works to integrate them without affecting reliability.

Industry officials discussed the development in detail at a July 17 panel at the National Association of Regulatory Utility Commissioners Summer Policy Summit.

FERC in June 2016 conditionally approved CAISO's proposed rules to allow aggregated resources to participate in the wholesale markets. (See *CAISO Tariff Change Would Extend Market to DER*.) Later in November, the commission also issued a separate Notice of Proposed Rulemaking (RM16-23, AD16-20) that would allow DER to participate in other wholesale electricity markets across the country.

CAISO is ironing out implementation policies so that DER aggregators can begin operating in its markets this year. DER aggregators can be generators, load-side participants, storage devices or a mixture, and they can also participate as scheduling coordinators that distribute CAISO dispatch instruction from their individual energy sources.

Esguerra (left) and Yamout | *© RTO Insider*

DER is dispatched without knowledge of the exact impact on grid operations, and the effect on the system is difficult to quantify because of many different interconnections and ways to connect, said Mark Esguerra, director of integrated grid planning for Pacific Gas and Electric. It also requires more coordination between the transmission and distribution system operators.

Visibility into DER behavior "is something we are trying to wrap our arms around," Esguerra said, adding that DER "creates new operational challenges that we all have to consider here."

Manal Yamout, vice president of policy and markets for Advanced Microgrid Solutions, said DER can provide a suite of services at the transmission and distribution levels. The company is developing 50 MW of DER with Southern California Edison, among other projects.

"This is happening now," she said, saying the discussion around DER is often conceptual or forward-looking. "Even though this might seem far away … these projects are here, and in many ways, we are kind of breaking down the barriers as we go. … This isn't just about California."

DER is often discussed in the context of balancing intermittent renewables, but they can also provide capacity, ancillary services, resource adequacy to the utility and demand-side management to energy customers, Yamout said.

D.C. Public Service Commissioner Willie Phillips said he is often asked about the reliability impacts of DER and aggregation.

Esguerra said that reliability officials are looking at the integration of DERs, and that there is an ongoing shift from the central power station model.

"I think there is work that still needs to be done, in terms of certifications and standards," if the grid is going to rely more on DER, Esguerra said.

So far, Apparent Energy, Galt Power, Olivine and San Diego Gas & Electric have applied to become DER providers in California, according to CAISO.

NARUC Summer Policy Summit

Overheard

SAN DIEGO — More than 1,000 people attended the National Association of Regulatory Utility Commissioners' Summer Policy Summit last week. Here's some of what we heard.

Sunrun CEO **Lynn Jurich** said that the task for regulators and industry is to figure out what value distributed energy resources bring to the grid, and which business models and rate designs would work best. She said rooftop solar could be connected directly at the utility level to be dispatched when it is needed.

"Too often we are stuck fighting rate designs that appear to slow the growth of the rooftop solar," Jurich said. "Let's work together to actually maximize the value of these assets to the entire system." Solar companies know how to market the technology to consumers, but utilities best know how to integrate the systems in the most efficient way, she said.

NuScale Power Vice President Jack Bailey said that the Nuclear Regulatory Commission is reviewing the company's small modular reactor design, but it will take 46 months to approve the 12,000-page application.

Oregon-based NuScale is the first small modular reactor company to seek approval of the technology. The company filed for approval of its design in January, an effort that took more than 800 people over two years. The 12 50-MW modules — 600 MW in total — are planned to be built on the site of the Idaho National Laboratory, owned by Utah Associated Municipal Power Systems and operated by Energy Northwest.

Asked what the reaction has been from the environmental community, Bailey said, "I would say it's a mixed bag overall, but we are seeing some support." He is also hopeful that the federal government will take steps to solve the problem of where to store spent nuclear fuel.

Katrina McMurrian of Nuclear Waste Strategy Coalition said she is hopeful the federal government will revisit the stalled Yucca Mountain nuclear waste disposal site in Nevada. The U.S. Nuclear Waste Fund contains more than $40 billion, accruing interest of $1.5 billion/year, but fee collection has stopped because of a suit brought by NARUC and others.

President Trump proposed to restart Yucca with $100 million in his budget proposal, and $10 million for an interim storage program to a private or federal facility while Yucca is completed.

The Senate last week approved funding for an interim storage site for nuclear waste, but unlike the House of Representatives, did not include money for restarting Yucca. "The hope is to see both sides put something together that they can conference and actually fund both of these priorities," McMurrian said. Rep. John Shimkus (R-Ill.) has introduced legislation that would set a time limit for NRC to approve Yucca and allows the Energy Department to permit an interim facility while the facility is licensed.

Dipka Bhambhani, communications director of the United States Energy Association, said her group is working with the International Gas Union to support the 27th World Gas Conference in D.C. on June 25-29, 2018. It will be the first time in 30 years that the U.S. has hosted the triennial event, which has been held since 1931, and the first time that the host country is both the largest producer and consumer of natural gas, she told the NARUC Gas Committee. USEA is a liaison to the Energy Department for the conference and is helping to manage communications for the event.

— Jason Fordney

CAISO News

California Officials: Aliso Canyon Safe to Open

By Jason Fordney

California officials Thursday cleared the Aliso Canyon natural gas storage facility to resume injections, even as momentum builds among lawmakers, regulators and the public to permanently close the site of the massive methane escape near Los Angeles.

The methane leak caused by a broken pipe casing at the 86-Bcf storage facility owned by Southern California Gas was discovered in October 2015 and plugged in February 2016.

State engineering and safety officials said that after months of "rigorous inspection," they "have concluded the facility is safe to operate and can reopen at a greatly reduced capacity in order to protect public safety and prevent an energy shortage in Southern California," according to the California Public Utilities Commission. State legislation required the PUC and Division of Oil, Gas and Geothermal Resources to clear the facility for operation before gas injections could resume there.

PUC Executive Director Timothy Sullivan said: "After careful review of testing results, our safety teams have confirmed the integrity of the wells at this facility. Out of an abundance of caution and consideration for public safety, storage capacity will be restricted to approximately 28% of the facility's maximum capacity — just enough to avoid energy disruptions in the Los Angeles area."

State Oil and Gas Supervisor Ken Harris issued an order laying out testing requirements at the facility after injections resume. About 60% of the wells at Aliso Canyon have now been taken out of operation and isolated from the facility, and remaining wells were cleared during testing, officials said. Active wells now have real-time pressure monitors and will be subject to aerial monitoring. The wells also have new steel tubing and seals.

The finding came the same day the head of the California Energy Commission wrote PUC Chairman Michael Picker, calling for the facility to be permanently closed. He said Gov. Jerry Brown asked him to make plans for the facility to be permanently shut down.

"My staff is prepared to work with the CPUC and other agencies on a plan to phase out the use of the Aliso Canyon natural gas storage facility within 10 years," CEC Chairman Robert Weisenmiller said in the letter.

Weisenmiller said that closing the facility "is no small task and the recommendation to close the facility is not one that I take lightly or without thoughtful consideration." But he said reliability worries could be addressed through investing in renewable energy, energy efficiency, electric storage and other tools.

The PUC will continue its proceeding focused on the future of the facility. (See *Study to Weigh Aliso Canyon Shutdown*.) The Governing Body of the Western Energy Imbalance Market (EIM) also recently approved the extension across the EIM footprint of gas constraint measures developed by CAISO to address reliability concerns stemming from the Aliso Canyon outage, although the plan is designed to apply to potentially similar circumstances arising at other storage facilities. (See *EIM Leaders Endorse CAISO Gas Constraint Measure*.)

Aliso Canyon well head | *Earthworks*

SoCalGas welcomed the decision in a statement Thursday. The company had warned of reliability concerns stemming from the loss of the facility and in November 2016 requested permission to resume injections.

"Aliso Canyon is an important part of Southern California's energy system, supporting the reliability of natural gas and electricity services for millions of people. SoCalGas has met — and in many cases, exceeded — the rigorous requirements of the state's comprehensive safety review," the company said.

On Wednesday night, State Sen. Henry Stern (D) tweeted that the "proposal to re-open #AlisoCanyon before we know what caused the leak and before earthquake and fire risks studied is premature & unnecessary."

CAISO News

CAISO Solar Eclipse Prep Relies on Conventional Mix

By Robert Mullin

CAISO will lean heavily on increased output from conventional generators — and a backstop of regulation reserves — to fill the void left by reduced energy production from California solar resources during next month's solar eclipse.

The grid operator estimates that about 4,194 MW of utility-scale solar will fall off the system from the time the moon begins to pass in front of the sun (9 a.m.) to the moment of peak obscuration (10:22 a.m.) during the Aug. 21 event.

At the peak, grid-connected solar generation will come up about 5,600 MW short of what would be expected under full-sun conditions. Net load will surge to about 6,000 MW above normal because of diminished output from rooftop installations.

But the grid operator has been preparing its response since last year. (See *CAISO Planners Looking Ahead to Summer 2017 Solar Eclipse* and *With Solar Eclipse Looming, CAISO Weighs its Options*.) After a winter of ample precipitation, "large and fast-moving" hydroelectric resources are being positioned for rapid response during both the loss and return of solar, according to Deane Lyon, a CAISO real-time operations shift manager.

Planners are also banking on gas-fired generators to help cover the gap.

"We're actually working with Pacific Gas and Electric and [Southern California Gas] and coordinating with their gas control centers because, besides the hydro, the gas-fired thermal is going to have to make up for a lot of the loss of solar generation," Lyon said last Tuesday during a bimonthly Market Performance and Planning Forum.

The ISO will also procure about 900 to 1,200 MW of regulation up reserves for the three-hour period affected by the eclipse — compared with a typical procurement of 300 to 400 MW.

"That'll help us manage as the solar goes away," Lyon said.

Lyon noted that CAISO has been consulting with Western Energy Imbalance Market (EIM) participants to develop a "consistent policy" regarding transfer service requests (ETSRs) — or dynamic transfers across balancing areas — during the eclipse so that the ISO can take advantage of imports to the greatest extent possible.

"We got commitments from the operations folks at the EIM entities that they're willing to keep the ETSRs wide open and fully operational for the balance of the eclipse," Lyon said, acknowledging that the ISO does not expect a "huge" uptick in transfers given that Arizona Public Service and NV Energy will also be losing solar off their systems at about the same time.

On the flip side, the eclipse is not expected to actually undercut imports.

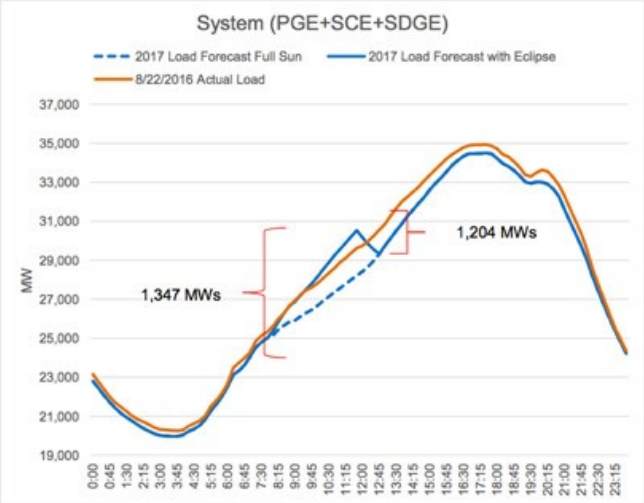
"APS has solar, but not PacifiCorp," Lyon said. "We don't expect it will have that big of an effect."

Paula Lipka, of PG&E's short-term electricity supply team, asked if the ISO intends to increase its procurement of flexible ramping and spinning reserves — as well as regulation.

"An increase in flex ramp procurement is being considered. As far as spinning and non-spinning reserves, we will have adequate amounts of that," Lyon responded.

Regulation reserves are the ISO's key concern.

"We're trying to maintain our system balance for the duration of the sun going away and returning, which is going to be a pretty big challenge," Lyon said.



Time (HB)	MW Change	% Load Increase
9:00	953	4%
9:15	1085	4%
9:30	1218	5%
9:45	1350	5%
10:00	1483	6%
10:15	1616	6%
10:30	1748	6%
10:45	1881	7%
11:00	1990	7%
11:15	2100	8%
11:30	2209	8%
11:45	2318	8%
12:00	1739	6%
12:15	1159	4%
12:30	580	2%

Graph shows a comparison between CAISO's Aug. 21 eclipse load forecast compared with that for full-sun conditions. | *CAISO*

ISO-NE News

Vermont Seeks ISO-NE Help on Transmission Constraints

By Michael Kuser

Vermont regulators and utilities are working with ISO-NE to resolve transmission constraints in the northern part of the state, where the system has reached its capacity to accept additional generation.

At the center of the issue is the Sheffield-Highgate Export Interface (SHEI).

"While load levels [at the interface] vary within a tight band, generation can vary significantly because of the intermittency of wind and hydro generation resources. The other resources, including the Highgate HVDC converter, are relatively constant," Vermont Electric Power Co. said during a presentation at a July 12 state planning meeting.

Frank Ettori, VELCO director of ISO-NE relations and power accounting, said the utility would invite the grid operator's Planning Advisory Committee to a special Vermont System Planning Committee session to help remediate the constraint. Potential solutions include a sub-transmission upgrade, battery storage and installation of an automatic voltage regulator on a generator.

ISO-NE created the SHEI to monitor system flows in relation to system capacity in real time after Green Mountain Power and Vermont Electric Cooperative built the 63-MW Kingdom Community Wind plant in Lowell in 2012. Three utility-scale generation projects — Swanton Gas (40 MW), Sheffield Wind (40 MW) and Kingdom Community Wind (64.5 MW) — have interconnected in the northern portion of the Vermont transmission system, and the constraints prevent them from running at full capacity at all times.

VELCO hired a consultant to help determine the costs of various solutions, with the initial report due in late August and the economic evaluation by October.

Geographic Locational Value

The committee also heard about state policy implications and approaches from Ed McNamara, director of planning with the state's Department of Public Service (DPS).

With distributed generation, in particular energy efficiency, there's always been an assumption of a positive geographic locational value associated with energy efficiency and renewables, McNamara told *RTO Insider*.

Kingdom Community Wind farm | *Green Mountain Power*

"In a constrained area, the thinking had been that constraints are associated with too much load," McNamara said. "Now when you have an export-constrained area, you would be thinking of a negative geographic locational value. That's something that our policy has never contemplated."

McNamara asked questions rather than proposing solutions: Should the Public Utility Commission be looking at generation projects that might not produce a net positive amount of new renewable generation in an area? Should we consider a different valuation in the area that has an export interface? On energy efficiency, should we look at changing the cost-effectiveness screening for northern

Continued on page 10

ISO-NE News

NEPOOL Reliability, Tx Committee Briefs

ISO-NE Proposes Distribution-Connected Generation Plan

ISO-NE last Tuesday proposed a plan to refine the procedural and technical requirements for determining whether new or modified distribution-connected generation should be interconnected by the RTO or a local utility.

Cheryl Ruell, manager of transmission services for ISO-NE, delivered a presentation on guidance for distribution-connected generation to the NEPOOL Reliability and Transmission Committees, which met July 18-19 in Meredith, N.H.

The grid operator's proposal would consider the location and status of the distribution circuit to which the resource connects — as well as the size of the proposed generator — to determine the nature of any application approval required under Section I.3.9 of the Tariff. The interconnecting transmission owner would submit an application on behalf of generators that don't participate in the wholesale market. Distribution-connected generators less than 5 MW may file a special category notification form, while those under 1 MW are exempt under the Tariff.

Existing state interconnection processes would continue to apply to any Public Utility Regulatory Policies Act qualified facilities in cases when the generator is interconnecting to a FERC-jurisdictional facility, but only if those projects produce energy to be consumed only on the retail customer's site or sell 100% of their output to the interconnecting utility, rather than selling to RTO markets. If the host utility wishes to register the qualifying facility in the wholesale market, the host utility must meet all ISO-NE registration, modeling and operating requirements.

Forward Capacity Market and Interconnection Standards

ISO-NE also presented the committee with the current procedures for integrating a new generator with the Forward Capacity Market and interconnecting an elective transmission upgrade (ETU), which is a merchant-funded transmission interconnection.

Director of Resource Adequacy Carissa Sedlacek and Director of Transmission Strategy and Services Al McBride covered timelines for interconnection, resource deliverability and application of the overlapping impact test.

The grid operator analyzes generators and ETU projects in the order they entered the queue and allocates transmission upgrades accordingly. Overlapping interconnection impacts restrict qualification when the upgrades identified for a new generator cannot be completed by the start of the requested capacity commitment period.

Under FERC rules, it may not be just and reasonable "for a generator in one location to sell its capacity as a capacity resource to, and receive capacity payments from, a load in another location if the generator's output is not deliverable to the load that buys the capacity."

Queue reforms in 2008 improved the FCM and generator interconnection process by replacing the "first-come, first-served"

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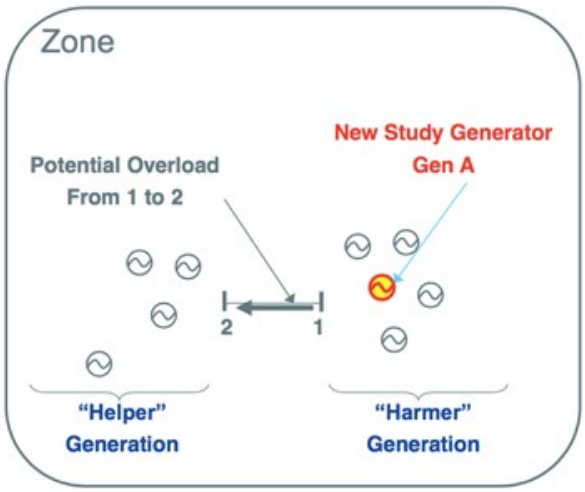


- The transmission line between **Substation 1** & **Substation 2 (1-2)** becomes overloaded when **Gen A** is added
- Generators that add to the loading of **1-2** are called **Harmer** Generators
- Generators that reduce the loading of **1-2** are called **Helper** Generators

Initial interconnection standards | *ISO-NE*

Vermont Seeks ISO-NE Help on Transmission Constraints

Continued from page 9

Vermont compared to other areas?

Fast-Changing State

Vermont now meets more than 20% of its peak load through net metering — including from solar. More than 100 MW of new wind has come online over the past 10 years, all for a 1,000-MW transmission system, according to the DPS.

"Our system has changed considerably and we need to start keeping our policies up-to-date," McNamara said. "What happens in an export-constrained area where essentially you have one renewable unit cannibalizing the generation output of another renewable unit?"

And while net metering might reduce the value of energy efficiency in particular areas, the DPS has equity concerns for all ratepayers.

"We don't want to discourage and say to one ratepayer just because you live in this area you don't have the same access to net metering and energy efficiency as the customer 50 miles south," McNamara said. "This is where we, the Department of Public Service, still need to get our heads around this."

ISO-NE News

NEPOOL Reliability, Tx Committee Briefs

Continued from page 10

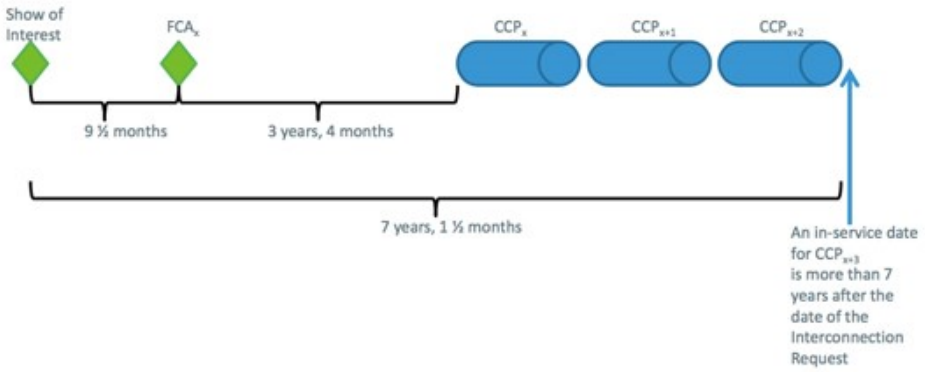
approach with a combination of a "first-come, first-served" and "first-cleared, first-served" approach. The changes established two types of interconnection service: capacity network resource interconnection service (CNRIS) and network resource interconnection service (NRIS).

Generators are not required to participate in the FCM in order to interconnect to the New England transmission system.

The grid operator uses overlapping impact analysis to identify qualifying transmission upgrades. The study resource — whether transmission or generation — is responsible for impacts where the addition of the capacity results in an overload on a transmission element that is greater than or equal to 2% of the applicable thermal rating or greater than 10 MVA of the applicable thermal rating.

Generation redispatch depends on the distribution factor (DFAX) of the generators on a transmission element in the subsystem, which is a measure of the change in electrical loading on an element such as transmission line or transformer because of a change in output from a given generator. Generation with a DFAX greater than or equal to 3% on a monitored element for a given contingency — "harmer" generation — is not to be redispatched to relieve the constraint for a given study dispatch.

— Michael Kuser



FCM participation | *ISO-NE*

MISO News

MISO Board Hears State of the Market Recommendations

By Amanda Durish Cook

MISO's Independent Market Monitor last week gave board members an explanation of the most pressing of the nine new recommendations contained in this year's State of the Market report, which RTO staff are reviewing for potential inclusion in its annual Market Roadmap of market improvements.

Jeff Bladen, MISO executive director of market design, said the RTO will present its response to the report in September. Under its Tariff, MISO has 120 days to reply after the delivery of the report. Some of the recommended changes had been discussed in front of board members before, though the report was released early this month. (See *Monitor Recommends 9 New MISO Market Changes*.)

Monitor David Patton said he and the RTO have generally been on the same page over the years when it comes to his market recommendations. "I don't sense that we've disagreed a lot; there are some recommendations that aren't feasible," Patton said during a July 20 Markets Committee of the Board of Directors conference call.

However, Patton said he sometimes disagrees with MISO's prioritization and ranking of market projects on the Market Roadmap: The RTO tends to prioritize market efficiency and cost above all, while he champions cost, benefits and reliability. The two will return to the committee to give their takes on prioritization when the list is finalized in winter, he said.

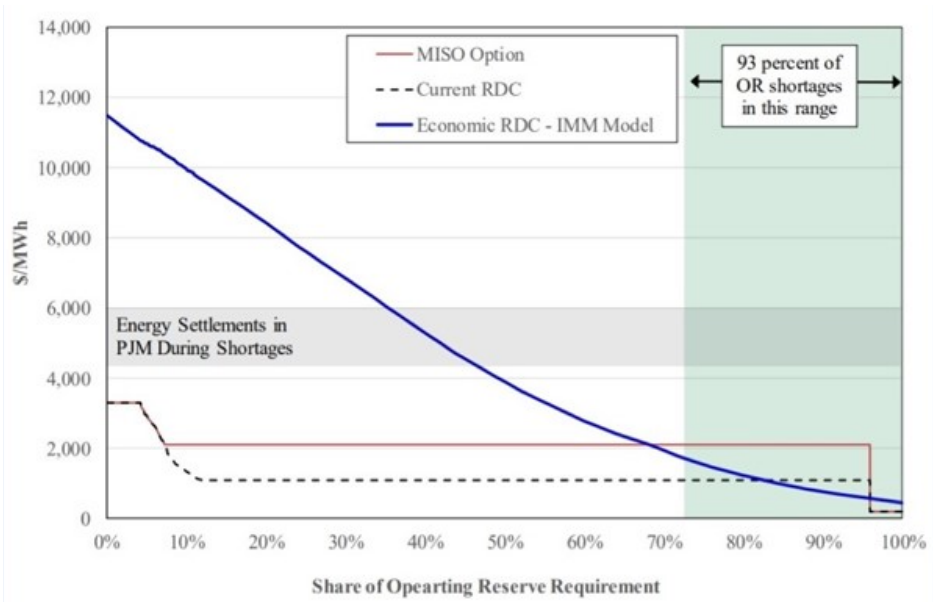
MISO South Emergency

Patton addressed MISO's April 4 maximum generation emergency in MISO South, the first in more than a decade.

The Monitor said that new penalties on non-responsiveness, and improved communication protocols, drove load-modifying resource participation to more than 80% from just 50% during the last emergency in 2006. (See *4 LMRs Face Penalties after MISO Max Gen Emergency*.)

Patton repeated his contention that the emergency might have been avoided altogether if MISO had expanded authority to coordinate transmission and generation outages. Under current rules, the RTO can only recommend a revised outage schedule when an analysis shows that reliability will be in jeopardy.

"Our recommendation is to expand that authority to address the economic inefficiencies of having poorly coordinated outages," Patton said.



Operating reserve demand curves | *Potomac Economics*

Local Reserve Product

Patton recommends that MISO develop a 30-minute local reserve product for voltage support, local reliability and subregional capacity. Some areas do not have resources that can start within 30 minutes to restore supply after a contingency, Patton said, resulting in high uplift costs. He also said that when the Midwest-to-South transmission constraint binds after a contingency, MISO also must incur uplift charges just to secure subregional capacity needs.

"If we had a product, we'd set shortage pricing and potentially reduce our revenue sufficiency guarantee by a large margin," Patton said. He said that the pricing would require its own settlement. "You would only deploy it after a major contingency, which might only be a few times a year."

"In most of the eastern RTOs, a 30-minute product is in use regionally and even in local areas," Patton said, adding that that even if MISO built its own transmission to relieve the Midwest-to-South constraint, a reserve product would still be useful for local needs.

"I think you're personally on the right track here," Director Thomas Rainwater said.

M2M Coordination

MISO's market-to-market coordination could also use improvement, said Patton, who recommends MISO, PJM and SPP devise a process to hand off flowgate control when another RTO's flows are dominating a constraint.

More than $238 million worth of congestion could have been more efficiently managed in 2016 through better M2M procedures, he said.

"Increasingly, market-to-market coordination is becoming important because of pseudo-ties and the increased implementation of wind that fluctuates heavily and creates constraints. The ability to coordinate and move generation on our neighbors' constraints … is increasingly beneficial and cost effective," Patton said. He suggested that MISO develop a joint operating agreement with the Tennessee Valley Authority for coordinating congestion management.

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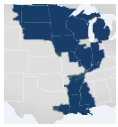
MISO News



MISO Board Hears State of the Market Recommendations

Continued from page 12

PJM's and SPP's effects on MISO's systems are large enough that MISO should have identified them as a M2M constraint. Because MISO has not done so, it receives no compensation when PJM or SPP dominate flows on its system.

Shortage Pricing

Patton also said MISO's shortage pricing method needs improvement, recommending the cap on the value of lost load (VoLL) be increased to almost $12,000/MWh to create a more sloped contingency reserve demand curve.

MISO's proposed reserve demand curve — filed in May to comply by Dec. 1 with FERC Order 831 (ER17-1571) — is much flatter, hovering at $2,100/MWh for much of the curve unless MISO clears less than 8% or more than 96% of its requirement level. MISO's flatter approach results in "overstated shortage prices for small shortages and understated shortage prices for larger shortages," Patton said. MISO's current curve looks similar to the proposed option but carries a $1,100/MWh value for most of the curve unless less than 89% or more than 8% of the requirement clears.

According to Patton, there is disagreement among industry studies on VoLL. "Our personal view is that you should choose a value at your highest load, and that's why we ended up at $12,000," he said.

Capacity Auction Rules

Patton expressed concern over MISO's "essentially zero" $1.50/MW-day footprint-wide clearing price in the 2017 capacity auction.

"In the current context, I think what I would say is the decision not to move forward with a competitive retail solution … is something we'd like MISO to reconsider over time," Patton said. In addition to finding a solution for the RTO's competitive load areas, Patton still advocates the use of a sloped demand curve in the Planning Reserve Auction.

"When we have hot topic discussions, we have some sectors that pound the table in favor of a sloped demand curve, and other sectors less so," Director Baljit Dail observed. He asked why MISO has yet to instate a sloped demand curve in the auction.

"To be honest, it's been a journey. I always thought it'd be easier with MISO because most of the capacity in MISO is self-supply through vertically integrated utilities. In a sense, the capacity prices don't matter," Patton said.

Awaiting MISO Response

Board members said that they had questions but would hold off on asking them until they could review MISO's response to the recommendations.

"There are some questions that sound like we're waiting to ask MISO management, 'This is a very good idea. Why hasn't this been done?' and I suspect we'll get a very thoughtful response," Director Paul Bonavia said.

Richard Doying, MISO executive vice president of operations, said the RTO should have a "fairly thorough" response by September, but more analysis may be needed.

"For some of these, we may have an indicative response and would wait until October for a full evaluation," Doying said.

"Congratulations, you've worn us down," Bonavia joked to Patton before ending the two-hour-plus conference.

MISO News

OMS Issues EE Market Participation Opinion

By Amanda Durish Cook

The Organization of MISO States last week voted to lodge a protest in an ongoing dispute over whether states can prohibit energy efficiency resources from entering RTO markets.

OMS Executive Director Tanya Paslawski said the protest asks FERC to apply the same treatment to EE resources as it did to demand response in Order 719. It also affirms the authority of states to have final say in the matter.

The protest filing was approved by the OMS Board of Directors at a July 17 meeting held during the National Association of Regulatory Utility Commissioners Summer Policy Summit in San Diego.

FERC Order 719 required RTOs to accept bids from DR resources for certain ancillary services "on a basis comparable to other resources" and allowed aggregators to bid DR on behalf of retail customers directly into the market under certain circumstances.

OMS's request stems from a recent disagreement between PJM and the Kentucky Public Service Commission. Citing the need to prevent expensive and unnecessary capacity purchases, the commission issued an order restricting EE resources from participating in PJM wholesale markets except in special cases. PJM staff responded by producing a problem statement contesting state regulators' authority to restrict EE participation its capacity market. (See "EE Problem Statement Narrowly Approved," *PJM Market Implementation Committee Briefs*.) National trade group Advanced Energy Economy petitioned FERC in June for a declaratory order, asking the commission to assert jurisdiction over the terms of EE participation in RTO/ISO markets (EL17-75).

Paslawski said that while FERC expressly left EE resources out of the order, OMS supports their market participation.

OMS members at the San Diego meeting agreed with the filing's tone to uphold state jurisdiction. Commissioner Ken Anderson said the filing's "thrust" on the jurisdiction of states was fitting.

MISO Asks OMS for DER Ideas

MISO Executive Director of Market Design Jeff Bladen appeared at the OMS meeting to inform state regulators that the RTO is beginning to work on developing market rules for distributed energy resources — and that he'd like input from the organization.

"Like all emerging issues, this is very much a work in progress," Bladen said.

MISO seeks to create a common definition for DERs, rather than defining resources by technology type, the first step to developing future policy and planning processes, Bladen said. The RTO is currently running simulations with increased concentrations of DERs in hypothetical conditions to determine how it can create a more coordinated grid in which DERs do not stress transmission operations and real-time reliability conditions.

"We're trying to test scenarios to see if we're on the right track," Bladen said.

Michigan Public Service Commission Chair Sally Talberg asked if MISO could carry out such simulations without communicating with generation owners.

"We're essentially ignoring the method of dispatch" in our studies, Bladen said.

Stakeholders will again take up DERs as their "hot topic" discussion item at MISO's next full board meeting in September. Bladen said MISO will ask for stakeholder ideas on how to best integrate the resources.

"We see ourselves as just another collaborator on this rather than giving the answers."

MISO, Stakeholders Differ on Queue Plan

Continued from page 1

ning Subcommittee or Planning Advisory Committee. They contend that the RTO needs to more fully vet the policy and reliability implications of moving from one iteration of the queue process to the next.

Approved by FERC early this year (ER17-156), MISO's new interconnection rules attempt to streamline an old process that was plagued by restudies and backlogs. (See *FERC Accepts MISO's 2nd Try on Queue Reform*.) MISO Manager of Resource Interconnection Neil Shah said DPP studies coming out of the MISO West region are particularly heavy this year — "more than the current transmission system can accommo-

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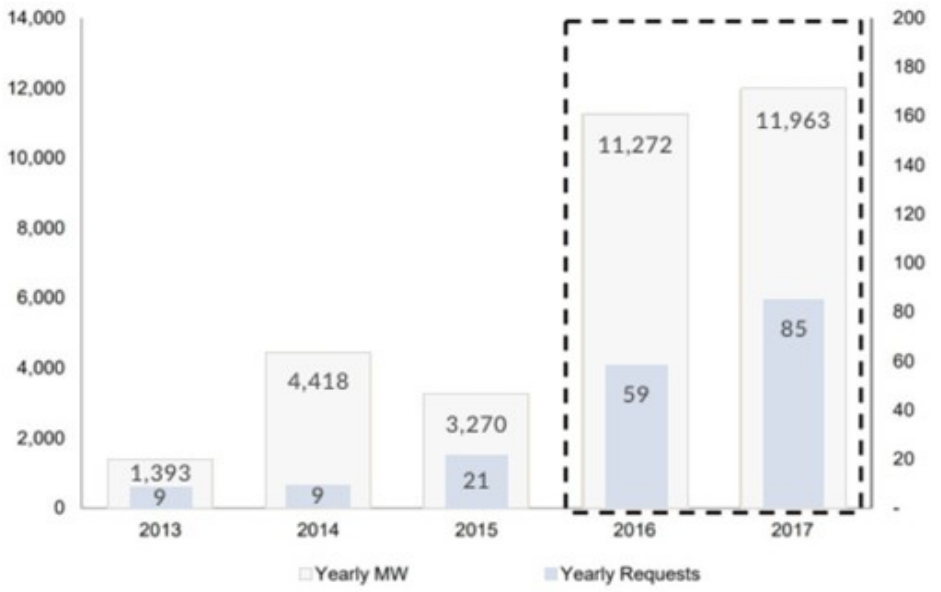
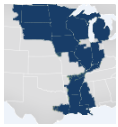


DPP trends. 2017 includes February projects as well as preliminary application data submitted for August. | *MISO*

MISO News



MISO Adopts New Dispatch Model for Queue Studies

By Amanda Durish Cook

MISO will begin using its Transmission Expansion Plan dispatch modeling in interconnection queue studies beginning Aug. 1, when the first cycle of definitive planning phase (DPP) studies is set to begin.

"The decision to move to a new methodology was my decision, so if you want to throw tomatoes, it's me," Patrick Brown, executive director of transmission asset management, said at a July 18 Interconnection Process Task Force (IPTF) meeting.

The new method moves MISO from modeling dispatch at a generator's expected level of output to its maximum requested interconnection service level.

The decision made sense because the models are already "well vetted through the stakeholder process" and used for NERC reliability assessments, according to Brown.

"It's hard for me to explain why we weren't already using them in the interconnection process," Brown said.

Great River Energy's Mike Steckelberg pointed out that the dispatch question runs into an issue of reliability and therefore should be put before another committee. "You can't really implement that without putting it to the Planning Subcommittee," he said.

Planning Advisory Committee Chair Cynthia Crane said the change should be presented to her group. "This is a policy-level change that should be brought forward to the PAC," she said. Wisconsin Public Service's Chris Plante agreed.

Brown said the change will be presented to the PAC at the August meeting. "As far as it being a policy change … MISO has the purview to develop the models as we see fit," he added.

Michigan Public Service Commission staffer Bonnie Janssen said she appreciated MISO's effort make interconnection and MTEP modeling consistent with each other.

Entergy's Yarrow Etheredge said the RTO is not allowing enough time for local transmission owners to adjust their planning criteria and suggested a stakeholder workshop on adopting the new methodology.

MISO Director of Resource Utilization Vikram Godbole said local planning criteria would be unchanged.

"We're only changing the starting point of a study. Nothing else," he said. "Is it a perfect solution? I don't know. It's a step in the right direction to accommodate all new queue generators."

Interconnection Rights Transfer

MISO is also mulling how it should allow generator owners to retain and transfer interconnection rights when retiring older generation and building new units.

MISO engineer Brett Furuness said the RTO and stakeholders could pursue a "nuclear" option that would entirely prohibit the practice, requiring interconnection rights to be "released back into the wild" to other takers in the interconnection queue.

But MISO is instead proposing to implement rights transfer based on an interconnection request and out-of-cycle study. Any unused rights found after the study will be "permanently relinquished," and the RTO would initiate a full DPP study cycle if it finds a significant change between the original and replacement generation, which must use the same point of interconnection and commence operation within three years.

The three-year timeline is important because it aligns with the maximum amount of time allowed for a generator suspension, Furuness said.

Some stakeholders questioned the three-year limit, pointing out that it can take longer to build new generation.

Furuness agreed that resource owners actively working through a construction plan would probably be given more time than an owner with a less distinct plan.

"But that's about step 700, and we're at step 2 here," Furuness said.

IPTF Future

During its July 26 meeting, MISO's Steering Committee will decide whether to extend the life of the nearly four-year-old IPTF until December or convert it into a working group. The IPTF was supposed to sunset this month, but PAC members voted in June for an extension. As part of the RTO's stakeholder redesign, all task force sunsets or extensions are put before the Steering Committee for final approval.

MISO, Stakeholders Differ on New Queue Plan

Continued from page 14

date" — and schedule delays are imminent. The RTO has so far this year received 85 requests representing nearly 12 GW of possible generation from that region alone.

"The most practical thing to do is to prepare for delays. It's really unprecedented, and the complexity of the studies will increase. … We just want stakeholders to be aware of how much it's going to take to study this amount of megawatts," Shah said.

Staff argued against stakeholders that were looking to change an already agreed-upon DPP timeline.

"Let's not beat this dead horse," Brown said. "I think we've had those discussions before. It was really incumbent on the stakeholders to decide if they want to accept those risks, and they've agreed to those risks. Stakeholders preferred to get it started right away." He added that discussion was laid to rest in IPTF meetings during the spring.

MISO will clear the February 2016 batch of projects from the first part of the DPP before submitting any of the August 2016 entrants, a process that stakeholders favored over merging the two groups together in order to initiate the studies earlier — even if the separated approach carries an increased risk of restudy.

Shah said stakeholders decided in spring to continue with the changeover schedule, which was initially filed with FERC.

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MISO NEWS

Congestion Projects, Siting Review on MISO Slate

By Amanda Durish Cook

MISO's Planning Advisory Committee on Wednesday heard updates on the RTO's ambitious slate of current planning studies and process improvements.

Stakeholders got a first look at the preliminary projects resulting from MISO's yearly market congestion planning study during the July 19 PAC meeting. The RTO has so far floated three potential projects in the West of the Atchafalaya Basin (WOTAB) area straddling Texas and Louisiana:

- A new $137.6 million 500-kV line and substation expansion from Hartburg to Sabine in southeastern Texas that would qualify as a market efficiency project and is expected to be in service by 2023.
- A $2.8 million replacement of 26 transmission structures along the Sam Rayburn-Fork Creek-Doucette 138-kV line in southeastern Texas, expected to be complete by 2020.
- Equipment upgrades valued at $500,000 for the existing Carlyss substation in southwestern Louisiana by 2020.

ID	Project	MISO Planning level Cost Estimate (2017-$M)	Meets MEP voltage and cost criteria?
1	**WOTAB Economic Project (Hartburg – Sabine 500kV)**	**137.6**	**Yes**
2	Upgrade Sam Rayburn – Fork Creek – Turkey Creek – Doucette 138kV	2.8	No
3	Substation equipment upgrades at the existing Carlyss substation	0.5	No

Market congestion planning study projects | *MISO*

Arash Ghodsian, MISO manager of economic studies, said the RTO's market congestion planning footprint diversity studies will produce final project recommendations in August. Project candidates will be submitted for approval by the Board of Directors at the end of the year. (See "Studies Could Assist in Relieving North-South Constraint," *MISO Planning Advisory Committee Briefs*.)

MTEP Siting Up for Review

MISO is also planning on updating siting guidelines for projects included in its Transmission Expansion Plan.

This year's siting model will be slightly altered to add likely wind and solar zones. MISO will also consider zonal resource adequacy requirements when determining siting and exclude thermal unit development from non-attainment areas subject the National Ambient Air Quality Standards.

The RTO plans to further improve its siting modeling process for the 2019 cycle through a series of stakeholder workshops that will begin in September. Matt Ellis, a MISO policy studies engineer, said the overhaul will focus on the placement of new technology, including 100 MW of queued energy storage resources, future utility-scale renewables, rooftop solar — predicted to reach 10 GW by 2027 — and the addition of more electric vehicles and their demands on load.

Ellis said projects in the interconnection queue generally exhaust themselves within a three- to five-year cycle, but MISO plans for its transmission system 15 years into the future.

He also asked for stakeholders to submit ideas by Aug. 11 on how MISO's siting process can account for new technology.

MISO will also conduct a multi-value project triennial review this year, sizing up its existing portfolio and quantifying benefits. FERC requires a full review of the approved portfolio benefit every three years.

Project manager David Lucian said the review will have no effect on cost allocation for existing projects, but findings could be used to adjust project criteria in future projects. The review includes analyses of economic benefits, generator flexibility, renewable target standards, natural gas risks and job creation.

MISO last conducted an MVP triennial review in 2014, concluding that the portfolio held a benefit-to-cost ratio ranging from 2.6 to 3.9 and should create anywhere from $13.1 billion to $49.6 billion in net benefits over the next 20 to 40 years.

The triennial review report will be filed with FERC by the end of the year, PAC Chair Cynthia Crane said. Results will also be published in the MTEP 17 report due in December.

MISO, Stakeholders Differ on New Queue Plan

Continued from page 15

"Based on the feedback that we've received so far, we're going to continue the course on the original schedule," he said.

Shah noted that the probability of delays is high, even without a current delay. MISO is putting more of its own resources toward the study effort, he said.

The RTO is adding an additional 14 engineers to the approximately 100-employee queue team to handle the influx of studies, according to Brown. Eight Siemens engineers are working on studies for the possible additions in the MISO West region alone.

"There's much consternation and gnashing of teeth among my finance team right now," Brown said. "We still think there are going to be delays no matter how many bodies we throw at it."

Geronimo Energy's Randy Porter applauded MISO for being able to complete its schedule of studies on time so far this year. "I'd like to copyright a term: 'study-tsunami,'" he said.

Stakeholders asked if MISO will compare the high number of projects to anticipated load growth to see if the projects will realistically be built.

MISO "would take a step back and look at the comprehensive picture" in subsequent studies occurring further into the queue, Shah said.

NYISO News

Business Issues Committee Briefs

Natural Gas, Distillate Prices down Slightly in June

NYISO reported Monday that locational-based marginal prices (LBMPs) for June averaged $31.76/MWh, nearly unchanged from May but up 16% from June 2016. Year-to-date monthly LBMPs averaged $36.01/MWh through June, a 20% increase from a year earlier.

In a July 24 Market Operations Report to the ISO's Business Issues Committee, Rana Mukerji, senior vice president for market structures, said natural gas and distillate prices fell from the previous month but gained 27.5% year-over-year. Natural gas prices at Transco Z6 NY averaged $2.35/MMBtu in June, down from $2.80 the previous month.

Gulf Coast jet kerosene for the month came in at $9.59/MMBtu, down from $10.47 in May, while ultra-low sulfur No. 2 diesel at NY Harbor was $10.14/MMBtu, compared with $10.82. Distillate prices dropped 5.4% from a year ago.

On Capacity Exchange, Probabilistic Method not Better

A new probabilistic method to limit capacity price increases caused by exports from an import-constrained area would complicate the process and offer results no better than the current deterministic method, according to an analysis conducted for NYISO by GE Energy Consulting.

Mukerji shared the analysis from the monthly Broader Regional Markets Report as the latest development arising from FERC's January acceptance of the ISO's capacity revisions while rejecting a proposed one-year transition as lacking an "analytical basis" (ER17-446). A NYISO analyst briefed stakeholders on the outlines of the study at the April Business Issues Committee meeting. (See *NYISO Provides Update on Capacity Export Concerns*.)

NYISO proposed the plan last fall to address anticipated price spikes in the capacity market in the Lower Hudson Valley and New York City zones expected after the commission in October allowed a New York plant in a constrained zone to export into ISO-NE. (See *FERC Sides with ISO-NE in Capacity Dispute with NYISO*.)

The new rules use a locality exchange factor to reflect how much capacity from "rest of state" can replace capacity exported from an import-constrained locality. The prior rules assumed that 100% of a generator's exports from an import-constrained area must be replaced with generation in that locality.

"The probabilistic method introduces uncertainty and does not give results which differ significantly from the 47.8% found using the current deterministic method," the analysis said. That figure represents an estimate of the percentage of exports from NYISO zones G-J to ISO-NE that could be expected to be replaced by "rest of state" capacity. NYISO compromised with an 80% figure.

Stakeholder comments on the methodology analysis were due by July 14. FERC in its January order encouraged a robust stakeholder-driven process but said "we cannot accept NYISO's proposal for a one-year transition based solely on stakeholder support."

— Michael Kuser

PJM NEWS

PJM Stakeholders See Capacity Auction Flaws, Offer Solutions

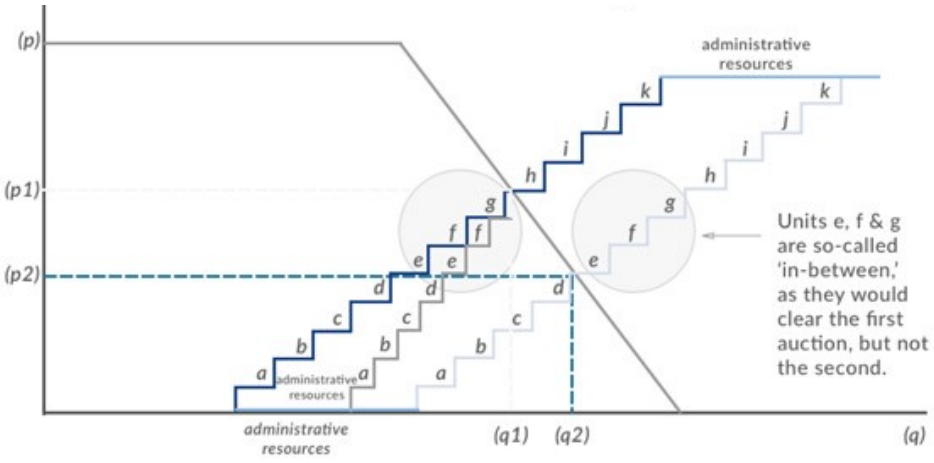
Continued from page 1

as supporting material for FERC's May 1-2 technical conference on the topic. (See *PJM Stakeholders Offer Different Takes on Markets' Viability*.)

The RTO envisions a two-stage auction in which the first stage includes subsidized units and creates a "suppressed capacity price" using PJM's standard variable resource requirement (VRR) demand curve. The second stage replaces subsidized units with a "reference price offer reflecting what would be a competitive offer from a unit of that type and vintage." This would create a higher "restated price" more in line with pure competition that all cleared units would receive, unless states instructed PJM to pay its subsidized units less. Units that didn't clear under the "suppressed" price would not receive capacity payments, even if they clear under the "restated" price.

LS Power and NRG Energy responded at the task force meeting July 17 with proposals to tweak the two-stage approach. Both were designed to address those units that slipped between the auctions, which NRG referred to as "in-between" units. LS took the route of adjusting price, while NRG focused on adjusting quantity.

LS calls its proposal the "clearing price impact election model." It factors the output of subsidized units into the second stage, resulting in a lower subsidized clearing price. Generators would have to elect when they submit their bids whether they would accept a lower subsidized price, which PJM would estimate before the auction. Those who won't accept the lower price don't clear, and the final clearing price would be adjusted upward as their output is eliminated from the supply. This would discourage units from creating price suppression by bidding low, LS argues.



Mechanics of two-tier pricing | *NRG Energy*

NRG's approach would also determine prices with and without subsidized units. Subsidized units would receive the subsidized price, and unsubsidized units would receive the unsubsidized price. The "in-between" units that clear the auction in the unsubsidized price but not in the subsidized price would clear and receive the unsubsidized price. The quantity of all offers would be reduced proportionally to ensure the entire auction cost is no higher than the total for the auction using the unsubsidized price.

Other Perspectives

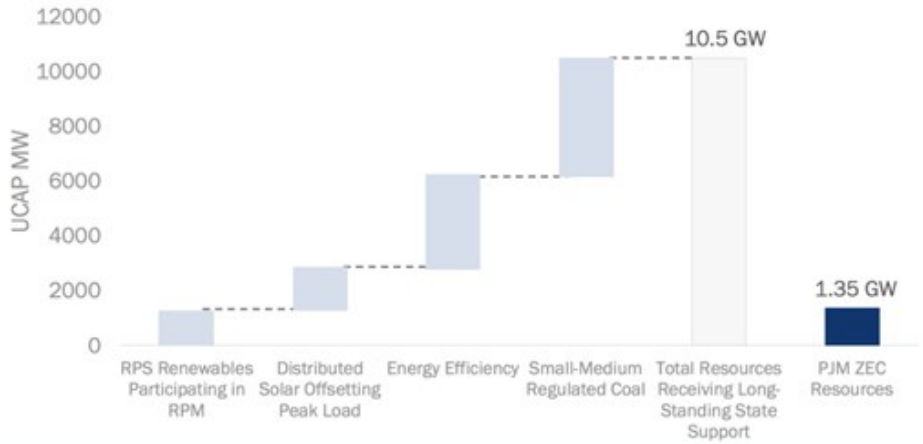
Two other stakeholders took drastically different approaches.

Exelon, which has been battling for more than a year to secure state subsidies for some of its nuclear fleet, argued why such subsidies shouldn't be mitigated in PJM's auctions. More than 10 GW of resources "receive longstanding state support to enter/remain the market," Exelon says, with the largest category being small- to medium-sized coal plants in regulated states.

"Resource adequacy objectives have been met at a reasonable cost despite the material impact on the marginal clearing price," according to Exelon's report. "Mitigation is unnecessary."

"This is a very complex topic and we tried to bring some data and performance results into the conversation, realizing that other stakeholders may have different perspectives," said Exelon's Sharon Midgley, who presented the proposal.

Last Tuesday, the second day of the two-day task force meeting, American Municipal Power called for a smaller role for the Reliability Pricing Model, with public power permitted to meet most of their capacity needs through long-term bilateral contracts. AMP's Ed Tatum argued that RPM is an "administrative construct … not a market,"



RPM capacity resources receiving long-standing state support | *Exelon*

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PJM News

Public Power Takes PJM Gripes to Congress

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ginia — also complained that PJM's Capacity Performance rules undervalue the company's new hydropower facilities.

McAlister

AMP Senior Vice President and General Counsel Lisa McAlister and ODEC CEO Jack Reasor testified along with representatives from independent power producers NextEra Energy and Calpine, utilities Public Service Enterprise Group and Duke Energy, and demand response provider EnerNOC.

The two-hour hearing, titled "Examining the State of the Electric Industry through Market Participant Perspectives," covered many issues. Rep. John Shimkus (R-Ill.) and ranking member Frank Pallone (D-N.J.) said the testimony would help them decide whether the Federal Power Act is in need of revisions.

PSEG made a pitch for financial support for its New Jersey nuclear plants, which Calpine and NextEra strongly opposed. Duke asked for reforms to the Public Utility Regulatory Policies Act and a "shot clock" for regulatory approvals of pipelines and other infrastructure projects.

Kelliher

Former FERC Chairman Joseph Kelliher, now executive vice president for NextEra, also offered his company's answers for the questions that Energy Secretary Rick Perry asked in commissioning a study of renewable resources' effect on the reliability of the grid. It is market fundamentals — not public policies, he said — that are the primary drivers of "baseload" plant retirements, and there is "no evidence" that those retirements are threatening reliability.

No RTOs or ISOs were represented in the hearing. They will get their chance to speak before the committee in a second hearing on July 26. But PJM was invoked frequently, and generally not favorably.

PJM Capacity Market under Fire

McAlister's 21-page written testimony — more than twice as long as any other witness' — reiterated public power's longstanding complaints with PJM's capacity construct, calling it a "complex rules-driven administrative mechanism" that "relies on such distinctly non-market features as an artificial demand curve, price caps and minimum offer price requirements, and obstacles to competition from certain types of

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PJM Stakeholders See Capacity Auction Flaws, Offer Solutions

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and that PJM and its stakeholders "have to stop focusing on price and let a market do its thing." Since 2010, PJM has made at least 27 major filings changing RPM, he said.

AMP's plan would hinge on annual determinations of capacity obligations for load-serving entities, with a capacity auction several months before the delivery date, rather than three years. It would also eliminate the single clearing price created by the VRR curve in favor of a mechanism to match individual buyers and sellers. (See related story, *Public Power Takes its PJM Gripes to Congress*, p.1.)

Several RPM structures would be maintained, such as resource must-offer requirements, the RTO reliability requirement, demand response participation and the Capacity Performance system of bonuses and penalties. The group also proposed a penalty on LSEs that fail to secure necessary capacity.

Stakeholders from both supply and demand pushed back, largely concerned that the plan would impede price transparency.

"Those customers who are signing up specifically to hedge their capacity costs, if they don't know what the price that they're paying is, that's very difficult for them to hedge," EnerNOC's Katie Guerry said.

Joe Bowring, PJM's Independent Market Monitor, had a much simpler solution.

"You can't be partly regulated and partly not. You have to choose, and states have a whole range of options," he said. "If states want to take it back [and fully regulate the industry], that is absolutely within their authority. What they shouldn't do is take actions that are not in their authority. … If you subsidize two or three particular units … you're suppressing the price of energy compared to what it would have been and you're putting other units that are now economic at risk. That's why I continue to repeat that subsidies are contagious."

He said there's no sense in "trying to work out complicated ways to make subsidies work in markets when they really can't."

"To me, the problem that has been identified is that competition is working," Bowring continued. "Competition is a nasty business. Competition puts people out of business on a regular basis. I think it would be very difficult for the PJM markets in their current form to adapt to any more fully regulated states. … It would mean a significant change because the current structure of fully competitive markets is not compatible with a mix of generators with revenues based on cost-of-service regulation and generators with revenues dependent on markets."

After the meeting, Bowring submitted recommendations that provide a definition for subsidies and call for developing an extended minimum offer price rule for all subsidized units that would be reviewed annually.

The task force has another two-day session planned for Aug. 2-3, at which Bowring's recommendations and an update to the proposal from LS will be discussed. Other meetings are scheduled for Aug. 23, Sept. 11 and Sept. 26. The task force's issue charge calls for any results to be delivered by the end of the year.

PJM News

MRC/MC Preview

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

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

Markets and Reliability Committee

2. PJM Manuals (9:10-9:30)

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

A. Manual 1: Control Center and Data Exchange Requirements. Revisions developed to comply with NERC reporting requirements. Transmission operators will be required to maintain certain data during outages, including bus voltages for all 345-kV stations or higher, and megawatt flows for tie lines and all lines 345 kV or higher.

B. Manual 11: Energy & Ancillary Services and Manual 18: PJM Capacity Market. Clarifies language on what is needed to qualify for exempt or bonus megawatts during performance assessment hours in PJM's Capacity Performance construct. PJM says it needs certain data to determine how close generators follow its schedule. The data include values for economic minimum and maximum and emergency maximum.

3. Pseudo-tie Pro Forma (9:30-10:00)

Members will be asked to endorse proposed pseudo-tie agreements and Tariff and Operating Agreement revisions. The documents were developed to standardize pseudo-ties and minimize operating confusion. (See "OC Discusses Pro Forma Agreements for Pseudo-Ties, Dynamic Schedules," *PJM OC Briefs: July 11, 2017*.)

4. Governing Document Revisions to the Limitation on Claims (10:00-10:10)

Members will be asked to endorse Tariff and Operating Agreement revisions to clarify the two-year limit on requests for billing adjustments.

5. PJM M14B and PJM Operating Agreement Updates – TEAC Redesign (10:10-10:30)

Members will be asked to endorse updates to Manual 14B: PJM Regional Transmission Process and the Operating Agreement reflecting the change from the annual, 12-month Regional Transmission Expansion Planning cycle to an overlapping 18-month cycle beginning each September. The window for short-term projects will expand from 30 to 60 days. (See "RTEP Cycle Revisions Approved," *PJM PC/TEAC Briefs: July 13, 2017*.)

Members Committee

Consent Agenda (1:20-1:25)

Members will be asked to endorse:

B. Tariff revisions related to the interconnection process regarding the alternate queue and cost allocation for projects less than $5 million. (See *PJM Considering Injection Rights for Demand Response*.)

1. Regulation Revisions (1:25-1:45)

Members will be asked to endorse proposed Tariff and Operating Agreement revisions to regulation market rules on performance scores, clearing and settlements that were endorsed by the Regulation Market Issues Senior Task Force and the MRC. The revisions change the rate for substituting traditional RegA and fast-response RegD. (See *PJM Regulation Compensation Changes Cleared over Opposition*.)

2. Pseudo-tie Pro Forma (1:45-2:15)

Members will be asked to endorse proposed pseudo-tie agreements and Tariff and Operating Agreement revisions. The documents were developed to standardize pseudo-ties and minimize operating confusion. (See MRC item 3 above).

— Rory D. Sweeney

Public Power Takes PJM Gripes to Congress

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resources.

"RPM is a 'market' in name only," she continued. "And, as time has gone on, fewer and fewer PJM market participants use that term to describe it."

ODEC also criticized RPM, saying its experience "has been mixed at best."

Reason quoted from FERC's April 2006 order approving RPM. "After [load-serving entities] have had the opportunity to procure capacity on their own, it is reasonable for PJM to procure capacity in an open auction at a time when further delay in procurement could jeopardize reliability," FERC said, adding, "This, however, should be a last resort."

Reason

Although the annual capacity procurement is still called the Base Residual Auction, "repeated and significant design changes have made RPM more complex and costly and have undermined the ability of load-serving entities to use their resources to meet their capacity obligations," Reason said.

The 2016 BRA was the first PJM capacity auction with no rule changes from the prior year, following 24 significant FERC filings to revise RPM between 2010 and 2016, Reasor said, quoting PJM. The last major change, the introduction of Capacity Performance, imposes "onerous performance requirements" on capacity resources, he said.

New Hydro Dissed by CP

McAlister also complained about CP, saying it undervalues the $3 billion AMP spent to install 300 MW of hydroelectric facilities on existing dams on the Ohio River because the projects cannot guarantee continuous, year-long operation. "This is the case because AMP cannot control the river flows and cannot practically back up the hydroelectric

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plants with an alternative generation resource," McAlister said. "In making PJM's capacity construct less flexible, CP also has made it less capable of integrating the diversity of resources that may be an element of implementing important state policies."

McAlister said PJM "needs a resource adequacy construct that is robust enough to withstand the effect of external events without the need to adopt another set of complex rule changes in response to each event."

She and Reasor said LSEs should be permitted to fulfill most or all of their capacity needs through bilateral contracts, with the BRA relegated to a truly residual auction to fill any shortfalls. (See related story, *PJM Stakeholders See Capacity Auction Flaws, Offer Solutions*, p.1.)

As a "second-tier alternative," McAlister said, public power's ability to self-supply their own loads should be restored by reducing the role of the minimum offer price rule (MOPR).

Transmission Costs

AMP also complained about transmission costs, saying four of its members' transmission zones have seen annual revenue requirements double or triple between 2009 and 2016.

AMP's and ODEC's complaints regarding the transmission owners' handling of supplemental projects — those not required for compliance with PJM's reliability, operational performance or economic criteria — prompted FERC last August to issue an order to show cause finding that the TOs' procedures were not in compliance with FERC Order 890 (EL16-71).

FERC said the evidence indicated that some TOs are "identifying — and even taking steps toward developing — supplemental projects before providing any opportunity for stakeholders to participate in the development of those projects through the PJM [Regional Transmission Expansion Plan] process."

The order resulted in a hiatus in a stakeholder initiative, the Transmission Replacement Processes Senior Task Force, pending the TOs' response. Although the TOs insisted they are in compliance with Order 890, they proposed a Tariff amendment providing additional detail on supplemental projects. FERC didn't rule on the TOs' response before losing its quorum in February.

Stakeholders last month voted to end the hiatus, with task force meetings schedule to resume July 28. (See *Load Blocks TO Effort to Delay PJM Tx-Replacement Talks*.)

"AMP supports appropriate transmission infrastructure build-out to replace aging infrastructure," McAlister told the House committee. "However, there needs to be more transparent transmission planning, equitable treatment, better oversight to ensure the most cost-effective and efficient grid expansion, and rates of return that reflect current economic conditions and risks."

AMP asked Congress for "enhanced" oversight of FERC "to ensure that [the commission] is responsive to the real needs of consumers" by making low costs "a central part of the RTO mission, in addition to promoting electric system reliability."

McAlister also said Congress should ensure that RTO governing boards "are truly representative and open [and] transparent" with open board meetings. While the boards of MISO, SPP, ERCOT and CAISO meet in open session, PJM's board meets in private, as does ISO-NE's and NYISO's.

Nuclear Subsidies

Linde

The hearing also considered proponents and opponents of subsidizing nuclear plants. Tamara Linde, PSEG's executive vice president and general counsel, repeated the company's threat to retire its 3,500-MW Salem and Hope Creek nuclear plants in southern New Jersey. The plants, which are licensed until at least 2046, produce about 45% of the state's electricity.

Linde said FERC should order PJM and other RTOs to "immediately" change their market rules to "preserve the diversity and resiliency of the nation's electric generation resource mix."

"Markets weren't designed to drive to fuel diversity as an outcome, because fuel diversity in the generation fleet was always presumed," she said.

Linde also said the U.S. nuclear supply chain should be considered "critical infrastructure, just as we regard our national highway system, electric grid and drinking water."


Schleimer

Opposing nuclear subsidies were NextEra's Kelliher and Calpine's Steve Schleimer, senior vice president for government and regulatory affairs. Schleimer said competitive markets are threatened by both the zero-emission credits for nuclear plants in New York and Illinois, and New England states' long-term procurement of renewables.

"If not addressed, out-of-market subsidies will undermine competition, investment will dry up, and these states will be back in the business of mandating when, where and what type of new generation will be built through long-term ratepayer guarantees, which is exactly the structure we moved away from several decades ago," he said.

"A 'hybrid' market, where a state relies in part on the competitive wholesale electricity market to meet its resource needs, but also retains the right to select and subsidize preferred generation resource types to meet certain public policy goals, does not work and destroys all new competitive investment," Schleimer said.

CAISO's Lesson

He said the risk is playing out in CAISO, where he said the state's "long-term contracting practices have decimated the competitive market."

"It has led to the paradox that while retail rates are amongst the highest in the country as a result of these contracting mandates, wholesale prices are so low that the economic viability of the remaining generation that is dependent on competitive wholesale

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PJM News

States, Enviros Differ on Jurisdiction over Energy Efficiency

By Rory D. Sweeney

Environmentalists last week urged FERC to decide whether states can control participation of energy efficiency resources (EERs) in RTOs, while state officials said the commission should take no action.

The group Advanced Energy Economy petitioned FERC on June 2 to issue a declaratory order ruling that it has "exclusive jurisdiction" under the Federal Power Act to regulate EER aggregators involved in wholesale markets (EL17-75). AEE further requested that FERC make clear that retail regulators, such as state public utility commissions, have no such authority unless FERC grants it to them.

The group — whose members include Johnson Controls, Landis+Gyr, Lockheed Martin and other technology companies — asked FERC to rule after PJM began a stakeholder process to examine how it allows EER aggregations to participate in its wholesale markets. The initiative also was to investigate the potential for creating an "opt out" mechanism for regulators like what PJM developed for demand response in response to Order 719.

PJM's initiative began after the East Kentucky Power Cooperative discovered an aggregator was attempting to sell into the RTO's markets EERs that originated in its distribution territory. EKPC requested a legal opinion from the state Public Service Commission, which responded and later provided a declaratory order denying aggregators the right to sell Kentucky EERs into PJM's markets without receiving its blessing.

At the Kentucky commission's request, PJM then proposed the stakeholder process, which received substantial discussion before being endorsed. Rick Drom, an attorney representing the still-unidentified aggregator in Kentucky, argued that the process was "a flawed solution seeking a problem," while PJM's Denise Foster defended the RTO's actions as reasonable preparation to develop appropriate rules should a regulatory agency act. (See "EE Problem Statement Narrowly Approved," *PJM Market Implementation Committee Briefs*.)

Stakeholders from around the country weighed in last week before the deadline on filing comments. PJM said it neither supports nor opposes the petition, but it asked FERC to clarify states' role "relative to retail customers that participate, either directly or indirectly, as supply-side EERs in the PJM capacity market."

The Sierra Club, the Natural Resources Defense Council, the Sustainable FERC Project and the Environmental Defense Fund filed in support of the request. They supported AEE's argument that there is no "nexus" between aggregating the EER credits and impacts on retail electricity usage.

"Because the transaction creating the EER occurs at the level of the manufacturer or the distributor of the energy efficiency product, a retail regulator's authority over retail customers is not implicated," according to a joint filing from the environmental groups. "We urge FERC to issue a focused order that resolves the cloud of uncertainty hanging over the participation of wholesale EERs in PJM's market, while carefully avoiding a broad determination of state-federal jurisdiction that would be unnecessary and detrimental to the flexibility inherent in the statute."

It also asked FERC to "redirect" PJM's stakeholder process, saying the RTO "wrongly predetermined the framing and outcome of the process to address concerns about retail interactions of EERs."

The Organization of MISO States, the Kentucky PSC, Kentucky Attorney General Andy Beshear, the Illinois Municipal Electric Agency (IMEA), the American Public Power Association and the National Rural Electric Cooperative Association all filed in opposition to the petition.

The Kentucky parties, filing jointly, argued that the sales do "have a direct nexus with retail electric customers" and that EE aggregation pose a "significant, adverse impact" to load-serving entities in the state. Energy savings are not separate from sales because PJM defines EERs as a "continuous reduction" in consumption, they said.

"The Kentucky parties argue that such sales would solely benefit the EER provider to the detriment of the LSE's retail ratepayers," they said. "Absent a retail customer's load reduction, there is no EER to participate in

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Public Power Takes PJM Gripes to Congress

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markets (generally existing conventional generation resources acquired or built when the market was competitive) is increasingly threatened."

Alex Glenn, Duke's senior vice president for state and federal regulatory legal support, had five requests to Congress, including swift confirmation of FERC nominees; the retention of the federal income tax deduction for interest expenses; "a reasonable 'shot clock' for actions on permit applications" for critical infrastructure projects; and a rewrite of PURPA to eliminate above-market must-take purchase obligations.

Glenn also said Congress should amend the SAFETY Act "to expressly include cyberattacks, and improve the process to obtain a security clearance so that we can increase the information-sharing capabilities between public and private entities." Including cyberattacks under the third-party liability protections in the act would allow utilities and first responders to help recovery from an attack without the threat of "of protracted lawsuits in multiple jurisdictions," he said.

In contrast to Duke's lengthy wish list, Kenneth D. Schisler, vice president of regulatory affairs for EnerNOC, had only one request. Schisler thanked federal policymakers for removing market barriers to DR and said "it is vital" that FERC find a way to maintain competitive markets while respecting state policies. "Our only ask here today is that you continue to recognize demand response and its importance to our national energy strategy," he said.

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States, Enviros Differ on Jurisdiction over Energy Efficiency

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the PJM market. The fact that the EER bidder has no contract or agreement with the retail electric customer, who may not even know that it is participating in the PJM wholesale market, is irrelevant. If the retail electric customer's load reduction is bid by an EER into the PJM market, that customer is indirectly participating in the wholesale market."

Unknown aggregations would cost ratepayers money, they argued.

"Absent inclusion of the EERs in the resource assessment of a Kentucky utility, it will either over procure capacity, resulting in higher than necessary costs for retail customers, or have excess capacity that should have been sold to benefit retail customers. Thus, without participation through a tariff or special contract, EERs in Kentucky are being enriched by higher rates paid by the utility's other retail customers," they said.

IMEA asked FERC to reject the petition and let the PJM stakeholder process play out. It argued that allowing aggregators to pull out individual customers from LSEs can threaten their financial and resource planning while "allowing a customer that provides no benefits to the system or to Milltown's [a fictional IMEA municipal member] other customers to access the revenue [streams] from PJM's markets to the detriment of [the LSE's] own system benefits and ratepayers."

NRECA also said the petition was premature, as PJM hasn't developed tariff language and Kentucky hasn't taken any action to limit EER bids.

"Too many facts are unknown, and the scope of the declaratory relief being sought is ill-defined," NRECA spokesperson Tracy Warren said. "And in no case should FERC revisit the basis for its 2008 order on DR bids, as the petition invites."

OMS filed in support of using the same "opt out" process as developed for DR in Order 719. "Wholesale EERs present the same type of concerns that were raised during the robust process leading to the issuance of Order 719."

The organization warned that allowing EE aggregator participation would impact utility planning and attainment of mandated efficiency targets.

"It's worth noting that the single energy efficiency program type that AEE relies on throughout its petition, reducing product cost directly at a retailer/supplier, typically has a very high [benefit-to-cost] ratio and is often a centerpiece of utility energy efficiency programs. By allowing aggregators to sign up retailers and suppliers for purpose of generating wholesale EERs, those same retailers and suppliers are no longer available to utilities to implement their own programs. Furthermore, the utility may have assumed the availability of certain retailers to participate in a utility efficiency program," OMS said.

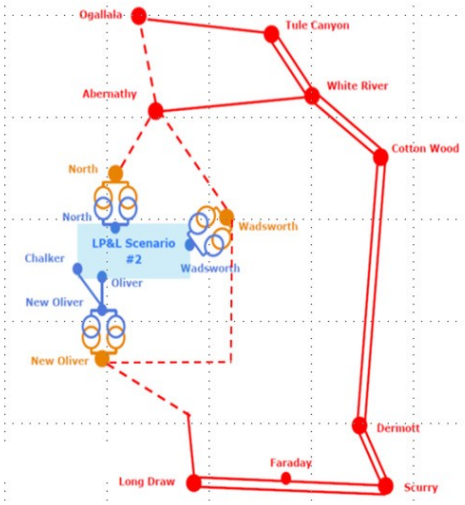
SPP News

Load Migrations Put SPP's Focus on Retention

By Tom Kleckner

DENVER — As it comes to grips with the migration of 430 MW of West Texas load to ERCOT, SPP is confronting the possibility that as much as 1,300 MW of additional load could leave its system.

SPP members are encouraging the RTO to explore the reasons for the departures — and how to prevent them.



ERCOT recommendation for LP&L integration | *ERCOT*

East Texas member Rayburn Country Electric Cooperative last month opened a project with the Public Utility Commission of Texas to "identify issues pertaining" to transferring its load and portions of its facilities into ERCOT (Docket 47342).

Despite its membership in SPP, only 15 to 20% of Rayburn Country's load (about 150 MW) sits in the Eastern Interconnection. ERCOT estimates it will cost $38 million — primarily for a new 345-kV substation, a 138-kV switching station and the expansion of several 138-kV lines — to connect the co-op's SPP load with the Texas Interconnection.

Rayburn Country owns and operates 160 miles of transmission in SPP, of which it proposes to move 130 miles into the ERCOT footprint, adding to the 207 miles of lines it already owns there.

The co-op determined that consolidating its load into ERCOT will give it access to "a more liquid and competitive wholesale power market, improved reliability, and elimination of cross-grid issues such as multiple NERC reliability standard audits and differing regional practices."

An SPP task force has identified several other potential Texas entities with a medium-to-high risk of transferring an additional 1,100 MW of load into ERCOT, not including Lubbock Power & Light and the aforementioned 430 MW.

At its recent annual retreat, SPP's Strategic Planning Committee considered whether it should "develop incentives or other mechanisms" to prevent future member migrations, Vice President of Process Integrity Michael Desselle said last week during an SPC meeting.

Who Pays?

"The strategic issue of who pays for what is actually fairly important," said Oklahoma Gas & Electric's Jack Langthorn, who chaired a task force studying the implications of LP&L's departure. "When you lose load, should the costs go with it? When entities come in or leave, who pays for what?"

"These strategic questions remain and won't go away," said SPC Chair Mike Wise, Golden Spread Electric Cooperative's senior vice president of regulatory and market strategy. "The lack of [retention] incentives we have in SPP needs to be resolved."

The costs would be significant for Golden Spread and Southwestern Public Service, which currently serves Lubbock's load.

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SPP NEWS

Load Migrations Put SPP's Focus on Retention

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A recent joint study between SPP and ERCOT indicates that the transfer of LP&L would increase annual transmission revenue requirement (ATRR) payments for 17 of SPP's 18 transmission zones by an average of 1.3%. Zonal rates in the SPS zone would decline about 9.3% because of an approximate 10% drop in load, but the zone's remaining load would see a regional-allocation increase similar to other SPP zones on a cost-per-megawatt basis, or $217/MW.

"What we're really talking about is $14 million being reallocated within the SPS zone," said Bill Grant, SPS's regional vice president of regulatory and strategic planning. "It's not insignificant by any means."

"I am a big load inside the SPS zone. If this load leaves the zone, it increases my [transmission] costs," Wise said.

Dueling Studies

SPP and ERCOT performed production-cost analyses for the years 2020 and 2025 to evaluate the effects of moving part of the LP&L system. SPP would see fuel costs drop $64 million to $86 million in its footprint and $61 million to $89 million in Texas in 2020. Those ranges increase to $71 million to $105 million and $68 million to $113 million, respectively, in 2025.

ERCOT's portion of the study found its production costs would increase as much as $77 million in 2020 and $74 million in 2025. The ISO says that increase will be offset by using the LP&L interconnection to unlock wind energy currently trapped in the Texas Panhandle. (See "LP&L Study: Production Costs Increase," *ERCOT Board Briefs*.)

The Texas grid operator last year conducted a separate study showing it will cost $364 million to integrate LP&L, mostly through construction of 141 miles of new 345-kV lines. SPP's study found it would need to spend $5.1 million on additional transmission projects to compensate for the loss of LP&L's load, but another $1 million of upgrades could be deferred or avoided.

ERCOT's study found the new facilities would increase grid stability in the Panhandle, while SPP determined any reliability concerns could be mitigated. The joint study predicted "minimal impacts" on ancillary service procurement quantity and markets, and on congestion rights and their markets.

LP&L announced in 2015 that it planned to disconnect its load from SPP and join ERCOT in June 2019 (Docket 45633). The PUC last summer asked the grid operators to conduct coordinated studies focused on a cost-benefit analysis for ratepayers. (See *Texas PUC OKs ERCOT, SPP Studies on Lubbock Move*.)

Grant encouraged the SPC to compare the two studies and "really start digging into the issues of why an entity might want to leave. There's no better way to put it than Tariff arbitrage. That's what it is.

"I don't know what you can do to stop that," Grant said. "If there are any savings to an individual entity, it's the way they're treated under their individual tariffs. If [zonal placements don't happen fairly], you don't get the added value of having transmission requirements in your zone."

LP&L said it will next month file a contested case with the PUC slated to begin in May 2018 and has asked the commission to discuss the matter during its July 28 open meeting. The municipality said this timeline would allow it to successfully integrate with ERCOT before a "bridge agreement" extending its SPS power contract expires in May 2021.

SPP NEWS

SPP, Mountain West Members Get Acquainted

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stance.

"We set up this meeting in Denver two years ago," before entering discussions with the group about SPP membership, Monroe said. "So, there is nothing nefarious by us having our meeting here."

Not surprisingly, after Mountain West announced earlier this year that it was interested in RTO membership, and preferably with SPP, the MOPC meeting drew record attendance. SPP reported a head count of 185, with 173 attendees signing in. A good number of those were Mountain Westers — as those representing the organization's various entities refer to themselves — and interested regulators from Colorado and other Western states.

Mary Ann Zehr, senior manager of transmission contracts, rates and policy for Tri-State Generation and Transmission Association, said Mountain Westers "showed up in force … to glean awareness of the SPP 'process,' stakeholder interactions and decision-making ability."

They got a good dose of that, taking in a passionate, member-led discussion of cost shifts within the RTO's transmission zones — an issue sure to be key should SPP integrate its new members. (See *Divide Evident Between SPP Tx Owners, Users*.)

"Members have been monitoring the zonal-placement discussion occurring in SPP for a few months now," Zehr said. "Initial zonal construct and methodologies to address future zonal placement are critical decisional items."

Transmission Owner	Annual Transmission Revenue Requirement ($)	12-month Coincident Peak (MW)	Annual Energy (MWH)
Basin Electric Power Cooperative Westside	8,203,959	110	638,352
Cheyenne Light Fuel & Power	6,848,030	193	1,330,174
Black Hills Colorado Electric Utility	12,452,172	314	1,600,638
City of Colorado Springs Utilities	24,025,218	661	4,374,955
Common Use System (BEPC & BHC)	30,899,530	859	4,892,644
Platte River Power Authority	39,923,267	510	3,251,514
Western CRSP	69,097,743	1,424	5,185,539
Western LAP	65,198,148	710	2,534,139
Tri-State Generation and Transmission Association	117,460,625	1,934	12,607,330
Public Service Company of Colorado	220,662,842	5,680	33,024,691
DC-ties (4 ties in footprint)	18,000,000	710 *	NA
Total	612,771,534	12,395	69,890,856

Mountain West utilities 2015 snapshot | *California PUC*

"We're highly concerned about a lot of issues related to zonal placement," said Joe Taylor of Xcel Energy, which owns Public Service Company of Colorado. "We don't necessarily want to put ourselves at risk. We're just not 100% resolved around how many zones there will be. Cost-shift negotiations among members … we're not done with that."

The Case for Membership

For his part, Monroe said he was pleased to have the Mountain West representatives present, saying they saw a demonstration of how SPP maintains its independence through membership diversity.

"They were able to witness firsthand the active engagement and meaningful voice our stakeholders have in the development of SPP's policies, even during discussion of contentious issues," Monroe said.

"My sense is that the group was pleased with the dialogue, ability to contribute and outcomes," Zehr said. "It was also very helpful for members to be able to meet and have side discussions with existing SPP members."

Continued on page 27

SPP Seeks Experts for Competitive Transmission Panel

SPP is accepting applications from industry experts to serve on an independent panel reviewing the RTO's 2018 competitive transmission construction proposals.

The panel will review, rank and score proposals for competitive projects under FERC Order 1000. The previous two panels recommended one such project — a 22.6-mile, 115-kV line from Walkemeyer to North Liberal in southwest Kansas. However, the project was withdrawn because of decreased load projections. (See *SPP Cancels First Competitive Tx Project, Citing Falling Demand Projections*.)

Interested candidates must have expertise in at least one of the following transmission-related areas:

- Engineering design;
- Project management and construction;
- Operations;
- Rate design and analysis; or
- Finance.

SPP will accept applications through Sept. 1 and choose panelists later this year based on recommendations by the RTO's Oversight Committee, which must be approved by the Board of Directors. Selected panelists will be considered contractors and will be compensated through a monthly retainer and hourly rate.

Panelist applications, instructions and more information can be found on SPP's website or by contacting Ben Bright, the RTO's regulatory processes manager.

— *Tom Kleckner*

SPP NEWS

SPP, Mountain West Members Get Acquainted

Continued from page 26

In return, Zehr and other Mountain Westers participated in a panel discussion, sharing background on each of their companies and explaining why the organization has decided to join an RTO.

Mountain West — comprising eight investor-owned utilities, municipalities, federal power marketing administrations and cooperatives, and their subsidiaries — announced in January that it was beginning discussions with SPP about joining. The group expects to arrive at a decision by October and could present a recommendation to the RTO's Board of Directors in January 2018. (See *Mountain West to Explore Joining SPP*.)

Mountain West members serve 6.4 million customers in and around the Rocky Mountains, with a coincident peak of more than 12 GW. Should the organization join, the new RTO's Tariff would include all the DC ties between the Eastern and Western Interconnections, except for one in Canada.

"Our goal is to keep costs as low as we can for our customers by exploring any option," said Platte River Power Authority's Andy Butcher. "What does it cost versus the benefits? We believe there's value, so that's why we're sitting at the table."

A 2016 Brattle Group study found Mountain West could save $53 million to $71 million annually through 2024 by participating in a day-ahead market and replacing its nine tariffs with one. Eliminating pancaked rates for wholesale transactions and other tariff-revision concepts started the group's dialogue about RTO membership.

Members said they also want to take advantage of modern market designs to maximize transmission capacity and use the most cost-effective generation. SPP's Integrated Marketplace, with its day-ahead and real-time markets, is a huge selling point.

Platte River Power Authority's Andy Butcher shares details on his company with MOPC members. | © *RTO Insider*

"Out here in the West, we use what we call available transmission capability," Taylor told the MOPC. Noting that SPP's transmission system is flowgate-based and Mountain West's is flow-based, he said, "The [flow-based] contract methodology is very conservative. I think we'll see great benefits without building additional transmission."

Taylor also made a point of mentioning that, after the panel discussion, the Mountain Westers would be conducting their 70th meeting on Tariff revisions and RTO membership. They and SPP have formed a steering committee and working groups focused on governance, rate design, cost allocation, transmission planning, reliability coordination and the RTO's Regional State Committee (composed of regulators from 10 different SPP states).

Comes Down to Business

SPP and Mountain West representatives have appeared twice before the Colorado Public Utilities Commission in a pair of information sessions. A third, focused on governance, has been scheduled for Aug. 24. (See *SPP, Peak Reliability Pitch RC Services for Mountain West* and *Mountain West, SPP Tout RTO Membership to Colo. PUC*.)

Monroe said SPP is following the same process it did when adding the Integrated System in 2015 and Nebraska utilities in 2009. The two sides are in confidential negotiations, with SPP staff keeping the board, RSC and Strategic Planning Committee updated during executive sessions.

"Most of the time is spent in educating both [parties], because there's a lot to joining SPP, but we're also trying to understand the parties that want to join, their concerns and how to address them," Monroe said.

Asked whether Mountain West would be fully integrated with SPP's Eastern Interconnection or on its own, Monroe said, "From an SPP staff perspective, we believe that having it all integrated together is the most beneficial form. SPP has technology it's been exploring … and we believe it's capable of running the market over the full footprint."

In the end, each Mountain West utility will have to make a business decision.

"We're doing that as individual companies," Zehr said. "We have cost shifts associated with de-pancaking of transmission rates, we have implementation costs … lots of factors that drive our benefit costs as individuals."

Other utilities from the region could also make the same business decisions about becoming RTO members, although they haven't come out publicly.

"Because of some of the issues they're still resolving among themselves, they haven't added anyone to the party," Monroe said.

Said Taylor: "Hopefully, in the future, all will be revealed."

Federal News Roundup

Trump's DOE, EPA Budget Cuts Scaled Back by Congressional Panels

© RTO Insider

Congress last week rejected President Trump's proposal for deep spending cuts at EPA and the Department of Energy.

On Thursday, the Senate Appropriations Committee voted 30-1 to approve $38.4 billion in funding for the department and water programs, a $4 billion increase over the administration's proposal.

The Advanced Research Projects Agency-Energy, which Trump had proposed eliminating, instead won $330 million, its highest ever. The department's energy efficiency and renewable energy program received $1.94 billion; Trump would have slashed it to $740 million.

"This is an incredible demonstration of bipartisan support for energy-efficiency programs and for the value they deliver to American consumers and businesses," said Kateri Callahan, president of The Alliance to Save Energy.

The Senate bill includes funding for an interim storage site for nuclear waste, but unlike the House of Representatives' version, does not fund the restart of Yucca Mountain as a permanent repository.

The committee's action came two days after the House Appropriations Committee voted 30-21 to approve a $31.4 billion funding bill for EPA, the Interior Department and other programs — $824 million less than current levels but $4.3 billion more than Trump had sought. EPA would see a $528 million cut, about 6.5%. Most Democrats opposed the bill.

On Wednesday, EPA Administrator Scott Pruitt said he agrees with a bipartisan House proposal to reject Trump's plan to end spending on the Great Lakes Restoration Initiative. The House would authorize $300 million in fiscal 2018, maintaining the project's current funding.

Ozone, Cybersecurity, Hydropower Bills Advance

Meanwhile, the full House approved two bills last week changing the federal government's permitting and siting policies for oil and natural gas pipelines and four bills on hydropower, energy security and EPA's ozone standards:

- The Promoting Cross-Border Energy Infrastructure Act (H.R. 2883) would eliminate the need for presidential approval for pipelines or electric transmission lines that cross a border with Canada or Mexico. It was cleared 254-175. It would end the State Department's role in the process.
- The Promoting Interagency Coordination for Review of Natural Gas Pipelines Act (H.R. 2910), approved 248-179, would make FERC the lead agency for approving interstate pipelines and require other agencies to conduct simultaneous reviews. Of the hundreds of pipelines FERC has reviewed in the last 30 years, it has only rejected two, the Center for Public Integrity and StateImpact Pennsylvania reported last week.
- The Ozone Standards Implementation Act of 2017 (H.R. 806) would give states flexibility in implementing National Ambient Air Quality Standards for ground-level ozone. It passed 229-199. The National Parks Conservation Association opposed the bill, saying it would allow companies seeking air pollution permits to ignore new ground-level ozone (smog) health standards for 10 years.
- The House voted 420-2 to amend the Federal Power Act to streamline the federal review of qualifying conduit hydropower facilities (H.R. 2786). The bill eliminates the 5-MW cap on such projects and revises the time frame for an entity to contest whether its hydroelectric facility meets the qualifying criteria.
- Enhancing State Energy Security Planning and Emergency Preparedness Act of 2017 (H.R. 3050) would provide financial assistance to states for implementing and revising energy security plans. The state plans must include a risk assessment of energy infrastructure and cross-sector interdependencies, and address potential hazards to each energy sector or system, including physical and cyber threats. It passed by voice vote.
- H.R. 2828 would extend the deadline for beginning construction of the Enloe hydroelectric project on the Similkameen River about 3.5 miles northwest of the City of Oroville, in north-central Washington. It passed by voice vote.

In other action, the House Energy and Commerce Committee's Digital Commerce and Consumer Protection subcommittee approved bipartisan legislation on self-driving cars by voice vote. The bill allows automakers to deploy up to 100,000 self-driving vehicles without meeting existing auto safety standards and prevents states from imposing rules on them.

Upton to Join Bipartisan Climate Group?

Upton

The former chair of the committee, Rep. Fred Upton (R-Mich.), said he may join the bipartisan Climate Solutions Caucus. Upton, now chair of the Subcommittee on Energy, was among 46 Republicans who voted last week to support the designation of climate change as a national security threat in the National Defense Authorization Act.

Wheeler

While these were welcome developments for those concerned about climate change, they were tempered by news that Trump plans to nominate coal lobbyist and former Senate aide Andrew Wheeler as EPA deputy administrator.

And Joel Clement, until recently the director of the Office of Policy Analysis at the Interior Department, claimed in an op-ed in *The Washington Post* that he was reassigned to a job in an accounting office for talking about the effects of climate change on Alaska Native communities. Clement, one of dozens of senior department officials reassigned to positions where they had no background, filed a whistleblower complaint with the U.S. Office of the Special Counsel.

Also last week, congressional Republicans said they will attempt to change the Endangered Species Act by allowing regulators to use economic costs to deny listing a species as threatened.

— Rich Heidorn Jr.

Rates, Renewables Boost Avangrid Q2 Earnings

By Michael Kuser

Avangrid earned $120 million in the second quarter, up 17% because of new rate plans in New York and Connecticut, improved cost management and a 4% increase in renewable energy production, the company reported Wednesday.

The company attributed last quarter's spike in renewable output to the recently completed 208-MW Amazon Wind Farm in North Carolina but said production at its other wind facilities came in below average. Avangrid plans to sign power purchase agreements equating to 1,800 MW of new wind and solar through 2020.

"We've already secured 1,000 MW of that — or 55%," CEO James P. Torgerson told investors and analysts during an earnings call.

Avangrid controlled more than 6,000 MW of renewable resources by the end of June, 349 MW of which was added this year. Another 600 MW is slated to come online during the second half of 2017, with wind representing 534 MW and solar making up the remainder.

Renewables Rising

The company manages two primary lines of business: Avangrid Networks comprises eight electric and natural gas utilities serving around 3.2 million customers in New York and New England, while Avangrid Renewables operates more than 6 GW of mostly wind power in 23 U.S. states.

Avangrid is this year focusing on reducing its exposure to wholesale markets by decreasing its merchant capacity from 35% to 27%.

"Year-to-date, we've executed 589 MW of fixed-price contracts to reduce our merchant capacity, and we're really committed to keeping on track and adding even more as we see opportunities," Torgerson said. "The company targets to be at 75 to 85% PPA plus hedges that we have on merchant capacity, so by adding the long-term hedges, we will actually be over 80%."

The Networks business continues to dominate the company, contributing 73% of overall adjusted net income year-to-date, up 9% over the same period last year. But the Renewables division is playing catch-up, seeing its adjusted net income rise 26% for the same period.

The company sees clean energy and offshore wind initiatives in Massachusetts as "key opportunities" to increase income beyond its long-term plan, Torgerson said.

Avangrid plans to bid "multiple transmission and/or renewable solutions" into a collaborative effort by the Massachusetts Department of Energy Resources, Eversource Energy, National Grid and Unitil to solicit clean energy proposals for 9.45 TWh annually of renewable generation.

"They're looking for incremental hydro on a firm basis, but also new Class I renewable portfolio standard [resources], which would be wind and solar," Torgerson said. "A combination of both could include transmission projects under a FERC tariff."

Massachusetts is also soliciting up to 1,600 MW of offshore wind proposals due in December, and Avangrid intends to bid into that in partnership with Copenhagen Infrastructure Partners, Torgerson said. The projects will be selected in April 2018.

NYPSC Quorum Commended

Torgerson lauded the recent appointment of a new chair and two additional commissioners to the New York Public Service Commission, which operated for several months with only two of five seats filled, causing a backlog.

As part of New York State's Reforming the Energy Vision initiative, Avangrid subsidiaries New York State Electric and Gas and Rochester Gas & Electric have filed a combined proposal with the commission to launch an Energy Smart Community project. The two utilities have already installed 20,000 smart meters under the program.

Quorum Pending at FERC

Avangrid could stand to benefit — or not — from the restoration of FERC's quorum. The D.C. Circuit Court of Appeals (15-1118) in April overturned FERC's 2014 order setting the base return on equity for a group of New England transmission owners — including Avangrid's Central Maine Power — at 10.57%. The court ruled that the commission failed to meet its burden of proof in finding the existing 11.14% rate to be unjust and unreasonable. (See *Court Rejects FERC ROE Order for New England*.) The TOs are seeking to begin billing at the prior ROE.

"That is the most recent rate that's legally in effect at this point, and we requested to begin billing that again 60 days after FERC has a quorum, with retroactive billing to June 8 of this year," Torgerson said. "If no FERC decision is reached, we'll start doing that."

FERC has lacked the necessary three-person quorum since the February departure of former Chair Norman Bay, and has been down to one commissioner — acting Chair Cheryl LaFleur — since Colette Honorable left last month.

LaFleur may be joined by four new members if Democrat Richard Glick and Republicans Kevin McIntyre, Robert Powelson and Neil Chatterjee win Senate confirmation. (See *Trump Names Energy Lawyer McIntyre as FERC Chair*.) Glick is a former vice president of government affairs for Avangrid.

COMPANY BRIEFS

NextEra Sues over Regulators' Rejection of Oncor Acquisition

NextEra Energy has followed through on its litigation threats by filing a lawsuit in a Texas state court against the Public Utility Commission, asking the court to reverse the commission's rejection of the company's proposed acquisition of Oncor.

In a motion before the 201st Judicial District Court of Travis County, home to Austin, NextEra asked the court to reverse the PUC's order and remand the case back to the commission. NextEra claims the commission "lacks jurisdiction" over the NextEra-Oncor transaction and lists 15 errors that need to be "corrected."

The PUC in April ruled NextEra's $18.7 billion of acquisition wasn't in the "public interest" and then rejected two subsequent rehearing requests. Warren Buffet's Berkshire Hathaway Energy announced on July 7 it had reached an agreement to buy Oncor's parent, bankrupt Energy Future Holdings. (See *PUCT Staff Welcomes Buffett's Oncor Bid; Debtor Miffed*.)

Dominion to Build Solar Plant That will Sell Power to UVA

Dominion Energy announced Thursday it has signed a contract to build and own a 15-MW solar plant that will sell power to the University of Virginia.

Dominion acquired the UVA Puller Solar photovoltaic project from Coronal Energy. The plant will be powered by 58,800 panels installed on 120 acres. Dominion expects to begin construction at the end of this year and to launch commercial operations by the end of 2018.

The university will buy the project's entire output under a 25-year agreement with Dominion.

More: *Renewables Now*

Mass. AG Challenges Eversource Rate Request

The Massachusetts attorney general asked state regulators Friday to reject Eversource Energy's request to boost its electric rates by $96 million and instead wants the rates decreased.

In January, Eversource filed a request with the Department of Public Utilities to raise its rates by 7% in the eastern part of the state and by roughly 10% in the western part, with the first phase of increases occurring on Jan. 1, 2018.

Attorney General Maura Healey is challenging the need for a rate increase, pointing to what her office described as "outsized investor returns." In a brief filed with the department Friday, she states Eversource shareholders in 2015 and 2016 "earned far more" than others who made similar investments.

More: *State House News Service*

DC Appellate Court Upholds Pepco, Exelon Merger

The D.C. Court of Appeals on Thursday unanimously upheld Exelon's $6.8 billion acquisition of Pepco Holdings Inc., 16 months after the utilities merged operations.

Opponents of the merger argued that the D.C. Public Service Commission, which approved the merger in March 2016, failed to give district residents enough notice or an opportunity to be heard during the decision-making process.

Regulators initially rejected the merger in August 2015 but reversed their decision after Exelon offered more concessions.

More: *Washington Business Journal; WTOP*

Direct Energy Solar Exiting Residential Installation Market

Direct Energy Solar is exiting the residential solar installation market but will continue to operate its commercial business and plans to maintain its existing rooftop installations.

The company, which began as Astrum Solar in 2008, was acquired by Direct Energy in 2014 for $54 million. Its peak performance was in the third quarter of 2013, when it had 1.6% market share, according to GTM Research's PV Leaderboard. In the first quarter this year, it fell to 0.6%.

The company plans to explore the community solar market in the Northeast, sources familiar with the decision said.

More: *Greentech Media*

Hydro One Inks Deal to Acquire Avista for $5.3B

Ontario's largest power transmitter Hydro One has signed an all-cash deal to acquire Avista for $5.3 billion.

Avista will keep its existing corporate headquarters in Spokane, Wash., and continue to operate as a stand-alone utility in Washington, Oregon, Idaho, Montana and Alaska.

Hydro One said Wednesday it will pay $53/share for Avista.

More: *The Associated Press*

Avangrid Project Approved for Biggest Turbines in Northwest

Oregon regulators last week cleared a wind power project developed by Avangrid Renewables to use the biggest turbines ever deployed in the Pacific Northwest.

The Montague Wind Power Facility, which will supply 202 MW of electricity to Apple, received a site-certificate amendment that allows for turbines with rotor diameters of 136 meters and generating capacities of 3.6 MW.

Presently, the region's biggest turbines reach about 100 to 110 meters in rotor diameter and 2.5 MW in generating capacity.

More: *Portland Business Journal*

FirstEnergy Names New Secretary, Ethics Officer


Yeboah-Amankwah

FirstEnergy's Board of Directors voted to promote Ebony L. Yeboah-Amankwah as vice president, corporate secretary and chief ethics officer, effective July 30, 2017. She was previously vice president of state and federal regulatory legal affairs, with responsibility for state and FERC affairs.

Yeboah-Amankwah will oversee the corporate, real estate and records & information compliance departments. She replaces Ketan K. Patel, who left the company in May "to pursue other opportunities," the company said.

She holds bachelor's degrees in political science and philosophy from Washington & Jefferson College, and a law degree from Washington and Lee University.

More: *FirstEnergy*

Continued on page 31

COMPANY BRIEFS

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SolarCity Cofounder Leaving Tesla

Peter Rive, the cofounder and chief technology officer of SolarCity, is leaving the company, which was acquired by Tesla last November.

Rive

Rive played a key role in developing Tesla's solar roof. He also played an important role in developing SolarCity's plan for using solar and batteries for utility "infrastructure as a service."

Rive is the brother of former SolarCity CEO Lyndon Rive, who announced his departure in May. The Rives are cousins of Tesla CEO Elon Musk.

More: *Greentech Media*

Environmental Groups Ask Regulators to Pull Sumner

A report funded by the Sierra Club and Friends of the Earth says the South Carolina Public Service Commission could save utility customers up to $10 billion by "pulling the plug" on two new nuclear reactors at the V.C. Summer Nuclear Station in Jenkinsville, S.C., and ordering at least some prepaid costs refunded.

The report, released last Tuesday, is being submitted to the Public Service Commission ahead of an October hearing.

South Carolina Electric & Gas owns 55% of the reactors, while state-owned utility Santee Cooper owns the other 45%.

More: *Associated Press*

Delmarva Power Seeks Nearly 2% Rate Hike

Delmarva Power has asked the Maryland Public Service Commission to approve its request to increase its base electric rates by 1.91%.

The Exelon subsidiary says the increase would hike the typical monthly bills of its residential customers, which now are about $140, by $2.78.

If approved, the increase would be the second annual consecutive one for Delmarva Power customers.

More: *The Baltimore Sun*

Consumers Energy Partnering to Create Energy District

Consumers Energy is teaming up with Rockford Construction to create an energy district in a 10-block area west of downtown Grand Rapids, Mich.

The district will include an array of rooftop solar panels and a battery storage facility. It will be used as a testbed for renewable energy technologies and provide a supply of green energy to the neighborhood.

Consumers Energy said the solar panels will generate 0.5 to 1 MW.

More: *MLive*

Green Mountain Power CEO Makes Influential Women's List

Green Mountain Power President and CEO Mary Powell has been named one of the 25 Most Influential Women of the Mid-Market by CEO Connection.

Powell

The list recognizes the top 25 women in the U.S. based on their ability to influence change, innovation, and standards for excellence in mid-market companies — those with annual sales between $100 million and $3 billion.

More: *Vermont Business Magazine*

FEDERAL BRIEFS

FERC Analysis Provides 'Clear Path' For Pipeline, Dominion Says

A final environment impact statement released by FERC on Friday provides a "clear path for final approval" of Dominion Energy's proposed 600-mile Atlantic Coast Pipeline that would cross through West Virginia, Virginia and North Carolina, according to the company.

FERC staff found the project "would not result in a significant impact" on groundwater resources and surface water, and wetland impacts "would be effectively minimized or mitigated." Landslide potential and other problems that could arise along slopes crossed by the natural gas pipeline could be avoided, minimized or mitigated, according to the statement.

Dominion expects to be able to begin construction this fall. FERC states the pipeline could be in service by the end of 2019.

More: *Nelson County Times*

Non-solar Players Launch Group To Fight Suniva's ITC Petition

A coalition consisting of mainly non-solar companies and groups on Friday announced its intention to fight Suniva's petition before the International Trade Commission to impose penalties on imported solar technologies.

The Energy Trade Action Coalition, which includes trade associations, utilities, retailers, unions, conservative groups and others, maintains that penalties for importing solar panels would be harmful to the overall U.S. economy.

"Tariffs meant to protect one industry can, and often do, have significant damaging effects on other domestic industries," Tori Whiting, research associate at the Heritage Foundation, said in a statement announcing the new coalition.

More: *The Hill*

NREL Plans Study of Offshore Wind Potential in Gulf of Mexico

The National Renewable Energy Laboratory will conduct a study exploring the feasibility of potential offshore energy resources in the Gulf of Mexico, with the primary focus being offshore wind potential.

The study, funded by the Bureau of Ocean Energy Management, will assess variables

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FEDERAL BRIEFS

Continued from page 31

including water depth, wind speed and distance to port to determine the area's levelized cost of energy for offshore wind. Current scenarios show the levelized cost of energy may be less than $100/MWh by 2025 at some sites in the gulf.

The Department of Energy's "Wind Vision Report" aims to install 86 GW of offshore wind by 2050, with states in the gulf region contributing 10% toward that goal.

More: *Offshore Wind Journal*

12% of US Homes Have Programmable Thermostat

Only 12% of the nation's 118 million households in 2015 had a central air conditioning unit that was actually controlled by a programmable thermostat, according to U.S. Energy Information Administration data.

The "Residential Energy Consumption Survey" found that for households with a programmable thermostat and central A/C, more than two-thirds controlled temperatures without programming the thermostat.

Forty-five percent of households using central A/C reported setting the thermostat to one temperature and leaving it there most of the time.

More: *Energy Information Administration*

Perry on Grid Study: 'I Haven't Seen it Yet'

Energy Secretary Rick Perry said last week that he hasn't seen the electric grid study he ordered, even though drafts of the report had been leaked and reported on for several days.

"There are a lot of folks throwing Jell-O at the wall, folks that say they may have some information that's in the report," Perry said at the National Press Club in D.C, where he introduced the executive director of the International Energy Agency, Fatih Birol. "But the bottom line is: I haven't seen it yet."

The draft leaked to Bloomberg concluded that renewables were not a threat to grid reliability, but the agency said those findings were from an early draft and could change.

More: *Washington Examiner*

EPA: No Change Needed For NO2 Regulations

EPA says its current standard for nitrogen dioxide pollution, issued in 2010, is sufficient to protect public health and should not be changed.

Nitrogen dioxide, a pollutant from burning fossil fuels, is produced by vehicles, power plants and industrial facilities.

"EPA proposes that the current [standards] don't need to be changed because they provide the appropriate public health protection, with an adequate margin of safety, including for older adults, children and people with asthma," an agency spokeswoman said in a statement last week. The agency will take public comments on the proposal before making it final.

More: *The Hill*

STATE BRIEFS

MARYLAND

State Plans Suit Against EPA over Air Pollution from Neighbors

The state on Thursday announced plans to sue EPA under the Clean Air Act if the agency does not respond to its request to ensure power plants in neighboring states run their pollution controls daily.

The state petitioned EPA in November for a finding that 36 power plant units in Indiana, Kentucky, Ohio, Pennsylvania and West Virginia are emitting air pollution affecting the state's air quality in violation of the law's so-called "good neighbor provision." In January, EPA issued a six-month extension to act, setting a July 15 deadline that has expired without agency action.

Nineteen upwind power plants have installed pollution controls but often don't turn on the technology, said Jon Mueller, vice president of litigation at the Chesapeake Bay Foundation. He attributed 70% of the state's ozone problem to upwind plants.

More: *The Associated Press*

NEW JERSEY

Land Swap Could Give PSE&G Substation Second Life as Park

A Public Service Electric and Gas substation could get a second life as a park under a land swap announced Friday between the city of Hoboken and the utility.

Hoboken swapped a city-owned lot next to an uptown substation in return for the downtown property from PSE&G. When cleared and cleaned up, the downtown property could possibly be turned into a park, city and company officials said.

PSE&G plans to use its newly acquired lot for a $170 million facility that would combined the functions of the uptown and downtown substations, elevated above ground to protect against the type of severe flooding that hit the city during Hurricane Sandy.

More: *NJ Advance Media*

NEW YORK

Rebuild Slated for 78 Miles of Tx Infrastructure in North Country

Gov. Andrew Cuomo on Friday announced a $440 million project to rebuild 78 miles of power transmission infrastructure in the state's North Country region.

The Moses-Adirondack Smart Path Reliability project will run north to south through St. Lawrence and Lewis counties, carrying hydropower from New York Power Authority's St. Lawrence-Franklin D. Roosevelt Power Project as well as power from newly constructed wind farms, solar power projects and other large-scale renewable energy sources, from upstate to high-energy demand areas downstate. It will help the state meet the governor's Clean Energy Standard, which mandates that 50% of the state's consumed electricity come from renewable sources by 2030.

Construction is expected to take four years and is slated to begin in 2019. When completed, the project will be capable of trans-

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STATE BRIEFS

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mitting up to 345 kV but operate in the near term at the current level of 230 kV.

More: *Gov. Andrew Cuomo*

NORTH CAROLINA

Group Asks Cooper to Veto Energy Bill

Activist group NC WARN has written a letter urging Democratic Gov. Roy Cooper to veto a controversial energy bill that the state legislature passed minutes before adjourning for a month.

The group is particularly critical of a section of the bill that directs Duke Energy, which has advocated lower payments to solar panel owners, to recommend new net metering rates for approval by the Utilities Commission.

The bill, a compromise between Duke and the renewables industry, would more than double the state's solar capacity, but, thanks to a last-minute amendment by state senators, block new wind farms for 18 months.

More: *Southeast Energy News*

TENNESSEE

Lawmaker Calls for Suspension Of TVA Well Permits

State Sen. Lee Harris is calling for suspension of Tennessee Valley Authority's permits for water wells at the site of its new plant in southwest Memphis and for an investigation of high lead and arsenic levels found in area groundwater.

The request, made in a letter Thursday to the Shelby County Groundwater Control Board, comes after arsenic measured at levels more than 300 times the federal drinking water standard was discovered in monitoring wells at the Allen Fossil Plant.

The contaminated water is located within a half-mile of where TVA recently drilled its own water wells into the Memphis Sand aquifer, which supplies local drinking water. TVA plans to pump 3.5 million gallons daily from the aquifer to cool the natural gas-fueled plant that is under construction.

More: *The Daily News*; *The Commercial Appeal*

TEXAS

Environmental Group Sues EPA Over State's Air Pollution Permits

An environmental advocacy group sued EPA on Thursday saying it isn't properly policing air pollution permits the state issued to refineries in its Houston, Dallas and eastern regions.

The Environmental Integrity Project claims the permits, issued by the state's Commission on Environmental Quality, are illegal because their limits on emissions are too high, and they are so vague and complicated as to render them inadequate.

In five separate complaints, the group targets permits issued to ExxonMobil's refinery and chemical plant in Baytown, Petrobras' refinery in Pasadena, Motiva's refinery in Port Arthur and Southwestern Electric Power Co.'s Welsh Power Plant east of Dallas.

More: *Houston Chronicle*; *The Texas Tribune*

VIRGINIA

SCC Hearing Examiner Recommends Rejecting Tariff

A State Corporation Commission hearing examiner has recommended rejecting a proposed 100% renewable energy offering by Appalachian Power that would make the company the sole supplier of renewable energy in its service territory.

A. Ann Berkebile said the proposed tariff isn't in the public interest, doesn't promote the development of renewable energy in accordance with the state's energy policy and could pre-empt customer access to cleaner energy by third-party suppliers.

More: *Southeast Energy News*

WYOMING

Rehired Coal Workers Likely Topped out at 330

Coal companies in the state have added about 330 jobs this year but probably won't add many more because of newfound discipline in the wake of the bust that swept away 1,000 jobs in the Powder River Basin.

In addition to the job losses, the bust saw three coal companies file for bankruptcy protection, hurt by bad bets on the Asian coal market, an overstock of coal that drove down demand and low natural gas prices.

Even though the companies that filed for bankruptcy are stronger and the glut of coal has been drawn down, the Wyoming Mining Association doesn't think the jobs will come back.

More: *Casper Star Tribune*

Texas City Files to Mothball 454-MW Coal Plant

The City of Garland, Texas, last week told ERCOT it wants to mothball a 454-MW power plant for all but the summer.

The city's municipal utility, Garland Power & Light, said it wants to run Gibbons Creek Generating Station only from June 1 to Sept. 30 each year, according to a notification of suspension of operations (NSO) filed Wednesday. The suspension would be effective Oct. 17.

Although Garland is a Dallas suburb, the 34-year-old coal-fired unit is located northwest of Houston. The plant is operated by the Texas Municipal Power Agency.

ERCOT stakeholders have until Aug. 2 to file any comments on the NSO as part of the standard reliability-must-run review.

The ISO also said on Thursday that it has determined a Union Carbide 40-MW gas-fired generator on the Texas Gulf Coast is no longer needed for transmission reliability needs and can be retired, effective Sept. 29. Union Carbide filed its NSO in June.

The cogeneration unit went into service in 2000. As a private-use network unit, it is connected to the ERCOT grid, but the load is netted with internal generation and not directly metered by the Texas grid operator.

— Tom Kleckner

'Devious' Move Puts Md. Wind Projects out to Sea

By Rory D. Sweeney

Here's a shocker: even politicians feel the need to keep up with the Joneses.

A congressman from Ocean City, Md., successfully inserted language into a U.S. House appropriations bill last Tuesday to effectively force two wind turbine projects to move farther offshore from his district.

Why? Because he apparently noticed that a project sited off Virginia was much farther out.

Rep. Andy Harris (R) got the amendment added to the 2018 appropriations bill for the U.S. Interior Department, EPA and other agencies. The amendment forbids any funds from being used to review wind projects that aren't at least 24 nautical miles from the Maryland shoreline. The House Appropriations Committee voted 30-21 to send the bill to the House floor.

"They've got to put them further out, just like they're doing in Virginia Beach," Harris said during the hearing on the bill. "That's all this does."

Blinking Lights on the Horizon

Harris was referring to two projects approved in May by the Maryland Public Service Commission, which awarded offshore renewable energy credits to US Wind and Deepwater Wind's Skipjack Offshore Energy. US Wind's proposed 62-turbine, 248-MW project, to be built 12 to 15 nautical miles offshore at a cost of $1.375 billion, would begin operations in January 2020. Skipjack plans a 15-turbine, 120-MW, $720 million project 17 to 21 miles offshore that will be operational in November 2022. (See *Md. PSC OKs 368 MW in Offshore Wind Projects*.)

The PSC also considered visibility of the turbines from the shore, requiring US Wind to locate its project as far to the east of the designated wind energy area as practical. Commissioner Anthony O'Donnell also charged the developers with using the "best commercially available technology to lessen views of the wind turbines by beachgoers and residents, both during the day and at night."

That's not enough for Harris. The project off Virginia Beach announced earlier this month by Dominion Energy and DONG Energy will be sited 27 miles offshore. (See *Dominion Plans 12-MW Offshore Wind Project, 2nd in US*.)

"So, it's not that the technology is not possible. It's just … they want to save money. They want to bring it in close," Harris said. "We want them to just site this out 24 nautical miles, or around the curvature of the earth."

He accused the companies of not working with Ocean City officials and said that the turbines were initially planned to be shorter before the companies raised them. The only operational offshore wind project in the country is off Block Island in Rhode Island, but "this one is much, much larger," Harris said.

His amendment would "either make them reduce the height a little bit or move them farther out so when you go to the ocean in Ocean City, Md., you're not looking at red blinking lights on the horizon."

'It's the Physics'

Rep. Ken Calvert (R-Calif.), the Interior Subcommittee chairman, supported the amendment but expressed concerns that it might have impacts beyond Harris' local issue.

The subcommittee's ranking member, Rep. Betty McCollum (D-Minn.), said the Congressional Budget Office estimated the amendment would cost the government $6 million in contract breaches and lost rental receipts — not including liabilities from economic losses — that will "most likely" be paid by EPA. She opposed the measure and pointed out that it interferes with the Maryland General Assembly's action to incentivize offshore wind production. (See *Maryland OKs Offshore Wind Bill*.)

Harris' amendment also removes $6 million in EPA funding for environmental programs and management.

Rep. Dutch Ruppersberger (D-Md.), whose Baltimore-area district neighbors Harris', also opposed the measure. He said the PSC effort has been in development for 10 years, stands to create 5,000 jobs in his district and will raise $74 million in state tax revenue.

Ruppersberger's district would gain additional benefits. The PSC order requires the developers to use Baltimore-area port facilities for construction, operations and maintenance, as well as to fund almost $40 million in upgrades at the Tradepoint Atlantic (formerly Sparrows Point) shipyard in Baltimore County and invest at least $76 million in a steel fabrication plant in the state.

Ruppersberger said he participated in the negotiations that got US Wind to move its project 17 miles offshore and was satisfied with a subsequent rendering of the view from the beach. However, US Wind's website maintains the project it will be 12 miles offshore.

Rep. Marcy Kaptur (D-Ohio) called the amendment "precedent-setting" and said there are "more appropriate and technically precise ways to direct wind turbine placement" than by "advancing the site location through arbitrary and random legislative actions untethered to research or appropriate public review."

She cited wind development in her region along the Great Lakes as an example and noted that the fastest-growing job category in that area is wind technician.

Harris countered that "there's nothing arbitrary about this."

"It's the curvature of the earth. It's the physics. It's, 'You will see these windmills unless they're 27 miles out,'" he said, apparently forgetting that his amendment called for only a 24-mile setback. "This doesn't kill the project, this delays it. … They're halfway there."

He cited a North Carolina State University survey in which 54% of respondents said they would be unwilling to stay wherever turbines are visible.

'Underhanded'

Mike Tidwell, the executive director of the Chesapeake Climate Action Network, called the move "devious and underhanded" in a statement.

"Congressman Andy Harris is working to dismantle a yearslong, inclusive process to bring offshore wind to the shores of Maryland in a rider to a bill over which Marylanders will have no say," he said. "Marylanders overwhelmingly want offshore wind because they know it would bring good jobs and boost the state's clean energy economy."

US Wind Director of Project Development Paul Rich told USA TODAY that the amendment would leave room for just one turbine.

"This is not helpful," Rich said. "This stops a process before it's even begun. It's totally at odds with his constituency."