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

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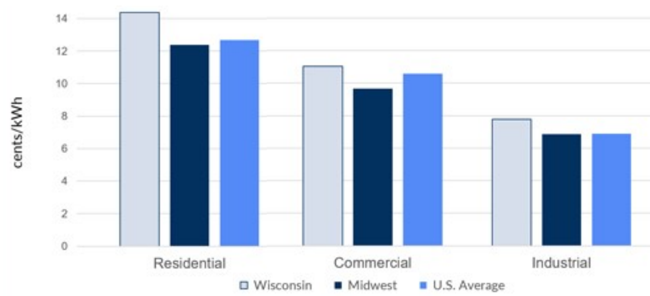
Wisconsin Manufacturers Call for Retail Choice

By Amanda Durish Cook

Wisconsin regulators began considering electric competition in 1994 but closed the docket in 2000, deciding not to implement retail choice. Now, with the state's rates the highest in the Midwest, some big power users are calling for another look.

Wisconsin's large manufacturers are asking state regulators to grant them retail choice, warning that high power prices may otherwise cripple the state's economic growth. Companies and manufacturing groups filed comments with the Wisconsin Public Service Commission in response to the PSC's Strategic Energy Assessment (SEA) 2022, a biennial report finalized late last month that forecasts Wisconsin's power needs six years into the future (5-ES-108).

The 70-page report notes that Wisconsin electric rates are the highest among Midwestern states and higher than the national average. In 2015, average industrial rates in the state were 7.77 cents/kWh, versus 6.86 cents/kWh for the Midwest and 6.89 cents/kWh for the U.S. Across all electric use, Wisconsin residents and businesses pay an average 10.93 cents/kWh, compared to the Midwest's average of 9.66 cents/kWh and the national average of 10.42 cents/kWh.



Public Service Commission of Wisconsin

In a joint comment, the Wisconsin Paper Council and the Wisconsin Industrial Energy

Continued on page 27

New York CES Under Attack on Multiple Fronts in Rehearing Requests

By William Opalka

Numerous stakeholders have called for rehearing of New York's Clean Energy Standard, raising objections over the subsidy for nuclear power, the elimination of support for some legacy renewable energy plants and the potential loss of renewable energy credits (REC) to adjoining states (15-E-0302).

Most of the requests were filed shortly before the mid-week deadline following the New York Public Service Commission's Aug. 1 order approving the standard. (See New York Adopts Clean Energy Standard, Nuclear Subsidy.)

The CES is designed to support the state goal of 50% renewables by 2030, with nuclear power seen as a bridge until renewable energy facilities are built at scale.

Nuclear Subsidy Under Attack

The most controversial part of the order created a new "Tier 3" subsidy — zero emission credits (ZECs) — for nuclear power. Critics say the program would cost more than $7 billion over its 12-year lifespan. Without ZECs, nuclear owners said their plants would close, and state officials said carbon reduction goals could not be met.

The Alliance for a Green Economy and a coalition of environmental, anti-nuclear groups and elected officials objected to the subsidy as counter to the goals in the state Energy Plan and the Reforming the Energy Vision initiative.

"The PSC has failed to demonstrate that imposing exorbitant surcharges which inure

Continued on page 14

PJM: Regional Plan Cuts Costs, but Gas Prices are Wild Card for CPP Compliance

By Rory D. Sweeney

The Clean Power Plan poses no threat to PJM's reliability, but compliance costs are highly sensitive to gas prices and whether states go it alone or combine efforts with a regional approach, according to a study released by the RTO last week.

If gas prices remain low, states within PJM's footprint are likely to meet EPA-mandated

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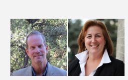

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CAISO NEWS

EIM Governing Body Convenes First Meeting, Selects Leadership

By Robert Mullin

The newly established Western Energy Imbalance Market (EIM) governing body kicked off its first meeting last week by electing its leadership.

CAISO's Board of Governors appointed the five-member body in June, selecting one each from five industry sectors: EIM entities, ISO-participating transmission owners, power suppliers and marketers, publicly owned utilities and state regulators. (See *CAISO Board Appoints Western Energy Imbalance Market Governing Body*.)

Kristine Schmidt, president of Dallas-based Swan Consulting, was selected to serve as the body's chair. A former vice president at ITC Holdings and director at Xcel Energy, Schmidt has more than 30 years' experience in the energy sector. She also worked as an adviser to former FERC Commissioner Nora Brownell.

Doug Howe, an independent consultant and Ph.D. in mathematics, was chosen as vice chair. Howe has authored or co-authored more than 30 papers and presentations covering industry topics such as energy efficiency in the European Union and utility regulation in the U.K. He previously held an executive position with GPU Inc., which was acquired by FirstEnergy in 2001.

Carl Linvill, a member of the governing body, praised Schmidt for her "equanimity" and also expressed support for the wider Western regional representation that Howe — a New Mexico resident and former state regulator — will provide.

"We still have a lot to figure out and learn," Linvill said. "Figuring out how to establish a regional presence really is emboldened and enabled by these two positions."

"On behalf of the ISO, we want to give you our immense thanks for being willing to serve on this body," CAISO CEO Steve Berberich said. "We consider the EIM as a critical attribute and will continue to support it for as long as necessary."

A decade ago, Schmidt noted, nobody in the industry would've believed the region would have an EIM.

"We're now seeing a regional market take shape in the West," Schmidt said. "We're hitting the ground running."

Stakeholder Coordination

The governing body's inaugural meeting included a set of briefings by EIM stakeholders and ISO staff to acquaint members with key structures affecting the market.

"There's a lot of interest in what you'll be doing," said Tony Braun, an industry consultant who chairs the Regional Issues Forum, a loosely structured stakeholder group created by CAISO to foster broad regional discussion about EIM-related issues.

While the forum's role "has not been concretely laid out," the group's first two meetings have been well attended, indicating a high level of interest in the EIM's activities, Braun said.

The two most significant issues for forum participants: the bidding of external resources at the EIM's interties and the impact of California's greenhouse gas regulations on the market. (See related story, *CAISO Kicks off Effort to Track GHGs Under Regionalization*, p.??.)

Braun proposed that future meetings of the forum be coordinated with those of the EIM's governing body and its state regulators' group to improve collaboration

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Correction

An article last week on ERCOT's rule change requiring energy developers to notify the Department of Defense of any projects near military installations omitted the source of quotes attributed to Director of System Planning Warren Lasher. His comments to the Texas House of Representatives' Defense and Veterans Affairs Committee were first reported by the *Times Record News*.

CAISO NEWS

EIM Governing Body Convenes First Meeting, Selects Leadership

Continued from page 2

and reduce participants' travel for meetings.

"We'd love to hear how we can shape our processes to help you do your jobs," Braun said.

Governing body members expressed appreciation for the work of the forum.

"The stakeholder-driven nature of the [forum] is probably something that is both difficult and necessary," said governing body member Valerie Fong. "I found that the way [the meetings are] being run is very open."

Schmidt called the meetings "extremely helpful."

"We're trying to do everything we can do to mitigate some of the travel issues," she added.

The EIM governing body selected Kristine Schmidt and Doug Howe as its chair and vice chair, respectively.

Regulatory Collaboration

Ann Rendahl, chair of the EIM's body of state regulators, sketched out the role of her group for the new governing body.

"Our purpose is to ensure that state regulators that aren't involved in this market understand what is going on in EIM," said Rendahl, a member of the Washington Utilities and Transportation Commission.

The group provides a forum for regulators to learn about EIM and CAISO developments that might be relevant to their jurisdictional responsibilities. While it can take a common position in CAISO and EIM stakeholder processes, individual regulatory commissions are not restricted from taking any position before FERC or the ISO board on EIM-related matters.

The regulators' group is also charged with

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CAISO NEWS

EIM Governing Body Convenes First Meeting, Selects Leadership

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monitoring EIM governing body action items and selecting a voting member for the body's nominating committee.

Rendahl emphasized the need for her group to closely coordinate its activities with that of the governing body. "We want to not just monitor, but work with the governing body," she said.

ISO Process Basics

Governing body members received a briefing about CAISO's stakeholder process from Brad Cooper, ISO manager of market design and regulatory policy.

Cooper explained the stakeholder process the ISO uses each fall to develop a "roadmap" of planned policy developments, including EIM initiatives. The ISO last year drew from a catalog of 49 potential initiatives, selecting only 10 because of staff constraints.

"We can't develop everything in the catalog," Cooper said.

A final roadmap is presented to the CAISO board — and, in the future, the EIM governing body — at the beginning of each year. The ISO informs stakeholders of any changes to the roadmap through its Market Performance and Planning Forum.

"The roadmap isn't set in stone," Cooper said. "For instance, we had the Aliso Canyon issue come up" earlier this year, forcing a modification of the roadmap. (See CAISO Seeks Rapid Response to SoCal Gas Restrictions.)

When developing the roadmap, ISO staff divide initiatives into four categories, including initiatives already in progress, policy changes mandated by FERC, non-discretionary efforts related to reliability or market efficiency, and discretionary initiatives.

For the last category, ISO staff and stakeholders together prioritize potential initiatives according to benefits and feasibility.

"If something could provide great benefits and is relatively trivial to do, that would get priority," Cooper said.

Cooper acknowledged that CAISO's policy process is driven more by staff than by stakeholders — and said the ISO prefers it that way.

"We realize that we made a commitment to look at other [stakeholder] processes [to implement under] regionalization, but we think our stakeholder process really allows us to quickly evolve policies," Cooper said, adding that he didn't think a project such as the EIM could've been developed under a stakeholder-led model.

"The ISO really tries to take a balanced view of our proposed policy," Cooper said, contending that the ISO's process does not factor in specific stakeholder interests, avoids "contentious voting structures," and prevents bias or brokered policy decisions — allowing the ISO to focus on grid reliability.

Still, Cooper emphasized that "stakeholders are involved every step of the way," including through "working group" meetings that focus on specific initiatives.

"We have a lot of open interaction that may not be possible with more formal stakeholder processes," Cooper said. "This allows us to really interact with our stakeholders and get their input."

CAISO NEWS

New Western EIM Participants on Track to Join Market in October

By Robert Mullin

> **"We're confident, but with that confidence we rely on a very robust support plan. We plan for the worst and expect the best."**
>
> **Janet Morris, CAISO**

Arizona Public Service and Puget Sound Energy have met the milestones to participate in the CAISO-run Western Energy Imbalance Market and will begin trading in the market on Oct. 1.

"For APS and PSE, the bulk of the work is behind us," Janet Morris, CAISO's program management office director, told the EIM's governing body during an Aug. 30 meeting.

The ISO last year developed a series of readiness criteria to ensure that new EIM participants are prepared to link up with the market.

Among the requirements: executing necessary agreements, establishing forecasting and balanced scheduling capabilities, producing accurate market settlements, and exchanging sufficient data to allow the ISO to monitor market performance.

The implementation process takes about 18 months and requires a new participant to integrate its network model — essentially a detailed blueprint of the balancing authority area's operations — with that of the ISO. The process culminates in two months of market simulation, in which the participant operates in real conditions without transactions becoming financially binding. (See *Arizona Public Service, Puget Sound Energy Enter EIM Testing Phase*.)

Morris pointed out that the go-live date for APS and PSE will coincide with a significant update to the EIM's market software. All participants, including existing members PacifiCorp and NV Energy, are required to "validate" the new market features. In the future, CAISO plans to schedule new member implementations for spring in order to avoid overlap with fall software releases.

"What's one or two of the top things you learned from implementations to help others out there" planning to join the EIM? asked governing body member John Prescott.

"I think one of the first challenges in the early part of implementation is organizational change management," Morris said, referring to the need for utility staff to adapt to the EIM's operational practices. Those participants "need to understand how all the data fed into the market influences the market's outcomes."

Later in the implementation, new participants come to recognize the need for the two months of parallel testing, Morris added.

Governing body member Carl Linvill wondered if new participants have realized any "side benefits" from integrating their network models with the ISO.

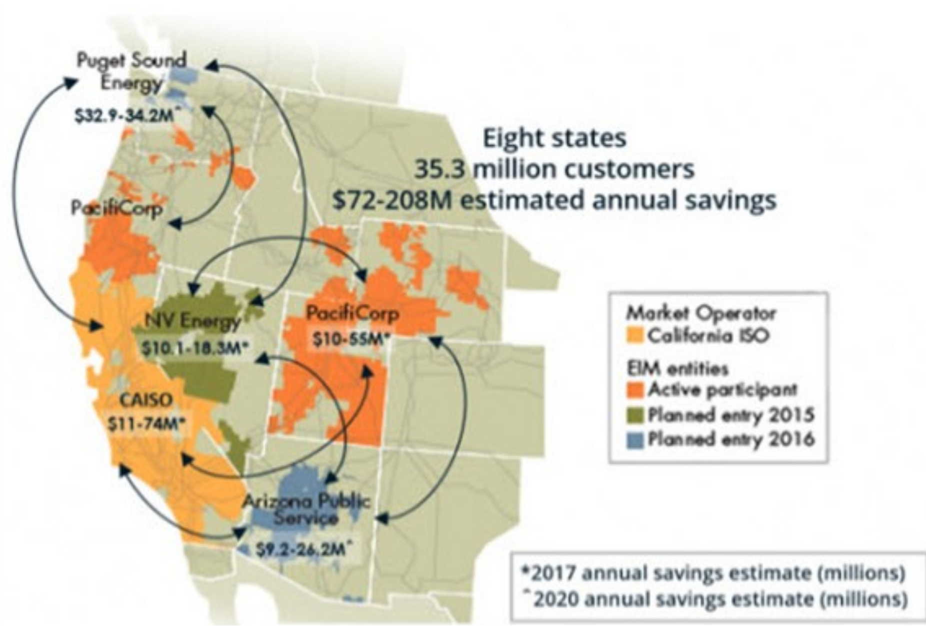
"I think there's a lot of benefits of having that visibility [into another balancing authority area] to enhance reliability," Morris said. "That's absolutely another benefit besides those coming out of the market."

Morris told the governing body that Portland General Electric is on track to join the EIM in October 2017 after completing a scheduling coordinator agreement, identifying all participating resources in its area and providing a full network model ready for CAISO integration.

Idaho Power is also on schedule for an April 2018 start-up. An implementation agreement has been approved by FERC, and the utility plans to file for approval with the Idaho Public Utilities Commission by the end of summer. The company expects to export its network model to the ISO late next month.

Circling back to the upcoming APS and PSE implementation, governing body member Valerie Fong pointed out that it will be the first in which two utilities are integrated into the EIM on the same day — and at opposite ends of the Western Interconnection.

"We're confident, but with that confidence we rely on a very robust support plan," Morris said. "We plan for the worst and expect the best."



Arizona Public Service and Puget Sound Energy are both on track to participate in the EIM on Oct. 1. | *"Energy Imbalance Market Overview," CAISO (2015)*

CAISO NEWS

CAISO Kicks off Effort to Track GHGs Under Regionalization

By Robert Mullin

The coal-fired Jim Bridger Plant in Wyoming | *PacifiCorp*

CAISO last week launched an initiative to develop a greenhouse gas accounting system suitable for an expanded ISO.

The challenge for the ISO is to strike a balance between the requirements for California's load-serving entities, which face increasingly stringent GHG emission limits under the state's cap-and-trade program, and the needs of out-of-state utilities not subject to that mandate.

CAISO is seeking to determine how it can modify its market dispatch process under a regionalized footprint to ensure that energy transactions serving load in California reflect GHG compliance costs, while at the same time allowing deliveries outside the state to exclude any emissions component.

"As the ISO explores a transition from a predominantly single-state balancing authority area to a multistate balancing authority area, the ISO will need to model and identify market flows between market nodes subject to GHG compliance and nodes that are not subject to GHG compliance," CAISO said in an issue paper.

At present, all energy serving ISO load regardless of its geographical source is subject to cap-and-trade. Internal and external generators alike embed their GHG compliance costs within their day-ahead and real-time market bids, including start-up and minimum load costs. During market runs, the ISO's market software selects from among those bids to determine the least-cost dispatch to cover all load.

In other words, the energy cost component of the market's LMP, which is the same for all nodes within the ISO, always reflects a GHG compliance cost.

Complications

While that works for a California-only market, it becomes problematic for an expanded ISO in which LSEs in other states would effectively be forced to pay a premium for compliance with rules that do not apply to them.

CAISO is seeking a way to extract the GHG compliance cost from energy bids by resources serving load outside California while retaining it for in-state loads within the state, all within a single market run.

Because California thermal generators must include a GHG cost in their bids regardless of the location of the sink, however, the only deliveries excluded from the cost will be those in which both source and sink are outside the state.

Another complication is that CAISO currently uses e-Tags to track GHG compliance obligations for energy imported into California. But as the ISO absorbs neighboring balancing authority areas, it will discontinue tagging of transfers from those areas as what were once considered imports become internal ISO transactions.

The Western Energy Imbalance Market (EIM) could provide a model for an expanded ISO, with some limitations.

Rather than embedding GHG costs within energy bids, the EIM allows a participating resource to submit a secondary "GHG adder" — in addition to the bid — to signal its willingness to deliver power into California. If the adder is set to zero, the resource's output is ineligible for delivery into the ISO but can still serve load in other balancing areas.

"The ISO designed the [EIM] so that the GHG compliance costs will not affect the price in an EIM balancing authority area when load is met from generation external to the ISO," CAISO said.

Leakage

But California's Air Resources Board (ARB), which oversees the cap-and-trade program, has expressed worry that the EIM's dispatch model is inadvertently facilitating carbon "leakage."

Leakage occurs when the emissions program logs a reduction, despite the fact that no actual decrease in atmospheric GHGs has occurred because of a secondary dispatch: The model attributes balancing energy from a low-emitting out-of-state resource to CAISO, while not accounting for the dispatch of a higher emitting resource serving external demand that would have been covered by the first resource absent the EIM. (See *CAISO, ARB to Address Imbalance Market Carbon Leakage*.)

CAISO has acknowledged ARB's concerns and is working with the agency to address the problem. The ISO also wants the board to consider the counteracting effect of atmospheric emissions reductions that occur when the EIM displaces out-of-state thermal generation with renewable exports from California, an approach that could inform GHG accounting in an expanded ISO.

The ISO's effort to address the GHG accounting is taking shape amid uncertainty about the adoption of cap-and-trade in the West at large. Any design has to be "mindful of the potential need to support multiple GHG trading programs" in the region, the ISO said.

"As more trading models are supported, the complexity will increase and transparency will decrease, which is very likely to lead to a less efficient achievement of carbon reduction goals," CAISO said, adding that it seeks input that "can foster regional cooperation."

CAISO will discuss the issue paper during a stakeholder call today. Written comments on the initiative are due by Sept. 20.

CAISO NEWS

CAISO Board OKs Grid Services Requirements for Renewables

By Robert Mullin

The San Gorgonio Pass Wind Farm in Riverside County, Calif. CAISO's Tariff changes will require new and upgraded renewable resources to be capable of providing reactive power and voltage control.

CAISO's Board of Governors last week approved proposed Tariff revisions that will require new renewable resources be capable of providing grid-stability services as a condition for interconnecting with the ISO's system.

While stakeholders largely support the amendments, some market participants contend they don't go far enough in guaranteeing adequate compensation for what has become an increasingly important service as more intermittent resources link up with the grid.

The proposed revisions follow FERC's June issuance of Order 827, which requires that all newly interconnecting non-synchronous generators have reactive power capability. Resources undergoing upgrades would also be subject to the new rules.

"We are pleased to now take this next step, in which clean power resources can contribute to the reliability of the grid," CAISO CEO Steve Berberich said in a statement. "By providing reactive power, these resources are better suited to help us integrate increasing numbers of renewable resources."

"It's really good utility practice to require all resources in the fleet to have reactive power," Keith Johnson, CAISO manager of infrastructure policy and contracts, told board members during an Aug. 31 meeting.

The ISO's Tariff changes go beyond FERC's mandate for reactive power capability by adding a provision requiring that non-synchronous resources also provide voltage regulation.

"Maintaining voltage is very important for how we operate in the West," Johnson said, explaining the ISO's rationale for the additional requirement. "The incremental cost of [automatic voltage regulation] equipment is very, very minimal."

Thermal Generators Seek Raise

Although the new requirements had broad support among stakeholders, a disagreement arose over CAISO's decision not to use this FERC filing to alter its compensation for reactive power — a move that would especially benefit thermal generators that are steadily losing market share to renewables.

Under current ISO practice, any generator that is dispatched down to provide reactive power is paid its opportunity cost for lost energy revenues. Generators want the ISO to implement a new market provision that would compensate them for the capital cost of installing reactive power equipment — effectively creating a capacity payment for providing reactive power service.

CAISO contends that generators can recover those costs through their power purchase agreements, given the West's continued reliance on bilateral contracts for the provision of capacity. Any additional market mechanism would run the risk of creating double payments for the service, Johnson said.

"Providing reactive power is a service essential to the operation of the grid," said Brian Theaker, director of market affairs at NRG Energy. "Today's disappointing decision doesn't advance that."

Theaker said that the current compensation structure does not provide "reliable signals" for generating units that require longer-term guarantees to remain financially viable.

"We feel like there's been an opportunity missed here," said Carrie Bentley, a consultant representing the Western Power Trading Forum. "The ability to provide reactive power is not free," she continued, adding that five other organized markets offer compensation for the service.

"It's not a secret that renewable power is disrupting the [capacity] and energy market — a lot of thermal generation will not be able to remain in the market," Bentley continued. "How do you provide a market signal strong enough to keep the thermal generation we need."

"The ISO did talk about compensation and looked at some of the other ISOs and RTOs across the country," Johnson responded. "When PJM or MISO was formed, there were legacy arrangements for capacity payments for reactive power. We have no such system of capacity payments — we have bilateral contracts."

Keith Casey, CAISO vice president for market and infrastructure development, said Bentley's concerns about the ISO's thermal fleet were "spot on." He pointed out that the ISO's new flexible ramping product — which compensates generators for the ability to rapidly respond to intermittent output from renewables — is one effort to reward "needed" generators.

"We just view the reactive power capability as a fundamental requirement," Casey said. "The capital cost for that capability should be addressed through bilateral contracts."

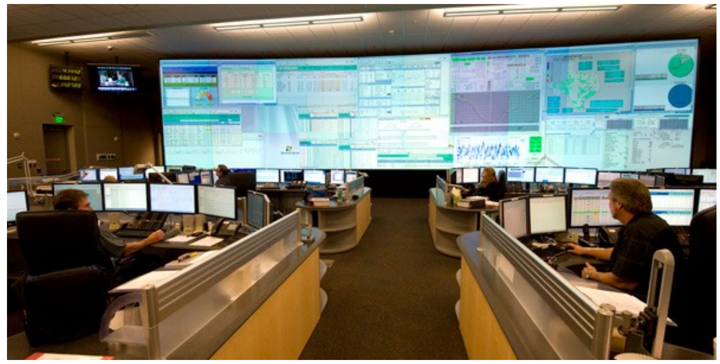
ERCOT NEWS

ERCOT Expects Adequate Generation for Fall, Winter

ERCOT's latest resource adequacy assessments indicate it has 25,000 to 30,000 MW of spare generating capacity for the fall and winter.

The Texas grid operator's final Seasonal Assessment of Resource Adequacy (SARA) for October and November includes more than 82,000 MW of capacity, more than enough to meet a projected peak demand of about 54,400 MW.

The preliminary winter SARA report is similarly rosy, with more than 81,000 MW of capacity available to meet a forecasted record peak demand just under 59,000 MW. The winter demand record of 57,265 MW was set during February 2011's record cold.



ERCOT control room | *ERCOT*

ERCOT, which operates 90% of the Texas grid, said four gas-fired combustion turbine units and three wind projects have begun operating since its preliminary fall SARA, adding nearly 900 MW of capacity. Three of the gas units are switchable resources and can connect to either ERCOT's or SPP's grids. The fall forecast assumes 13,700 to 19,000 MW of planned and unplanned outages.

Another 1,200 MW of new winter-rated capacity is expected to be in service for the winter season (December-February). The final winter SARA report will be released in November.

— Tom Kleckner

ISO-NE NEWS

Q&A: NEPOOL Chair on Redesigning Market Rules for Low-Carbon Future

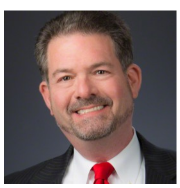
By William Opalka

The New England Power Pool (NEPOOL) is considering redesigning its market rules to align them with the region's efforts to reduce carbon emissions from the generation sector.

The first of six scheduled stakeholder meetings on the Integrating Markets and Public Policy (IMAPP) process was held Aug. 11.

The goal is to provide guidance to ISO-NE on how wholesale markets could be adapted to meet the public policy goals of the New England states. The group hopes to complete its work by the RTO's annual meeting Dec. 2 with market rule changes filed with FERC beginning next year.

NEPOOL, created in 1971, has more than 440 members (with about 260 voting members), including utilities, independent power producers, marketers, load aggregators, end users and demand response providers.


Gordon

RTO Insider recently spoke to its chairman, Joel S. Gordon, whose day job is director of market policy at Public Service Enterprise Group's PSEG Power Connecticut unit. The interview has been edited for clarity.

New England has usually had an active public policy agenda related to energy, but this is a rather different way to approach this topic. So, why now?

"If you look at the New England states, there has been a rather large consensus that the environmental objectives that the individual states have are all heading in the same direction. The states have different means to achieve them, but they are all part of the Regional Greenhouse Gas Initiative, and some of them have even more aggressive targets than RGGI.

"They have outlined means to achieve [decarbonization] through mandates for aggressive carbon reduction and renewable energy goals, so in order to meet those targets that have been legislatively mandated, they needed to take some actions that are outside of the market.

"Right now, the markets, as we've designed them, are not designed to drive the [decarbonization] of the generation fleet. It is designed to find the most efficient set of resources and to meet a reliability need, which has been the mission of NEPOOL and ISO-NE throughout the entirety of their existence.

"The recognition of our members has been that over the last couple of years, as we've seen more programs come out of the states, we've recognized that the markets were not really not going to give them what they needed, so the states took these out-of-market actions. [IMAPP] is a recognition that the states have legitimate public policy goals, so the markets should be designed to help achieve those public policy goals."

RGGI State	2030 Economy-Wide GHG Target	2050 Economy-Wide GHG Target
Connecticut	35-45% below 1990	80% below 2001
Delaware	30% below 2008	-
Maine	35-45% below 1990	75-85% below 2003
Maryland	40% below 2006	90% below 2006
Massachusetts	35-45% below 1990	80% below 1990
New Hampshire	35-45% below 1990	80% below 1990
New York	40% below 1990	80% below 1990
Rhode Island	35-45% below 1990	75-85% below 2002
Vermont	35-45% below 1990	75% below 1990

RGGI state decarbonization commitments | *RGGI*

The state RFPs and the Massachusetts legislation mandating hydropower and offshore wind are examples of these out-of-market actions. [See New England States Combine on Clean Energy Procurement; Massachusetts Bill Boosts Offshore Wind, Canadian Hydro.]

"From the states' perspective, the markets weren't moving fast enough to get them where they needed to be and that's where these big RFPs come from, and the Massachusetts legislation. Our goal at NEPOOL and for the region is to create a competitive market signal to get the states what they need so they don't have to act on their own. If we're successful, the markets on their own will find the most cost-effective means in meeting those state objectives."

In remarks to stakeholders, you said, "No other RTO has done this before." Are you optimistic that you can meet these challenges, or is it a bit frightening that New England is out there a bit alone, perhaps the first region trying to integrate markets to this extent with public policy?

"I'm incredibly optimistic that we can find solutions to the problems that we face, the challenges before us. That's what NEPOOL is really good at as a stakeholder organization. We have six different governing sections that look at our industry from all different perspectives. This is what the IMAPP initiative is, reaching out to the members as they try to find solutions to the challenges.

"I'm also optimistic that the states have encouraged us to do this. They recognized that in [the multistate requests for clean energy] that there's potential in what the markets have developed. But recognizing they have objectives mandated in their legislation, we can provide a pathway to achieving their objectives using the discipline of competitive markets."

You seem to have a pretty aggressive schedule in what seems to be a large task ahead of you. Are you confident you will have a consensus document to present to ISO-NE in December?

"The process that we've set up [six meetings over four months] *is* an aggressive schedule. But it's also important that we put ourselves in that schedule so when we start out in 2017, that we'll be in a position to respond to the mandates that are out there legislatively. They have carbon reduction goals, so we have to start the process sooner, rather than later, to go to a market-based solution. It also provides the states with an opportunity to see what NEPOOL is doing. They may see there is less pressure for them to act if they see what we're doing. Really, it's our first step. I think we'll be able to get to a high-level framework document by December.

"We hopefully will have a framework for a suite of solutions that would achieve a set of objectives, then we would get into the traditional NEPOOL process that works with ISO-NE and begins to analyze how it

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ISO-NE NEWS

FERC Rejects Capacity Release Exemption for NE Gas Generators

By William Opalka

FERC on Wednesday rejected Algonquin Gas Transmission's request to exempt gas-fired generators from competitive bidding under capacity release rules, another blow to those seeking to increase New England's gas infrastructure (RP16-618).

The proposal to amend Algonquin's tariff was an offshoot of the company's proposed Access Northeast pipeline. Electric distribution companies Eversource Energy and National Grid — which are partnering with Algonquin on the pipeline — sought the exemption to ensure the capacity they purchased would be used to fuel gas-fired generators.

The EDCs hoped to release capacity to gas generators as prearranged "replacement" shippers. FERC rules allow such preferences as long as the replacement shipper matches the highest bid submitted by any other bidder. The proposal would have limited that bidding to gas-fired generators, excluding those who might value the fuel more for winter heating.

FERC held a technical conference on the matter in the spring. (See *Utilities Seek OK for Gas Releases to Generators at Technical Conference*.)

The proposal was opposed by numerous merchant generators, including NextEra Energy, Exelon and Calpine, which said they had found cheaper alternatives to ensure fuel supplies under ISO-NE's Pay-for-Performance capacity incentives, including installation of dual-fuel capacity and contracts with natural gas marketers and LNG suppliers.

"Merchant generators are not asking you for this capacity, and you need to ask yourself why," Calpine told FERC. The company estimated firm capacity would cost it $25 million annually, or half a billion dollars over a 20-year commitment. It said it could guarantee the same level of service by investing $50 million in a fuel oil tank.

Other opponents argued that the proposal was premature because no state had approved a state-regulated electric reliability program.

"Neither Eversource nor National Grid provided a persuasive explanation for why the ability to release capacity to a prearranged replacement shipper under our existing regulations is not sufficient to meet their needs," FERC ruled. "Moreover, neither party sufficiently explained why a generator that needed the capacity to obtain the natural gas supplies necessary to generate electricity during a period when Algonquin's capacity is constrained would not match a higher bid."

However, the commission said its ruling was "without prejudice to Algonquin developing other more targeted, justified proposals for consideration."

The commission also granted Algonquin's request to exempt from bidding an EDC's capacity release to third parties managing capacity on an EDC's behalf.

"By permitting capacity holders to use third-party experts to manage their natural gas supply arrangements and their pipeline capacity, [asset management arrangements] provide for lower gas supply costs and more efficient use of the pipeline grid," the commission said. A compliance filing on this proposal is due in 30 days.

Access Northeast suffered a setback in August when the Massachusetts Supreme Judicial Court overruled state regulators' order to allow construction costs be assessed to electricity ratepayers. Soon after the ruling, the EDCs withdrew their proposed contracts that were pending before the Massachusetts Department of Public Utilities. (See *Eversource, National Grid Withdraw Requests to Bill for Pipeline*.)

Access Northeast Complaint Dismissed

In a related case, FERC dismissed a complaint filed by electric generators seeking to block EDC contracts with pipeline owners as premature (EL16-93).

Public Service Enterprise Group and NextEra said the contracts would render the power markets discriminatory and suppress power prices. (See *Generation Owners Seek to Block EDC-Pipeline Deals*.)

"The circumstances giving rise to the complaint are in a state of flux and the commission does not have before it the concrete facts necessary to determine whether the tariff will be unjust and unreasonable. Several critical project elements of the individual states' electric reliability programs are undetermined at this time," FERC wrote.

The commission cited the Massachusetts court ruling, its concurrent order on capacity releases and its pending ruling on Access Northeast, which is expected in the fourth quarter.

Q&A: NEPOOL Chair on Redesigning Market Rules for Low-Carbon Future

Continued from page 9

would work with the market rules. Then we would begin to work that into the Tariff revisions that would implement it."

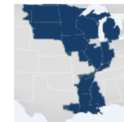
Do you see this process being informative for other RTOs, or do you see New England's situation as unique?

"We are looking to the other regions as well to understand other concepts that are out there that may help to achieve our goals, which are somewhat unique to New England. We see some of this discussion in PJM in their Grid 20/20 process. [See *PJM's Grid 20/20 Ponders Mixing Public Policy, Competitive Markets*.] But integrating public policy is not part of their mandate. In New England, we are fortunate in there are six states and they're pretty much aligned, as opposed to [PJM's] 13 states [which are not]."

Would it lead to inefficient market outcomes if rules that go into effect 10 years from now run counter to commitments that states make now through long-term power purchase agreements?

"Timing is going to be a challenge, there's no question. We've talked about two timelines that we need to deal with [10-year goals and 30-year goals for emission reductions.] ... I think we're going to have to work on integrating the short-term and the long-term. I'm not sure how that happens. That's one of the things that this process is going to have to deal with."

MISO NEWS



MISO Sees Nov. 1 Filing on Forward Auction; Simulation Shows Price Disparities

By Amanda Durish Cook

MISO officials said last week they are still finalizing their forward auction proposal for competitive areas, but the changes won't be significant and won't affect a late fall FERC filing. Meanwhile, simulations including the new proposal suggested it could result in large price disparities.

Jeff Bladen, executive director of market services, said MISO is now targeting a Nov. 1 filing, with implementation in the 2018/19 planning year. The RTO plans to release another version of draft Tariff language at a Sept. 19 Resource Adequacy Subcommittee meeting and collect stakeholder feedback by the Oct. 6 RASC meeting. The Brattle Group will also present more forward auction findings at the September meeting. (See *MISO Delays Forward Auction Filing; Issues Draft Tariff and Business Rules*.)

"At this point, we're not anticipating any meaningful changes," Bladen said at a two-day RASC meeting last week.

Bladen said MISO is still working on a materiality clause to determine which retail choice load participates in the forward auction in Michigan and Wisconsin, where the zonal boundaries straddle state lines.

The RTO also is considering changes to its cap on the safe harbor provision that excuses supply from having to offer capacity.

The current cap is based on historical planning reserve margin requirements (PRMR) and an "open-ended" exception process. MISO is considering a cap based on projected PRMR and a "prescriptive" exception process, and one based on projected PRMR plus additional prescriptive adjustments with no exception process.

Based on stakeholder feedback, MISO is reworking transmission modeling compatibility between the forward and prompt Planning Resource Auction and a simultaneous feasibility test, which judges the system's ability to handle all megawatts of capacity dispatched during a maximum generation event. Bladen said MISO is still refining a possible congestion charge to remedy infeasible capacity delivery through cost allocation.

"We want to make sure that anything that clears in the FRA [Forward Resource Auction] will be feasible with the rest of the footprint," Bladen said.

	Forward Resource Auction	Planned Resource Auction		
	Zone 4, Zone 7 (part)	South	Zone 1	North (excluding Zone 1)
Simulation 1	$110.00	$1.99	$1.00	$222.00
Simulation 2	$210.00	$2.99	$5.00	$5.00

Simulated MISO capacity clearing prices ($/MW-day) | *Indianapolis Power and Light*

Finally, the RTO is mulling over which demand curve shape to pursue. (See *MISO Backs Forward Auction Plan, Rejects Prompt Proposal*.)

Split with Market Monitor

Mark Volpe, senior director of regulatory affairs for Dynegy, asked if MISO is still working with Independent Market Monitor David Patton on his concerns over price formation.

"We speak with the Market Monitor on a regular basis. While we continue to have a difference of view, we are open to his advice and feedback on how and when to improve the FRA, [but] the price formation concerns that he's raised are not what we're seeing," Bladen said. "I think the nature of his role as an adviser is not in question. But at this point, we have a difference of view in what the data shows, and that's not uncommon with topics like this."

When pressed by stakeholders on how much of the Monitor's advice would be incorporated, Bladen became less conciliatory, suggesting the RTO would rely on Brattle's suggestions. "There's nothing [in the Tariff] to suggest that Potomac Economics is the sole [adviser] for MISO," he said. "And FERC is the ultimate arbiter."

RASC Chair Gary Mathis asked if MISO could leave certain details out of the filing to work out later. Bladen said he expected the filing to include all relevant details.

"Like most FERC filings, everything is up for grabs once FERC gets its hands on it," Bladen added.

Michael Chiasson of Potomac Economics asked if MISO would leave any details out of the filing in favor of providing a reference to the accompanying Business Practices Manual. Bladen said MISO would not.

MISO-IPL Analysis Produces Disparities

MISO also collaborated with Indianapolis Power and Light on a forward auction pricing analysis, which used results from last year's Planning Resource Auction in a forward auction and PRA simulation.

The two simulations yielded disparate results. A first simulation that used a sloped demand curve produced clearing prices of $1.99/MW-day for MISO South, $1/MW-day for Zone 1 and $222/MW-day for the remainder of MISO North in the prompt auction, and $110/MW-day in the forward auction, which will be limited to retail choice areas. IPL said the PRA demand curve moved to the right during its simulation, noting "cleared FRA resources offered at zero … in the PRA are not a direct offset to the shift in demand curve."

On a second simulation using a demand curve shaped closer to what Brattle used in its analysis, IPL results produced $210.10/MW-day in the forward auction, and a $2.99/MW-day clearing price in MISO South and a $5/MW-day clearing price in MISO North. (See chart.)

IPL analyst Ted Leffler said the outcomes of the auction are "in line with expectations" even though the forward clearing prices were disproportionately higher than PRA prices.

"Should we be concerned that we're going to be introducing more volatility? I don't know. It's something we need to think about," Leffler said.

Leffler said IPL used the Zone 4 PRMR as a representation for all competitive zones and didn't change any offers or capacity import or export limits. The analyses only used the most expensive offers in Zones 1, 2, 8 and 10. For the second analysis, he said, IPL assumed just 78% of Zone 4's resources were offered in the forward auction, as that was the percentage considered competitive.

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MISO NEWS

MISO Sees Nov. 1 Filing on Forward Auction; Simulation Shows Price Disparities

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Leffler also said the simulations' use of 2015 PRA results was "imperfect" because it was a "sold-out" auction, with all supply megawatts clearing except for some in Zones 4 and 7.

Count External Resources Toward Clearing Requirement?

While a seasonal and locational auction filing is also on hold until the 2018/19 planning year, MISO said it could consider implementing pieces of the locational construct in the 2017/18 planning year. Namely, said Executive Director of Resource Adequacy Renuka Chatterjee, MISO could apply external resources toward local clearing requirements in next year's auction if the RTO can file with FERC and get approval in time.

South-North Limit

Meanwhile, MISO continues to solicit stakeholder opinion on whether the 876-MW South-North transfer limit should be adjusted in planning for next year's auction. (See "South-North Transfer Limit in 17/18: Higher or Lower? Firm or Non-Firm?" MISO Resource Adequacy Subcommittee Briefs.)

The RTO brought six days' worth of 2016 summer data to the RASC to illustrate peak usage on the sub-regional transfer. The data showed North-South flow averaging 2,446 MW on June 17 (with a peak of 2,840 MW) when a maximum generation alert was issued in MISO South, and an average 1,618-MW South-North flow (peak 2,225 MW) on July 22 when Midwest load peaked at 88 GW.

Volpe said the results show that MISO should continue to be "somewhat conservative" for constraints on real-time flows between the regions. Dynegy, which independently examined flows during two peak summer days this year, concluded MISO should continue to subtract firm reservations from the 2,500-MW South-North limit.

Other stakeholders agreed, saying MISO should account for all firm reservations across the interface, as only non-firm reservations could be guaranteed after all firm flows were granted, even if the firm flows weren't in use.

MISO said of the 10 respondents that provided feedback on the regional transfer limit, seven supported using the maximum 2,500-MW limit as a starting point. Two others opted for a 1,000-MW starting limit. The final stakeholder to provide comment asked for a study of firm-flow reservations before a decision is made.

The RTO is expected to present a draft proposal on the 2017/18 sub-regional limit at the Oct. 5 RASC meeting.

MISO NEWS

Resource Adequacy Subcommittee Briefs

Capacity from Storage is Behind-the-Meter — for Now

All storage resources wanting to qualify as capacity should register as behind-the-meter for the 2017/18 planning year, MISO said at last week's two-day Resource Adequacy Subcommittee meeting.

Manager of Resource Adequacy John Harmon said the requirement is a way to accredit storage resources using MISO's existing framework for load-modifying resources while the RTO develops more comprehensive definitions for storage.

MISO said it is attempting to "clarify the framework" for allowing storage that can provide four hours of continuous energy to offer capacity while also participating as Stored Energy Resource (SER) in the regulation market.

Harmon said more discussion is needed for qualifying storage resources that do not wish to be classified as behind-the-meter. MISO also has yet to develop procedures to support sustained power from storage resources, Harmon said.

"We worked through that [research and development] process and found it would not be feasible for registration in time for the 2017/18 planning year," Harmon said.

In preparation for next year's auction, MISO is proposing to certify the capability of storage as capacity based on data from the Generating Availability Data System. Class or fleet averages will be used for storage with less than 12 months of GADS data.

The RTO is asking stakeholders this week for input on incorporating storage using the existing qualification process.

Kent Feliks, manager of regulatory and RTO policy at American Electric Power, asked how many storage resources are going to be able to register as capacity in the near future.

"It's pretty small. It's probably less than 100 MW, and that's being generous," Harmon said.

Consumers Energy's Jeff Beattie asked how many megawatts of storage are currently in the interconnection queue.

"I can't answer that, but I do hear interest from individual market participants. From what I see, we're at the early stages. That's why we have rules dealing in the short term and are talking about developing solutions to get ahead of this as much as we can," Harmon said.

RASC to Take Up Gas-Electric Coordination

Renuka Chatterjee, MISO executive director of resource adequacy and transmission access planning, told the RASC to send ideas and comments on a plan to improve gas-electric coordination.

Chatterjee also said the RASC would probably take over management of MISO's winter fuel survey, which was previously handled by the now-closed Electric and Natural Gas Coordination Task Force.

— Amanda Durish Cook

Market Subcommittee Briefs

3rd Run for Energy Offer Cap Interim Solution

MISO plans to file a waiver with FERC on its winter energy offer cap policy while it waits for the commission to work out whether a soft cap will replace the current $1,000/MWh hard cap, RTO officials told the Market Subcommittee last week.

The waiver, to be filed Sept. 30, is the same approach used in the last two winters since natural gas prices spiked and drove energy offers above the cap during the polar vortex in early 2014. Cost-based offers above $1,000/MWh will be verified by MISO's Independent Market Monitor, and the costs above the cap can be recovered via the RTO's Revenue Sufficient Guarantee payments.

Chuck Hansen, of MISO's market evaluation design group, said it was unlikely that offers would climb above $1,000/MWh from Dec. 1 to April 30, the length of MISO's requested waiver. "Given the current low prices and the improved understanding of gas and electric coordination, it seems remote that offers will exceed the cap this winter," he said.

MISO said it continues to wait on FERC before filing revised Tariff language and new Business Practices Manuals. "Until that point, we'll just repeat the approach we've used over the last two winters," Hansen said. Last year, MISO said it would have a permanent offer cap solution worked out in time for the 2016/17 season. (See *MISO: No Change to Energy Offer Cap this Winter*.)

In January, the commission proposed that offers in all RTOs be capped at the higher of $1,000/MWh or an RTO-verified cost-based offer. (See *FERC Proposes Uniform Offer Cap Across All RTOs*.)

MISO Developing Make-Whole Payments for Pseudo-Tie Units

John Weissenborn, MISO's director of market services, said the RTO is seeking to develop a market mechanism to make pseudo-tie units whole when they contribute to local reliability needs.

"We'll start investigating approaches for compensation and cost allocations for commitments of certain pseudo-tie units," Weissenborn said.

Weissenborn said MISO doesn't have any provisions in its Tariff to determine appropriate compensation of make-whole payments to pseudo-tie units. "So we really need to think about an appropriate level of compensation for the commitment," he told stakeholders.

MISO says offline pseudo-ties can be used to relieve congestion, particularly at market-to-market coordinated flowgates. MISO's research will include commitments outside of market-to-market congestion, Weissenborn said.

"We haven't really faced this issue to date, but it's a possibility and something we need to look at," Weissenborn said.

MISO is in preliminary discussions with PJM on how to coordinate the effort. Weissenborn said he would return later in the year to the Market Subcommittee with a draft approach.

American Electric Power's Kent Feliks said the issue would open up "a very large can of worms" and asked if there would be cost responsibilities when pseudo-tie units don't meet commitments. Weissenborn responded that MISO would have to further define the issue before drafting a mechanism.

— Amanda Durish Cook

NYISO NEWS

CES Under Attack on Multiple Fronts in Rehearing Requests

Continued from page 1

solely to the benefit of nuclear operator(s) is in the public interest and consistent with existing statute and policy," the coalition wrote.

Canadian Hydro's Complaint

Canadian hydropower developer HQ Energy Services said additional resources from Quebec would not be credited for their environmental attributes. "For reasons unexplained, the CES order excludes significant amounts of hydroelectric power, including incremental hydroelectric power relying on new storage impoundment, from inclusion in the CES Tier 1 solicitation and REC process," it wrote.

Tier 1 establishes the obligation of load-serving entities to invest in new renewable energy resources with an in-service date of Jan. 1, 2015, or later.

Tier 2 in the order is limited to run-of-river hydroelectric facilities of 5 MW or less, wind farms and biomass direct combustion plants that were operating before Jan. 1, 2003.

PSC staff had advocated splitting legacy renewables into two groups: Tier 2a for those resources able to sell their attributes in other states; and Tier 2b, for those unable to sell attributes because of their age or other restrictions imposed by neighboring states.

The order said splitting the "maintenance tier" for existing renewable energy resources was premature. Facilities eligible for these payments would have to demonstrate they would likely close because of their unprofitability without additional support from the state.

Nonprofit renewable energy advocate RENEW Northeast, biomass plant owner ReEnergy Holdings, Alliance for Clean Energy New York, Brookfield Renewable and the Independent Power Producers of New York all said the revision is discriminatory and that New York would likely lose the environmental benefits to other states.

"It is very possible that New York will have to replace the clean attributes of existing facilities that are sold in Massachusetts with clean attributes from new facilities at a higher cost to meet the 50-by-30 goal," IPPNY wrote. (See *Massachusetts Bill Boosts Offshore Wind, Canadian Hydro*.)

Likewise, Transmission Developers Inc. seeks rehearing because of this "change in circumstances" since the order was adopted. "Such an initiative by a neighboring state very well could have the effect of siphoning off a significant portion of the renewable energy supply that would otherwise be available to New York state," it wrote.

Procedural Complaint

The Public Utility Law Project alleged the compressed schedule under which the PSC considered ZECs violated the State Administrative Procedure Act (SAPA). The group contends the law requires 45 days for public comment instead of the 10 that the PSC allowed after the staff proposal that included ZECs was released in early July.

"Nowhere in SAPA, however, is there authorization for 'add-on' rules or rules resulting from the 'logical outgrowth' of the process since the issuance of a prior notice that did not cover the changes contemplated," PULP wrote.

Last month, small hydropower owner Ampersand Hydro filed a complaint with the PSC, seeking inclusion in the ZEC tier as a non-emitting resource. (See *Hydro Owner Wants in on New York Nuke Subsidy*.) A similar request was made last week by Energy Ottawa.

Exelon also sought clarification to protect ZEC payments to its R.E. Ginna and Nine Mile Point nuclear plants in the event its proposed acquisition of the FitzPatrick plant falls through. (See *FitzPatrick Sale Filed with New York Regulators*.)

PJM NEWS

Monitor OKs PJM Auction; Says Problems Remain Despite CP

By Rich Heidorn Jr.

PJM's Independent Market Monitor last week gave his blessing to the RTO's Base Residual Auction for delivery year 2019/20 but called for additional rule changes to build on the tougher standards of Capacity Performance.

The Monitor's report on the May auction concluded that the results "were competitive, with the caveat that although the Capacity Performance design addressed the most significant issues with the capacity market design, the Capacity Performance design was not fully implemented in the 2019/2020 BRA and there continue to be issues with the capacity market design which have significant consequences for market outcomes."

PJM will require all capacity to meet CP standards starting with the 2020/21 delivery year.

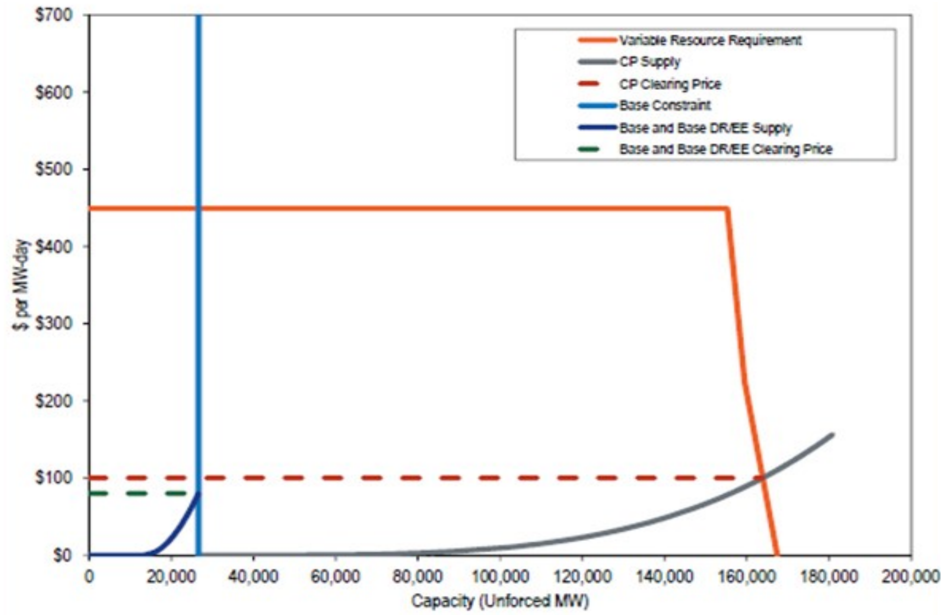
The Monitor called for additional changes concerning the treatment of pseudo-tied generation, demand response and energy efficiency; the calculation of net revenues; and the application of the minimum offer price rule (MOPR).

The Monitor also acknowledged that its call for using the lower of the cost- or price-based offer in the calculation of net revenues was rejected by FERC in June (EL14-94-001, ER16-1291). (See "FERC Won't Revisit Cost-Based Energy Offer Cap Ruling," *PJM News Briefs from FERC Open Meeting*.)

But he said the FERC-approved approach used in the May auction, which always uses the cost-based offer, "resulted in an increase of [$43.4 million], or 0.6%, in the cost of capacity in the 2019/20 BRA."

In addition, the Monitor recommended:

- All costs incurred as a result of a pseudo-tied generator be borne by the unit and included in its capacity market offers.
- The "electrical proximity" of pseudo-tied resources be "explicitly accounted for" when defining how external resources should be treated during performance assessment hours.
- Enforcing "a consistent definition" of capacity resource as a physical resource at the time of the auctions — with a commitment to be physical in the delivery year and moving all DR to the demand side of the market. The Monitor referenced its 2013 report on replacement capacity, in which it warned that "speculative" DR can suppress prices in the BRA and displace physical generation: "Under the current application of the rules, DR providers may not have identified customers, may not have clear plans for implementing DR measures and may not receive commitments from new customers until relatively close to the delivery year and well after the RPM BRA is run for that delivery year. This is not consistent with the rules."
- Ensuring the net revenue calculation used to establish the net cost of new entry "reflect the actual flexibility of units in responding to price signals rather than using assumed fixed operating blocks that are not a result of actual unit limitations." Reflecting actual flexibility will result in higher net revenues, which affect the demand curve and market outcomes, the Monitor said.
- Eliminating the rule requiring that small proposed increases in the capability of a generator be treated as planned for purposes of mitigation and exempted from offer capping.
- Changing the MOPR review to require all projects use the same modeling assumptions. "That is the only way to ensure that projects compete on the basis of actual costs rather than on the basis of modeling assumptions," the Monitor said.
- Extending the MOPR to existing units in addition to new units.
- Re-evaluating the market mitigation exemption granted DR and energy efficiency resources in 2009. "In 2009, there was one product defined for capacity, and there were no resource constraints defined," the Monitor said. "Particularly in [locational deliverability areas] with few suppliers, there is now the potential for DR and EE providers to exercise market power and affect the clearing price."
- Changing the RPM solution methodology to explicitly incorporate the cost of make-whole payments in the objective function.
- Removing energy efficiency resources from the supply side of the capacity market to reflect the change in PJM's load forecasts. (See *Changes to PJM Load Forecast Cuts Benchmark Peaks*.) "If EE is not included on the supply side, there is no reason to have an add-back mechanism," the Monitor said. "If EE remains on the supply side, the implementation of the EE add-back mechanism should be modified to ensure that market clearing prices are not affected."



PJM supply and demand curves, 2019/20 Base Residual Auction | *Monitoring Analytics*

PJM NEWS

PJM: Regional Plan Cuts Costs, but Gas Prices are Wild Card for CPP Compliance

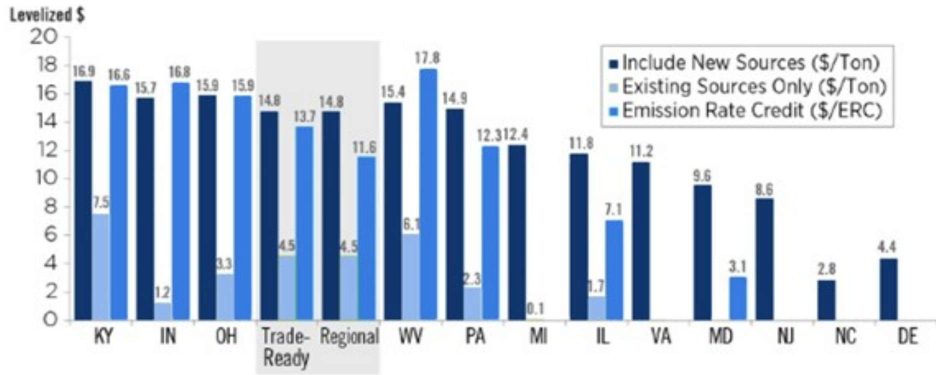
Continued from page 1

emissions reductions simply through the replacement of coal plants with new combined cycle generators. However, compliance costs could more than triple if states decide to meet their CPP targets individually while also regulating emissions from new sources, the RTO's analysis concludes.

Issued by EPA in August 2015, the CPP requires PJM's states to reduce carbon dioxide emissions by 36% from 2005 levels by the year 2030. The analysis, requested by the Organization of PJM States Inc., compared seven compliance "pathways" employing mass- and rate-based trading at regional or state levels. Rate-based plans would mandate that generators meet a pounds-per-megawatt-hour target, while mass-based plans cap state emissions in tons per year.

PJM also looked at several sensitivities, including the impact of retirements on resource owners' exit decisions based on five- and 20-year horizons. Also modeled were the impact of lower natural gas prices, a multistate split of rate- and mass-based compliance within the PJM region and state renewable portfolio standards.

Regardless of the pathway used, the CPP would not have a substantial impact on resource adequacy as "the capacity and energy markets [will be] able to attract sufficient new investment to satisfy PJM's reliability requirements," the RTO said.



Levelized CO_2 prices in mass– and rate-based markets | *PJM*

Regional Compliance Reduces Costs

The analysis found that levelized compliance costs would range from $0.61/MWh (1.1% of the average total wholesale cost) for regional plans and $1.93/MWh (3.3%) for individual state plans that include regulation of both new and existing sources.

"The cost of compliance for the entire PJM region differs according to the compliance pathway chosen, but regional compliance leads to lower costs than does individual state compliance under both mass-based and rate-based compliance pathways," the report said.

Regional compliance would result in fewer coal generator retirements and less new combined cycle gas plants than individual state compliance "due to the greater flexibility and options for emissions reductions offered across the entire PJM region," the study said.

As a reference case, PJM also ran a simulation in which the CPP, which has been stayed by the U.S. Supreme Court pending legal challenges by numerous states, is not implemented. The simulations begin in 2018, the latest that compliance plans can be submitted if the rule survives.

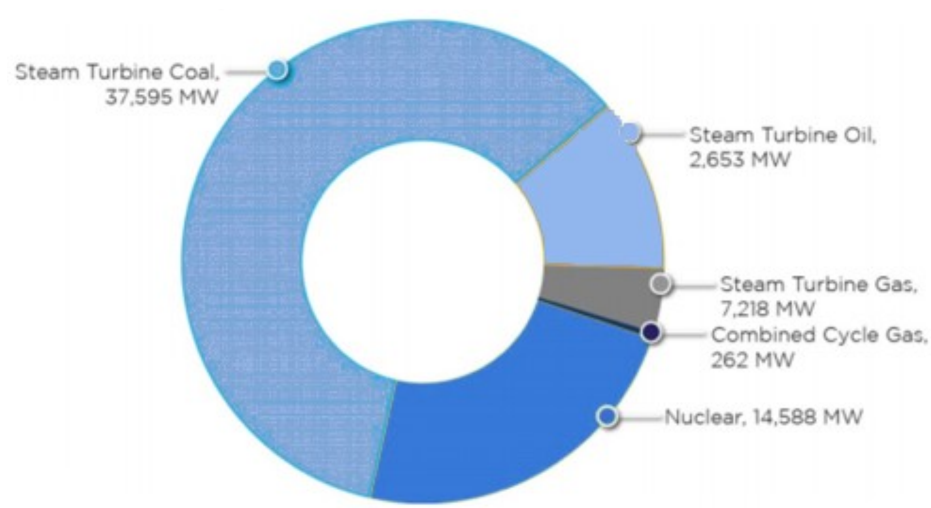
Impact of Gas Prices

The study found that continued low natural gas prices — assuming they remain in the $3 to $4/MMBtu range (in 2018 dollars) over the 20-year study period — "has a greater effect on emissions levels, the retirement of fossil steam resources and new entry of natural gas combined cycle resources than even the most stringent of the studied compliance pathways that also regulate the CO_2 emissions of new natural gas combined cycle resources."

"Because of accelerated [coal] retirements, there would be no cost to achieve compliance, and the resulting emissions would be below the final Clean Power Plan targets, even without the Clean Power Plan," PJM said.

Challenges for Nuclear, Boon for Renewables

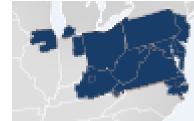
Compared to the reference and mass-based options, PJM found that rate-based compliance would create lower energy market prices because subsidies for renewable resources would allow them to submit offers below production costs. This would increase capacity prices, however, as



Steam turbine and nuclear units age 40+, combined cycle units 30+ (as of 2018) | *PJM*

Continued on page 17

PJM News



PJM: Regional Plan Cuts Costs, but Gas Prices are Wild Card for CPP Compliance

Continued from page 16

resources seek to replace lost energy revenue.

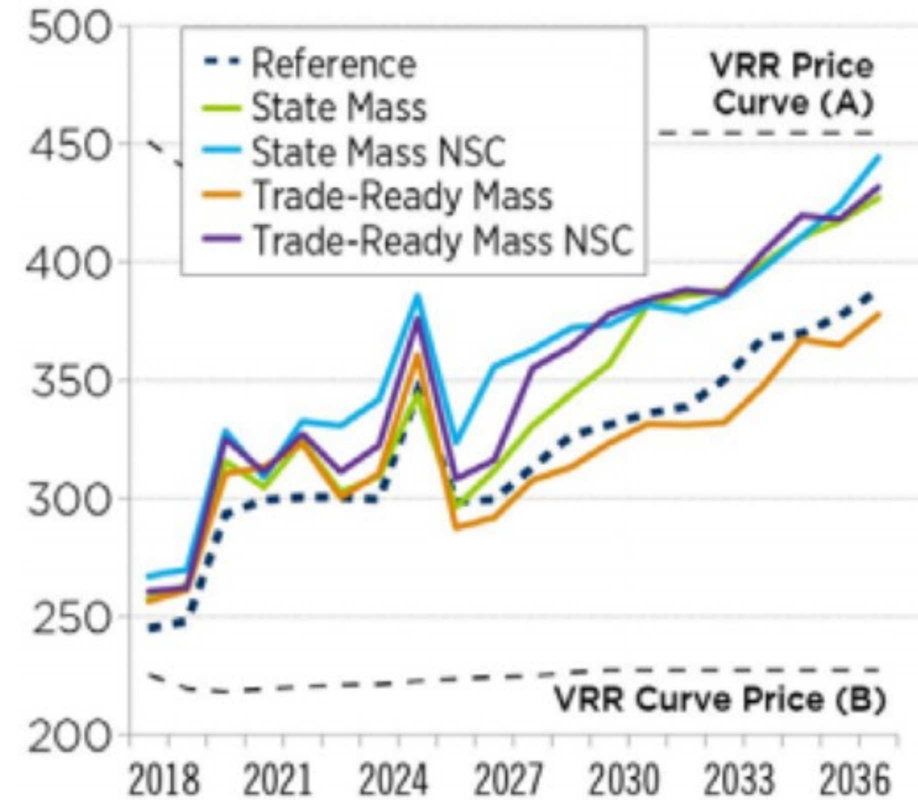
This would drive growth in renewables — which would earn more revenue from emissions rate credits than from the increase in energy market revenues under mass-based compliance — but "results in increased economic challenges for existing nuclear resources," PJM said.

Mass-based plans, on the other hand, would increase energy market prices by adding costs for allowances. They would allow low-emission resources to depend less on non-market revenue and provide no incentive to price generation below cost. They would also make nuclear facilities more viable by pricing their low-emissions status.

The analysis also evaluated the impact of different time horizons on the nuclear and coal fleets.

If generation owners make retirement decisions based on a five-year horizon from 2018 through 2022 before initial compliance targets take effect, the study predicted up to 6 GW of nuclear retirements (in addition to the already-announced decommissioning of the Oyster Creek nuclear plant) and less than 1 GW of incremental coal-fired retirements. Gas prices would drive the reductions in the short run, but the study found nuclear plants become viable again in 2026 under CPP.

"What the analysis shows is that over a 20-year horizon, the existing nuclear fleet can become economic, but in this near term, they face a lot of stress given the low gas prices and current market prices," PJM's Muhsin Abdur-Rahman said during a media briefing on the report Thursday.



Capacity prices under mass-based compliance ($/MW-day) | *PJM*

The analysis found congestion will decline by 2025 under every compliance pathway compared to the reference scenario. Congestion related to historical west-to-east flows drops because of coal retirements in western PJM, although it is accompanied by more localized congestion.

"A lower natural gas price forecast ... has a greater effect on emissions levels, the retirement of fossil steam resources and new entry of natural gas combined cycle resources than even the most stringent of the studied compliance pathways ... ."

PJM

Energy Efficiency

Rate-based plans would also require precise measurement and verification of energy efficiency to earn emission rate credits. A sensitivity that assumed states can convert only 50% of energy efficiency included in load forecasts into credits resulted in cost increases that were more than double the cost of trade-ready mass-based compliance, although still less than $1.50/MWh.

SPP News

New SPP Task Forces Looking at the Future — and Past

By Tom Kleckner

IRVING, Texas — SPP's two newest stakeholder groups are taking a look at the future, while also stepping almost a decade into the past to resolve the sticky issue of Tariff Attachment Z2.

The Z2 Task Force last week began its work overseeing waiver requests from entities billed for sponsored transmission upgrades dating back to 2008. Meanwhile, at Gulf Coast Power Association's third annual SPP Regional Conference last week, Strategic Planning Committee Chairman Mike Wise said that his committee has formally launched the Export Pricing Task Force, which will study how SPP can maximize its ample renewable resources.

The latter group's charter charges it with evaluating "mechanisms to establish equitable and not unduly discriminatory prices for exports and imports of electricity." SPP has more than 22,000 MW of renewable resources in its interconnection queue, a luxury considering the RTO's low load growth and ample reserve margins — but a tantalizing energy source for other markets.

"The question is, how do you get this renewable energy outside SPP to those areas that really need it, and how do you price for it?" said Wise, senior vice president of commercial operations and transmission for Golden Spread Electric Cooperative. "The majority of transmission for the good of the load in the footprint has been approved for building or is in construction right now."

To illustrate his point, Wise said he compared the population growth over the past 25 years in SPP's 10 largest cities with that of the Dallas-Fort Worth area. He said SPP's cities have grown by 2.2 million, while the DFW area has added 3.3 million new residents during that same time.

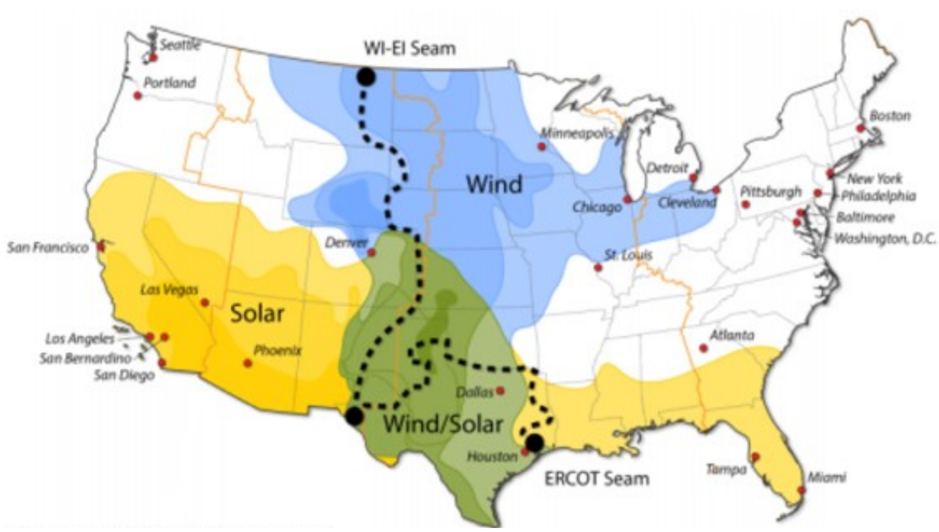
"Our load growth is on zero, or barely north of zero, with an abundance of natural resources coming in," Wise said.

Asked if the task force would work with other RTOs, Wise told *RTO Insider*, "We don't know yet."

The task force, which has yet to meet, will focus for the time being on recommending rates that can recover the costs of incremental transmission needed for exports and imports.

The group will evaluate Tariff and FERC rules on pricing transactions across seams and the "business case" for exports. It is scheduled to sunset by July 2017.

Joining Wise on the task force are SPP Director Graham Edwards and members Wes Berger (Southwestern Public Service), Blaine Erhardt (Basin Electric Power Cooperative), Dennis Florom (Lincoln Electric System), Greg McAuley (Oklahoma Gas & Electric), John Olsen (Westar Energy) and Richard Ross (American Electric Power).



SPP combined renewable resource potential | *Golden Spread Electric Cooperative*

Z2 Task Force Underway

The Z2 Task Force held an initial brainstorming meeting Aug. 31 and scheduled two additional meetings in September in order to provide an action plan to the Markets and Operations Policy Committee and Board of Directors/Members Committee in October. (See *Board Approves Z2 Timeline Extension, Creates Task Force for Further Study*.)

The group will address the equity concerns of the so-called Group B members, whose requests to escape direct assignments for upgrades totaling $42.6 million were rejected by the MOPC in July. The five Group B members said the charges should be allocated to the base plan and included in regional and zonal charges under SPP's Tariff.

The task force also will consider the $113 million in upgrade costs assigned to entities that did not request waivers (Group C).

"We're actually talking about less than 10% of the overall cost of credits in the waivers," said task force Chair Denise Buffington, corporate counsel for Kansas City Power and Light. "Hopefully, everyone can see the long-term benefits of a solution everyone can live with."

Following the October presentations, the task force will evaluate the existing Z2 process and recommend how to compensate upgrade sponsors in the future. It could also be asked to evaluate and recommend improvements to the Tariff attachment going forward.

The task force includes Meena Thomas, a senior market economist with the Public Utility Commission of Texas and the only non-SPP member on the 15-person group. Thomas is also a member of the regulatory-driven Cost Allocation Working Group, whose members are not allowed to serve on other working groups. That exception doesn't apply to task forces.

"To the extent I can consult with CAWG members in advance, I'll be voting as a CAWG member," Thomas said. "Otherwise, I'm voting as a representative of Texas."

SPP NEWS

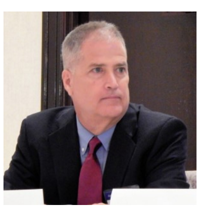
GCPA 3rd Annual SPP Regional Conference

IRVING, Texas — SPP's transmission buildout, interregional processes, new generation resources and cyber threats highlighted the Gulf Coast Power Association's third annual SPP Regional Conference on Sept. 1. Here's a summary of what the more than 150 attendees heard.

Order 1000 Debated

Three influential SPP stakeholders debated the merits of FERC's Order 1000's competitive transmission process and just how much more transmission needs to be built, after more than $9.7 billion in upgrades since 2004.

"As one who serves members, we know transmission has to be built to get the energy out, but we don't want it built on the backs of the consumers of SPP," said Mike Wise, chair of the RTO's Strategic Planning Committee and senior vice president of commercial operations and transmission for Golden Spread Electric Cooperative. "Transmission is an inter-generational asset. The stuff we've built is providing those dividends. The question is how do you get transmission built and paid for by those who are really benefiting from it."



"Is the current transmission funding method working? Yes," said GridLiance COO **Noman Williams**, who chairs SPP's Markets and Operations Policy Committee. SPP's "highway/byway regional cost [sharing] allocates the cost for future transmission facilities based on voltage level. What we're seeing is pockets of load growth and load shifting. Ultimately, we're going to see additional build in SPP. If you look at the age of the infrastructure in SPP … there's a lot of old stuff.

"So will there be a need to have additional transmission built? I'd say yes, if that's the goal," Williams said. "The real frontier for transmission in SPP the next 10 to 15 years is at the seams. How do you deal with that, and how do you get energy to the seam?"

Former Missouri Public Service Commissioner Steve Gaw, SPP policy director for The Wind Coalition, said Order 1000 is not yet providing needed solutions to interregional planning. "Order 1000 really needs to be strengthened so we are … implementing [interregional] transmission in the best interest of consumers, the same way we do it regionally.

"I think it should be a top priority for FERC to work on that issue. I think it's already clear there's a substantial problem with the order," **Gaw** said. "There are significant questions about what type of upgrades will be necessary, and whether or not we can ever get those paid for in the [generation interconnection] process we have now. We need a mechanism to try and figure out whether there's another way to do this."

Wise agreed with Gaw, saying the RTOs could use some help from above in building interregional projects.

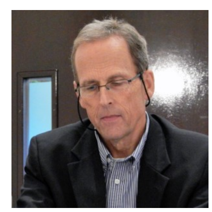
"There's a little bit of transmission that needs to be built for load pockets, but I think the projects that need to be built are across the regions," Wise said. "We need some sort of national directive for getting transmission built across regions. Is Order 1000 the right way to do this? Quite possibly, but we need a federal directive and federal help to get these interregional projects built."

Williams said competitive transmission is off to a slow start in SPP, contrasting the withdrawal of the RTO's only awarded project with the ability of PJM and CAISO to approve competitive projects. "We recognize we can do it better and we can do it cheaper," he said. "We devoted a fair amount of cost to participating in that process, but in the end, we didn't build a project that didn't need to be built."

"The caution I have for Steve and Noman is the load has to pay for this. We need to make sure the [transmission] projects show a real cost-to-benefit," Wise said. "We do not want to build transmission that benefits the load if the load isn't going to pay for it."

Wise said wind generation enabled by transmission had produced economic development in his company's footprint. "Golden Spread landowners … they love to have these wind farms built on their land," he said. "It's generating huge amounts of money for them. We want to encourage this."

Getting Interregional Projects Built



As chair of SPP's Seams Steering Committee since its creation in 2010, **Paul Malone** is well aware of the difficulty the RTO has had in developing interregional projects with MISO.

"We've hit a wall when it comes to building

Continued on page 20

Golden Spread's Mike Wise, GridLiance's Noman Williams and The Wind Alliance's Steve Gaw share a light moment during their panel discussion. | © *RTO Insider*

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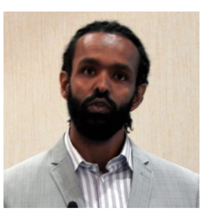
interregional transmission," said Malone, transmission compliance and planning manager for the Nebraska Public Power District. "We've built a lot of transmission in the SPP footprint, but we're having difficulty of finding solutions that cross the borders."

Alan Myers, director of regional planning for ITC Holdings, lamented the lack of infrastructure across the RTO seams, saying it's a nationwide problem.

"People have been saying we need some sort of a national policy and vision for some of those things, but we don't have it," he said. "That doesn't mean we can't stop asking for it. We need a national view to provide correct signals. Each RTO serves their own masters and interests, but sometimes, you need another view to close those gaps.

"One of the things we've consistently done as an industry is undervalue transmission construction. … If a project is good across the seams, does it really matter if it's a low-voltage project? Can't it just be a good project? How about we start talking about beneficial projects, rather than reliability, economic and policy projects?"



Merchant transmission projects have their own difficulties, said **Jonathan Abebe**, manager of engineering and transmission for Clean Line Energy Partners. Two of the company's six proposed projects focused on delivering wind energy from the Great Plains to the seaboards, the Grain Belt Express Clean Line and the Plains & Eastern Clean Line, begin in SPP's footprint.

"Some projects are more challenging than others, specifically the financing," Abebe said. "We cross multiple states, so we need approval in multiple states. It's much easier to make the case for the line in states where wind is being built and where it's being delivered. Some of issues we've had are in the fly-by states that are not getting the wind.

"A lot of these RTOs are used to approving projects coming in front of them. There's not a process for RTOs to study merchant projects, which causes regulators difficulties in approving them."

Edwards: Communicating RTOs' Value is Key

Former MISO CEO **Graham Edwards** (2006-2009), an SPP director since January, gave the keynote address, urging RTOs to remember their end consumers and to continue to improve interregional processes.

"We need to demonstrate value, and we need to communicate the value," he said. "We haven't been very good about communicating the benefit we bring to the … residential and industrial consumers that are on your systems."

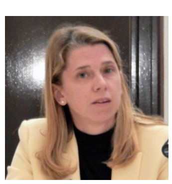
Edwards also said the difficulties SPP and MISO have had in approving interregional projects is partly because of criteria that discount lower-voltage transmission lines.

"The lower-voltage projects need some attention, in my opinion. Interregional planning has some merit to it. … I think the RTOs can, and should, get together and better implement those processes across the seams," he said.

Renewables, Storage Growing but 'There's Still Life' in Coal

With the Clean Power Plan looming and cheap gas having replaced coal as the dominant generation source, it probably shouldn't come as a surprise that SPP's generation interconnection queue does not include a single megawatt of coal.

It does list 22,000 MW of wind and 2,800 MW of solar. The queue also lists 700 MW of gas-fired generation.



Tenaska Power Service's **Courtney Mehan**, director of SPP origination, called the CPP "the elephant in the room."

"Some speculate 2 [GW] of coal retirements as a result of the Clean Power Plan. That overhanging [regulation] and cost is going to drive most of these coal retirements, but there's still life in these plants."

Noting a NERC forecast from December that SPP won't dip below its 13.6% reserve margin until 2024, Mehan said, "Without these kinds of reserve margins, without significant retirements, you aren't going to see a push to build" non-renewable generation.

Bill Grant, director of strategic planning for Xcel Energy's interests in New Mexico and Texas, said declining water tables are making it difficult to site new thermal generators that require cooling.

"What are your options?" he asked, before referencing another speaker's comment on plant maintenance. "Maybe it's the old utility concept of putting duct tape on the [existing] plant and keeping it going for 50 years."

Or maybe it's wind energy, which has provided nearly half of SPP's total generation at times in 2016. (See "Integrated Marketplace Adds Participants, Wind Energy," *SPP RSC Briefs*.)

Grant, who chaired SPP's first wind integration study, recalled its analysis assumed 13 GW of available wind energy.

"Well, guess what? We're there. We're taking that much wind energy right now," he said. "I think we've overcome some of the concerns and myths and operational impediments to do that."

Ben Lowe, director of policy and market development for energy storage provider Alevo USA, said grid-scale storage, with its ability to integrate renewable energy, and provide voltage and ramping support and frequency regulation, makes it "the grid's Swiss Army knife."

"Storage makes the grid more efficient, and its costs are only coming down," he said. "We're pretty optimistic about what the future holds."

Market Working Group Members Reflect

Members of SPP's Market Working Group said it has been successful even though it

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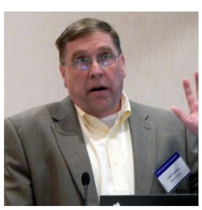
has not produced a large number of new products.

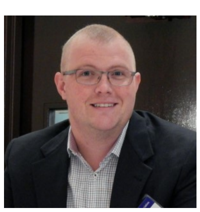
The group is "extremely open. Sometimes, I feel like maybe it's too much discussion," said **Robert Safuto**, director of SPP market intelligence for Customized Energy Solutions. "I think it's better to lean towards what SPP does. Anyone can show up or listen in and offer an opinion. Other markets I deal with are not like that."

"I feel like coming into the market, we had a voice right away with the major decisions going on," said **Valerie Weigel**, manager of marketing financial analytics for Basin Electric Power Cooperative, which joined SPP last October. "We've brought our concerns forward and we've been heard."



Cliff Franklin, a senior regulatory specialist with Westar Energy, said the MWG has discussed only one possible new market offering, a ramping product "that isn't something you bid or offer or clear in the market."

"It's more of an opportunity-cost kind of a thing," Franklin explained. "Here's the theory: You allow slower-ramping units to start up in the morning and save your faster units for when you really need them. Why do this? If we can manage ramp better, we might reduce the amount of headroom, which reduces production costs."



"It's hard to build a business case around market design or a market element, like battery storage," said **Kevin Galke**, a structure and pricing analyst with The Energy Authority. "I don't think you really want to be the last person to bring a product to market, but I applaud SPP for learning from what others are doing to make a full functioning and operating market."

Cybersecurity Experts: not if, but when Grid is Attacked

A pair of cybersecurity experts had dire warnings for the audience and suggestions on the protective actions utilities can take.

"A lot of things you're doing now is [Internet Protocol]-based," said former Secret Service agent **Steven Bullitt**, vice president of cyber forensics and investigation for NTT Security, a subsidiary of Nippon Telegraph and Telephone. "I always say you're either a victim of opportunity or a victim of choice. You're mostly victims of choice, because you have aging systems and are moving into IP-based solutions, which exposes you to the Internet.

"You're going to see more attacks in this industry. Other companies may just lose data, but if they hit you, that's going to have severe consequences."

Bullitt recalled attending a conference last October, where he was joined by former National Security Agency directors Gen. Keith Alexander and Gen. Michael Hayden. "Gen. Alexander said we're experiencing the greatest transfer of wealth in our history. He said our intellectual property is being stolen by China and Russia. Gen. Hayden said, 'Folks, the cavalry is not coming. If you think the government is going to step in, it's not. You're on your own.'"

"One thing we know is, it's not if we're going to have a cyberattack on the grid, but when," said former FERC Chairman **Curt Hébert**, a partner with Brunini, Grantham, Grower & Hewes. "We know this threat has evolved and it's not standing still. That means we can't stand still, either. It's going to be expensive, and I hate that, but it's necessary so that we can protect our systems."

Chairman Foresees Renewable Future

Jim Eckelberger, chair of SPP's Board of Directors, closed the conference with a look 20 years into the future. He predicted "really sophisticated gas plants" will replace all coal plants and that SPP's 14-state footprint will have so much renewable energy it may not need fossil-fueled generation.

"The Southwest Power Pool is one of those places where green energy is immensely abundant. … It's the cheapest energy source anywhere in the United States, besides hydro," he said.

Unlike some of the other speakers, Eckelberger said he isn't seeking a national energy policy to guide the way forward. "The president is responsible for federal matters, but governors, not presidents, are in charge of what happens in the land mass. … I think the federal government is pretty useless in this process."

— Tom Kleckner

"I feel like coming into the market, we had a voice right away with the major decisions going on."

Valerie Weigel, Basin Electric Power Cooperative

COMPANY BRIEFS

White Pine Blasts SSR Cancellation

The owner of the 40-MW White Pine coal-fired power plant in Michigan's Upper Peninsula blasted MISO after receiving a 90-day notice that the grid operator will terminate its $7.3 million annual system support resource agreement with the 60-year-old plant on Nov. 26.

White Pine Electric Power, a subsidiary of Traxys North America, said the decision jeopardizes reliability until 2020, when 170 MW of new natural gas-fired plants will come online. "This is a short-sighted decision by MISO that they claim is about utility rates," said White Pine board Chairman Brent Zettl.

The utility claims that the study MISO used to make its decision did not properly evaluate emergency scenarios, arguing that the plant provides a failsafe against unplanned outages.

More: *White Pine Electric Power*

Duke Adds Former Nuke Exec to Board


Webster Jr.

William E. Webster Jr., former executive vice president for industry strategy at the Institute of Nuclear Power Operations, joined Duke Energy's board of directors effective Sept. 1.

Webster retired from INPO on June 30, ending a career there that began in 1982. While at INPO, he also served in "on-loan" leadership positions with FPL Group and Arizona Public Service's Palo Verde Nuclear Generating Station.

He received his senior reactor operator certification at Duke's Brunswick nuclear plant and has a bachelor's degree in civil engineering from Villanova University.

More: *Duke Energy*

Xcel Adds Another Wind Farm to Portfolio

The 200-MW Odell Wind Farm began generating power in southwestern Minnesota last week under a 20-year power purchase agreement with Xcel Energy, its fourth wind facility in the Upper Midwest.

Owned and operated by Canadian company Algonquin Power & Utilities, Odell consists of more than 100 turbines erected in four counties.

Xcel gets 14% of its power from wind sources in the Upper Midwest and predicts the share will rise to 22% in 2020. Xcel's ultimate goal is 42% from wind.

More: *Star Tribune*; *La Crosse Tribune*

Former NYPA CEO Joins NYISO Board

NYISO has named former energy executive Roger B. Kelley to its Board of Directors, effective this month. He replaces Vikki L. Pryor, whose term expired in April.

Kelley has more than 40 years of experience in the electric generation and transmission business. He previously served as CEO of Peregrine Midstream Partners in Houston. He was also CEO of Midland Cogeneration Venture in Midland, Mich.; CEO of Fortistar Renewables, based in White Plains, N.Y.; and CEO of the New York Power Authority.

"Roger has extensive experience in the energy industry, including as president and CEO of the New York Power Authority," said Michael Bemis, NYISO's board chair. "We appreciate his willingness to serve as a director. I'm confident we will benefit from his judgment and counsel."

More: *NYISO*

Tesla-SolarCity Filing Reveals Cash-Strapped Companies

Prior to agreeing to a merger with Tesla, SolarCity considered selling its Buffalo solar panel manufacturing plant, which is scheduled for completion next June with $750 million in state assistance, according to a filing with the U.S. Securities and Exchange Commission.

SolarCity eventually decided a sale of the plant, a centerpiece of Gov. Andrew Cuomo's Buffalo Billion economic development program, would not provide an adequate return for company shareholders. But the filing reveals how strapped for cash SolarCity is, even as it considered being acquired for $2.4 billion. The company's operations rely heavily on a business model that allows customers to install rooftop solar with no upfront costs, forcing it to constantly raise money from investors.

The filing also reveals at least three other firms declined to acquire SolarCity before it accepted the offer from Tesla, which is facing a cash crunch itself. The company will have to pay $422 million to bond holders in the third quarter. Tesla's debt-to-equity ratio was 145.5% as of June 30; SolarCity's was 375.6%.

More: *The Buffalo News*; *The Wall Street Journal*

Developer Wants to Double Up Indiana Plant


St. Joseph Energy Center

Development Partners, which is building a $500 million, 700-MW natural gas plant in northern Indiana, has asked MISO to allow it to double the size and the cost of the plant.

The White Plains, N.Y., company wants permission to add two more turbines to the St. Joseph Energy Center near the Michigan border. The first phase of the project is scheduled to be completed in 2018.

After Development Partners gets interconnection approval from MISO, which it hopes to earn by the end of the year, the developer would work with local officials to approve a site plan.

More: *South Bend Tribune*

Enbridge Puts Minnesota Pipeline Project on Hold

Enbridge Energy Partners, which recently invested $1.5 billion into a rival oil-pipeline project, has put its proposed Sandpiper Pipeline in Minnesota on hold, saying current demand for crude oil no longer supports the need for the project.

Sandpiper, which was initiated three years ago, aimed to carry up to 225,000 barrels of oil from North Dakota through Minnesota and then on to Superior, Wisc. The proposal faced heated opposition from Native American tribes and environmental groups

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Company Briefs

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who objected to the proposed path, which would have crossed numerous lakes and rivers.

Enbridge stopped short of saying the project was dead, but it did say the five-year projection of production in North Dakota's Bakken region doesn't forecast the need for more pipeline capacity. The decision comes just after its recent $1.5 billion investment in the Bakken pipeline system, which includes the Dakota Access project.

More: MPR News

Oregon Coal Plant to Run Full Biomass Test

Portland General Electric is exploring the possibility of converting its coal-fired Boardman power plant in eastern Oregon to biomass.

The utility plans to run the 550-MW facility on woody biomass for one full day this year as an experiment, following a successful test last year using a 10-to-1 mixture of coal and biomass. The process will entail pulverizing wood debris into the substance before feeding it into the plant's boiler.

Boardman is slated for closure in 2020, but the use of biomass could extend the life of the plant. Success of the project will hinge on plant conversion costs and securing a steady supply of fuel.

More: East Oregonian

Southern Co., Kinder Morgan Close Deal on Pipeline System

Southern Co. has acquired 50% of Kinder Morgan's Southern Natural Gas pipeline system, the companies announced. The 7,000-mile system runs from wells in Texas, Louisiana, Mississippi and Alabama to markets in the southeast. Terms of the acquisition were not announced. Kinder Morgan will continue to operate the pipeline system.

Southern CEO Thomas A. Fanning hinted at other deals possibly in the works. "With our new ownership stake in Southern Natural Gas, we look forward to working with Kinder Morgan to explore future opportunities to deliver natural gas to customers," he said.

More: Southern Co. and Kinder Morgan

Talen Notifies NRC it is Canceling Nuclear Plant

Talen Energy withdrew its request for an operating license from the Nuclear Regulatory Commission for the proposed Bell Bend nuclear station in Berwick, Pa., saying that the reactor design company's decision to suspend its certification process left it no choice.

The Allentown, Pa., company said that it had posted a $122 million loss associated with the project when it released its second-quarter results and that it would stop attempts to get a license for the plant. The reactor design company, Areva, asked NRC in 2015 to stop its design certification process. A Talen spokesman said seeking another design company wasn't feasible.

Talen said the decision was not related to is pending merger with Riverstone Holdings.

More: The Morning Call

GE Joins MIT Energy Initiative

General Electric is joining an energy research program at the Massachusetts Institute of Technology that aims to cut carbon emissions.

GE is contributing $7.5 million to the MIT Energy Initiative for research, particularly in solar power, energy storage, advanced power grids and carbon sequestration, company officials said.

"This partnership really is about advancing the state of the art in low-carbon technologies," said Steve Bolze, chief executive of the $29 billion GE Power division.

More: The Boston Globe

EnerNOC Wins BQDM Contract from Con Ed

EnerNOC has been awarded a multi-million-dollar contract by Consolidated Edison for the Brooklyn-Queens Demand Management program, part of New York's Reforming the Energy Vision initiative. The program's aim is to reduce demand in certain areas of New York City, delaying or eliminating the need for a $1.2 billion substation.

The BQDM project has been described as the largest modern "non-wires" alternative program in the U.S. relying on the use of energy efficiency and demand-side management in lieu of traditional generation and distribution infrastructure.

More: EnerNOC

Duke, Solar Devs Reach Interconnection Agreement

Duke Energy and 33 solar developers reached an agreement that will allow many solar generation projects to go forward and interconnect with the utility's grid.

Earlier this summer, Duke announced that so many solar projects are seeking interconnection with their grid that it might cause problems and was going to require each new project to undergo a technical review. The new agreement allows the projects to connect while preserving Duke's right to disconnect if problems arise. There are 3,300 MW of solar projects in various stages of planning and construction in North Carolina.

"In some areas of our system, we're reaching a saturation point with solar, and in some places it is ill-placed," a Duke spokesman said. The intermittent nature of the generation could cause problems with some of the lower-voltage circuits, the company says.

More: The Charlotte Observer

FEDERAL BRIEFS

OPPD: Fort Calhoun to Shut Down Oct. 24

The Omaha Public Power District has notified the Nuclear Regulatory Commission that it will permanently shut down its Fort Calhoun reactor on Oct. 24. The OPPD board unanimously approved a recommended shutdown in June, but officials had not provided a date for when the plant would stop operating, only saying it would by the end of the year.

With the shutdown date set, the plant's decommissioning will kick into gear. That includes the removal and transfer of nuclear fuel from the reactor into the spent fuel pool, where fuel rods will be placed for about 18 months while they cool to a level that permits transfer into longer-term storage.

The decommissioning process could take up to 60 years and will cost OPPD as much as $1.5 billion. The 43-year-old, 478-MW Fort Calhoun is the smallest nuclear plant in the country, which made it financially untenable to continue operating.

More: *Omaha World-Herald*

Firm Lands DOE Grant for Flameless Combustion Plant

Southwest Research Institute has received a $3.28 million grant from the Energy Department to develop a project that could eliminate smokestacks and reduce emissions from coal-fired power plants.

The project is described as a "flameless pressurized oxy-combustion plant" by Rep. Joaquin Castro (D-Texas), who announced the grant. The organization also received nearly $900,000 in private industry support for the research.

SwRI, a research and development nonprofit, said the smoke produced from burning coal will be purified in a process that captures carbon dioxide and results in zero emissions. The captured CO_2 will be kept out of the atmosphere by injecting it underground.

More: *San Antonio Business Journal*

DOE Estimates $1.2B to Retrofit Colstrip Plant

Energy Department representatives said that retrofitting the Colstrip coal-fired power plant in Montana to reduce greenhouse gas emissions would cost at least $1.2 billion, but that price tag could be partially offset by selling captured carbon dioxide for use in oil fields. Colstrip emitted about 16.5 million tons of CO_2 in 2014, two-thirds of the state's total, according to EPA.

The department presented its analysis of reducing emissions from the Colstrip plant at the request of Montana Gov. Steve Bullock. A Democrat up for re-election in November, Bullock has faced a barrage of Republican criticism for not doing enough to protect the aging plant.

"We need to be saying, what can we do to find solutions?" Bullock said to utility and mining executives gathered at the governor's office in Helena to hear the Energy Department's findings. "Those discussions only become more urgent given recent developments at Colstrip."

More: *The Associated Press*

NRC Cites FirstEnergy for Inaccurate Medical Info

The Nuclear Regulatory Commission cited FirstEnergy for failing to provide accurate medical information after a nuclear operator at the company's Davis-Besse plant lied about taking his prescribed medication.

The commission found that the operator, who resigned before the investigation began, failed to notify the plant when he stopped taking medicine for diabetes and high blood pressure. As a result, the commission said, the company unknowingly provided it with inaccurate information.

A FirstEnergy spokesperson said the operator's failure to take his medication did not impact the plant's operations. The company has agreed to modify its fitness-for-duty procedures as a result of the incident.

More: *The Blade*

TVA's Watts Bar 2 Offline After Transformer Fire

A main transformer fault at the Tennessee Valley Authority's new Watts Bar 2 nuclear station caused a transformer oil fire and tripped the reactor last week. The incident occurred during testing of the unit before it goes into commercial operation.

TVA had achieved 99% of maximum output during the test before the fire broke out. It completed construction of the plant this year.

The fire was extinguished and there were no injuries. TVA said it is completing a full examination of the incident and the plant before resuming the testing. It said it didn't know when it would go back online.

More: *POWER Magazine*

FERC Approves Dominion Pipeline Expansion in Md., Va.

FERC has approved an expansion of one of Dominion Transmission's natural gas pipelines necessary to serve new generating stations in Maryland and in Virginia. Dominion filed to expand the Leidy South Project in May 2015.

The project involves adding compressor stations and other equipment to the pipeline, which crosses Pennsylvania, Maryland and Virginia. Ultimately, it will allow natural gas to be carried to the Panda Stonewall generating station planned for Loudoun County, Va., and the Mattawoman Energy project in Prince George's County, Md.

Dominion estimates the expansion will cost $209 million.

More: *GenerationHub*

STATE BRIEFS

ARKANSAS

EPA Finalizes State's Regional Haze Plan

EPA has finalized a federal implementation plan for compliance with its Regional Haze Rule for the state, but regulators and at least one generator say they may appeal the decision.

The final rule calls for increased emissions control at three coal-fired plants and three natural gas-fired plants, in addition to a paper mill. One of the plant owners, Entergy, said compliance measures could cost it up to $2 billion and that the company is exploring its options. State environmental officials may also appeal the rule.

More: *KUAR*; *ArkansasOnline*

CALIFORNIA

Imperial Irrigation District Strikes Net Metering Agreement

Imperial Irrigation District, which generated public backlash after it cut off enrollment in its net metering program earlier this year, will allow as many as 1,300 new rooftop solar customers to sign up for the preferential rate.

The district, which provides electrical service to 150,000 customers, reached a deal with the solar industry and state lawmakers to enable any customers who applied for a solar interconnection permit and received a building permit by April 1 to enroll in the program.

IID struck the compromise in the face of possible passage of legislation that would have expanded the eligibility period to July 19.

More: *The Desert Sun*

Appeals Court Denies Release Of PUC-San Onofre Emails

A state appeals court last week reversed a lower court decision that would have forced the Public Utilities Commission to disclose its communications related to the agency's settlement with Southern California Edison over the closure of the San Onofre nuclear generating station.

The appellate court sided with the PUC, which argued that the communications

involved privileged information regarding a rate case. San Diego attorney Michael Aguirre had sought to release the emails to determine whether Gov. Jerry Brown was party to *ex parte*, private negotiations between former PUC President Michael Peevey and the utility ahead of the settlement. Peevey, a former SoCalEd executive, stepped down from the commission after the negotiations were revealed.

Though the court denied disclosure, it recommended Aguirre submit his request to the PUC under the state's Public Records Act and, if denied, take his case directly to the appeals court. Aguirre said he will appeal to the state Supreme Court.

More: *The Sacramento Bee*

COLORADO

Co-op to Shutter 2 Plants Under Regional Haze Plan

The Tri-State Generation and Transmission Association said it will retire more than 500 MW of coal-fired generation in the next decade in order to comply with the state's implementation plan for EPA's Regional Haze Rule.

The electric cooperative said it plans to shutter the 100-MW Nucla Station in Montrose County by 2022, along with the nearby mine that feeds the plant. It also plans to close the 427-MW Unit 1 at the Yampa Project by 2025, although two other units at the site will continue to operate. It said it is more economical to close the units rather than retrofit them to comply with the regulations.

"Tri-State has worked tirelessly to preserve our ability to responsibly use coal to produce reliable and affordable power, which makes the decision to retire a coal-fired generating unit all the more difficult," the company said. "We are not immune to the challenges that face coal-based electricity across the country."

More: *The Denver Post*

MICHIGAN

Agencies Approve $89.5M In Energy Assistance

The Agency for Energy and the Department of Health and Human Services approved $89.5 million in Energy Assistance Program grants last week for 14 nonprofits and utilities.

The grants are meant to help low-income residents pay electric bills. Among the organizations and municipalities that received multi-million dollar grants, DTE Energy received $17 million and Consumers Energy received $13.2 million. The Salvation Army also received $13.7 million, while TrueNorth Community Services received $15 million.

More: *WSYM*

NEW MEXICO

Regulators Promise Decision On PNM Rate Case by Sept. 28

The Public Regulation Commission said it will issue a decision within a month on Public Service Company of New Mexico's rate-increase request. The PRC's announcement came after most parties in the case objected to reopening hearings.

PNM proposed a 15.8% rate hike earlier this year to cover its investments in power and energy-efficiency measures. In early August, a PRC hearing examiner recommended a 6% increase, saying PNM hadn't justified the higher rate.

PRC acting general counsel Michael Smith said that as a result of the nearly "uniform" opposition to holding more hearings, "We are going to make a decision based on the recommended decision that was issued by Carolyn Glick," the hearing examiner.

More: *Santa Fe New Mexican*

Regulator Approves ROW for Southline Transmission Project

Land Commissioner Aubrey Dunn last week gave right-of-way approval to the Southline Transmission Project, a proposed 345-kV double-circuit line that would cross into Arizona. Developers must still submit detailed plans about the exact location of structures and roads associated with the

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State Briefs

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line, along with cultural and biological surveys.

Sponsored by Hunt Power subsidiary Southline Transmission, the line will provide up to 1,000 MW of transmission capacity in both directions and connect with as many as 14 existing substation locations.

More: *Albuquerque Journal*

OKLAHOMA

OCC Orders Fracking Wells Shut down After Earthquake

A magnitude-5.6 earthquake last week spurred state regulators to order 37 fracking waste disposal wells to shut down over a 725-square-mile area.

The order came from the Corporation Commission's Oil and Gas Division. Gov. Mary Fallin said the commission is coordinating with well operators around the town of Pawnee and that several buildings in the Pawnee Nation had been rendered uninhabitable by the quake. She also said EPA is assessing the region.

The wells will close within 10 days of the order, according to a schedule the commission says is necessary because scientists have warned that a sudden shutdown could provoke another earthquake. A commission spokesperson said the wells were ordered closed because of the link found by the U.S. Geological Survey between wastewater disposal and the increased number of earthquakes in the region, particularly in the state.

More: *CNNMoney*; *Bloomberg News*; *The Associated Press*

Wind Opponent Seeks to End Tax Credits Next Year

WindWaste, an organization opposed to wind power incentives, estimates that future wind developments could force the state to shell out more than $500 million annually in zero-emissions tax credits by 2019.

The subsidy is set to sunset on Jan. 1, 2021, but WindWaste wants lawmakers to end the credit by July 1, 2017. The next legislative session begins in February.

Representatives of the wind industry say WindWaste's estimates of $5.2 billion in payouts by 2030 is wildly inflated. It argued that the group based its predictions on the amount of generation in SPP's interconnection queue, which only has a buildout rate of about 15%, it says.

More: *The Oklahoman*

SOUTH DAKOTA

Developers of Wind Project Withdraw Request for Permit

Developers of the Prevailing Winds project asked state regulators last week to withdraw their application for a permit. The retreat came one week after a raucous, four-hour community meeting near Pierre.

Public Utilities Commission Chair Chris Nelson said the request was "unexpected." The request came shortly before the commission's Aug. 30 meeting and could be considered at its Sept. 13 meeting.

Prevailing Winds would produce about 200 MW of electricity. By asking to have its application dismissed without prejudice, developers could again apply for a permit at a later date.

More: *Rapid City Journal*

TEXAS

Austin City Council Approves Rate Cut

The Austin City Council last week unanimously approved Austin Energy's request to redo its residential electric rates, but not before the city-owned utility first dropped a controversial proposal for an increase. Under the revised rate structure, the municipal utility's 400,000 residential customers would see bills cut by about $62/year.

The council also signed off on $42.5 million in annual cuts that Austin Energy and its major customers agreed to earlier this month. Most of those cuts will go toward reducing electric bills for industrial and commercial customers. Major customers, such as data centers and large hospitals, will see their electric rates cut 24%.

The utility's original proposal came under attack because of Austin Energy's tiered residential price structure: Customers pay the base rate for their first 500 kWh of electricity and higher rates for subsequent blocks of 500 kWh.

More: *Austin American-Statesman*

VIRGINIA

SCC Examiner Affirms Right To Third-Party Solar Financing

A State Corporation Commission hearing examiner rejected an argument by Appalachian Power that third-party solar financing was illegal, paving the way for homeowners to sign up for the popular method of paying for residential solar-system installations.

"Today's decision is an important win for solar rights in Virginia, which has continued to lag behind neighboring states on solar because of outdated policies and utility opposition like we saw from Appalachian Power in this case," said Will Cleveland, staff attorney at the Southern Environmental Law Center. "The ruling confirms that Virginians have the right to use common sense financial tools to choose solar power without utilities acting as the middle men."

The utility argued that third-party financing, in which homeowners paid for solar systems through monthly contracts, was legal only under a Dominion Power pilot project. The ruling now goes before the full commission for public comments and final briefs.

More: *The Energy Fix*

WISCONSIN

Regulators Approve Enbridge Pipeline Replacement

The Department of Natural Resources has granted a waterway and wetlands permit for Enbridge Energy to replace a section of old oil pipeline.

Ben Callan, a DNR water management specialist, said the permit is for replacing a 14-mile stretch of Line 3, a 1960s-era pipeline. The pipeline had been operating at a diminished capacity after Enbridge recently found issues during integrity tests. The new section will have a 36-inch diameter and be able to carry up to 760,000 barrels per day.

Callan said that the permit requires the hiring of an independent consultant to oversee compliance. Enbridge spokeswoman Shannon Gustafson said the company has not set a timeline for construction.

More: *Wisconsin Public Radio*

Wisconsin Manufacturers Call for Retail Choice

Continued from page 1

Group, which represents more than 30 large industrial ratepayers, said "energy and capacity are not available at reasonable prices in Wisconsin."

"This trend is of grave concern and results in more industrial load being at risk of expanding or relocating in states with greater market access and/or much lower rates. Action needs to be taken now to prevent the situation from deteriorating further," the groups said.

The manufacturing advocates also proposed a hybrid solution as an alternative to total retail choice. It calls for competitive bidding on transmission and generation construction projects, incentive-based demand response programs and real-time pricing for all utilities.

Charter Steel, whose Saukville, Wisc., manufacturing facility is the largest single-site customer of We Energies, said the utility's "above-market" rate increases are to blame for the "largest percentage increase in electric rates of any state in the nation" from 1997-2015. The PSC's assessment did not contain that claim, but the report notes that in the late 1990s, Wisconsin entered a two-decade electric construction boom and utilities "are now recovering associated construction costs in rates."

Charter blames "a massive level of excess electric generating capacity" from WE for the hikes and says that electricity expenses are higher than labor costs at its Saukville plant. The company said the state should open a retail market for at least the largest electric customers.

"Every lapsed year with the status quo is an unnecessary tax on southeast Wisconsin electric users measured in hundreds of millions of dollars," Charter wrote.

The Retail Energy Supply Association, a trade group of competitive retail electric and natural gas marketers active in nearby Michigan and Illinois, echoed Charter in comments, calling for a "well structured" competitive market.

RESA spokesman Bryan Lee said the Wisconsin veto of market restructuring can be contrasted with Illinois' outcome.

"In the late 90s, when just about every state in the country was considering the failure of monopoly regulation and introducing competition, Wisconsin was the leading state. In those days, Wisconsin was the low-cost state. The regulators said Wisconsin was low-cost and decided against it while the then-high-cost state of Illinois decided to adopt it. To make a long story short, it's a tale of two states. The states have flipped: Illinois is one of the least-cost states and Wisconsin is one of the highest cost states."

Lee said it is a "disservice" not to have retail choice. "There's no question that competition works," he said. "We use competition in every other segment in our economy."

The Wisconsin PSC opened generic docket 05-EI-114 in 1994 to collect stakeholder comments on the issue and created a 22-member advisory panel to explore the issue. By 1996, a PSC report to the state legislature suggested that competition could be introduced in Wisconsin as soon as 2001. However, the commission's 2002 SEA concluded that "the competitive market is not providing a reliable source of capacity at a reasonable price."

The Illinois Energy Professionals Association, an organization of consultants to industrial, commercial, government and aggregated residential electricity customers, filed comments saying the Wisconsin PSC should consider retail choice as their state had, saying it can reduce rate increases.

The group said retail choice results in more accurate and timely price signals. The regulated format "is inherently incapable of responding to prevailing conditions that are distinctly different from those for which the regulated vertical monopoly was originally designed," it wrote.

A spokesman for Wisconsin's Department of Agriculture, Trade and Consumer Protection said the department had no position on the matter.

Legislation Required

Jeffrey Ripp, an administrator of the Wisconsin PSC's Division of Energy Regulation, said it would require legislative approval to switch to deregulation, even if it was recommended by the PSC. "There isn't a whole lot we can do because we do what the Legislature tells us to do," Ripp said.

In the SEA, the commission said it "continues to investigate ways to mitigate electric rate increases to ensure Wisconsin remains competitive in a global marketplace." The report also said the PSC is considering allowing generators to sell excess capacity into the MISO markets.

The Citizens Utility Board (CUB), a consumer group, urged the PSC to allow utilities to sell excess capacity elsewhere. "For ratepayers to receive value from their investment, the commission and utilities must prioritize decreasing retail rates through cost control in rate cases and other measures, and utilities with existing and forecast excess capacity and energy must work to monetize this surplus through market sales, the revenues of which are returned to ratepayers through the ratemaking process."

The CUB said the PSC's main focus going forward should be cost control, "decreasing rate levels whenever possible."

'Little Evidence'

Not everyone buys the idea that retail choice results in lower prices. A study released earlier this year by Christensen Associates Energy Consulting for the Electric Markets Research Foundation concluded, "Nearly two decades later, there is little evidence that retail choice has yielded any significant benefits."

The study also cited a lack of demand elasticity, saying customers' short-term response to electricity prices was small and that customers' willingness to be curtailed was "even smaller."

According to the study, 14 states and D.C. currently allow retail choice, while eight states have since suspended or rescinded it.

Sarah Barry, executive director of Wisconsin energy consumer group Customers First Coalition, said her organization opposes deregulation efforts. Barry said rates for average consumers in deregulated states are about "30% higher than states with traditional utility regulation."

"Wisconsin addressed this issue in the late 1990s and has successfully avoided the pitfalls of deregulation that customers in many states like Texas, California, Illinois and Michigan have faced and continue to face," Barry said.

"Every lapsed year with the status quo is an unnecessary tax on southeast Wisconsin electric users measured in hundreds of millions of dollars."

Charter Steel