



Entergy to Shut Down Indian Point by 2021 Mountain West to Explore Joining SPP



By William Opalka

The embattled Indian Point nuclear plant will close by 2021, owner Entergy and New York Gov. Andrew Cuomo said Monday morning.

An agreement between the governor's office and Entergy calls for the company to shorten its pending license renewal applications to six years, with both sides ending litigation they have filed against each other as part of the deal. The state reserved the right to begin new litigation if necessary.

Unit 2 would shut down in April 2020, followed a year later by the closure of Unit 3.

"For 15 years, I have been deeply concerned by the continuing safety violations at Indian Point, especially given its location in the largest and most densely populated metropolitan region in the country," Cuomo said in a statement. "I am proud to have secured this agreement with Entergy to responsibly close the facility 14 years ahead of schedule to protect the safety of all New Yorkers."

Cuomo said that his administration has been

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Energy Department Issues Recommendations on Cyberattack Protections

By Ted Caddell

When the Obama administration released its first version of the Quadrennial Energy

By Robert Mullin

Mountain West Transmission Group has said it will enter discussions with SPP to explore the possibility of joining the RTO.

The announcement comes eight months after Mountain West issued a request for information to CAISO, MISO, PJM and SPP regarding tariff administration and market operator services to support a new — and independent — organized market for the region. (See [Mountain West RTO Could Pose Competition for CAISO.](#))

"By exploring membership with an existing RTO, the Mountain West participants would have the advantage of an existing electricity market design," the group said in a statement issued Friday.

"We have enjoyed working with the Mountain West Transmission Group on preliminary analysis and look forward to the next phase of more detailed discussions on specific terms of membership in the SPP organization," SPP CEO Nick Brown said.

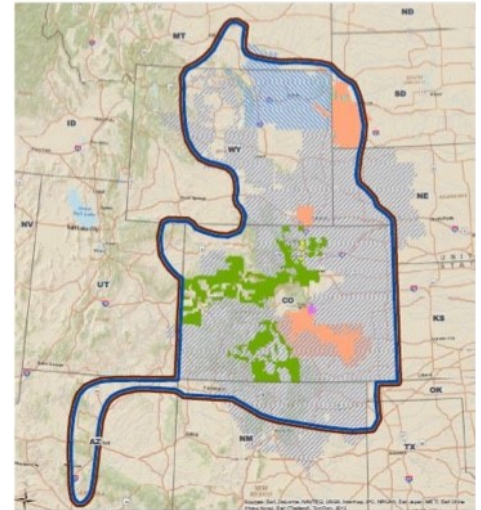
An independent effort would put Mountain West in direct competition with CAISO's plans to expand into the interior West through the possible inclusion of PacifiCorp as a member. SPP's westward movement could have a similar impact on CAISO's expansion.

Mountain West — a partnership consisting of seven different transmission-owning entities within the Western Interconnection, including the Western Area Power Administration's Loveland Area Projects and Colorado River Storage Project — has

Review two years ago, it addressed a hypothetical concern about threats to the nation's oil and natural gas pipeline infrastructure.

The [second review](#) from the Department of Energy, released last week, turned its attention to risks facing the nation's electric grid — progressing from the

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Mountain West Transmission Group's footprint, defined by the bold line. The group's membership would extend SPP's footprint into the West and add more than 15,000 miles of transmission to the RTO's network. | WAPA

been investigating the benefits of implementing a common transmission tariff across multiple states and developing an organized market.

Mountain West's footprint covers most of Colorado and Wyoming, along with smaller areas of Arizona, Montana, New Mexico and Utah. WAPA operates nearly 5,000 miles of transmission lines within the area.

Other members of the group include Basin Electric Power Cooperative, Black Hills Energy, Colorado Springs Utilities, Xcel Energy's Public Service Company of Colora-

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DOE Issues Recommendations on Cyberattack Protections

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hypothetical to the real.

“In the current environment, the U.S. grid faces imminent danger from cyberattacks,” the report said. “Widespread disruption of electric service because of a transmission failure initiated by a cyberattack at various points of entry could undermine U.S. lifeline networks, critical defense infrastructure, and much of the economy; it could also endanger the health and safety of millions of citizens.”

The review is especially timely, coming amid a national discussion about the possibility that cyber breaches influenced the 2016 presidential election. It noted examples of such attacks in the electricity sector, including attacks on three Ukrainian utilities in December 2015 that left 200,000 customers without power, and highlighted the need to take decisive action to enact protections.

The report called for using the Federal Power Act to “develop preparation and response capabilities that will ensure [FERC] is able to issue a grid-security emergency order to protect critical electric infrastructure from cyberattack,” as well as from natural threats such as geomagnetic storms.

The department also calls for an expansion of FERC authority to modify NERC-proposed reliability standards or develop its own standards “to protect national security in the face of fast-developing new threats to the grid.”

FERC’s expanded role in developing grid safety standards would supplement the department’s efforts at implementing

protective measures in times of emergency.

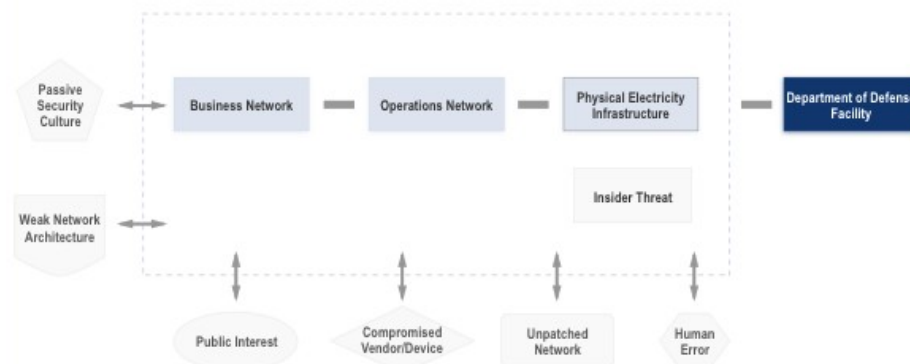
“This approach would maintain the productive NERC-FERC structure for developing and enforcing reliability standards but would ensure that the federal government could act directly if necessary to address national security issues,” the report said.

“FERC should consider having existing regional organizations undertake such planning, as it deems appropriate,” the review said. “FERC should evaluate whether the costs of implementing security measures identified in the integrated electricity security plan are appropriate for regional cost allocation, where such measures are found to enhance the security of the regional transmission electric system.”

However, the department would not saddle grid operators with full financial responsibility for fulfilling the recommendations. Noting that the cost of protecting the nation’s grid against cyberattacks could run as high as \$500 billion, the report calls for federal assistance in the form of an expanded DOE loan guarantee program used to encourage innovative grid technologies, going beyond the current emphasis on loans for new generation methods.

“A relatively low-cost permanent federal financing system could be established by setting up a revolving loan fund with one-time seed capital,” the report states. A loan guarantee program would be crucial for smaller utilities that lack the access to capital, unlike larger companies.

In all, the 494-page report makes more than 70 recommendations for policymakers to consider. It remains to be seen how many will be undertaken. The first QER outlined 63 recommendations — 21 of which were enacted by Congress.



Example cyberattack vectors for an electric utility | Department of Energy



California Tx Policy Must Foster Resource Diversity, Report Shows

By Robert Mullin

California will require improved transmission access to a diverse set of renewable resources throughout the state and the broader West to cost-effectively meet its renewable energy and greenhouse gas reduction targets, according to a report released by the state's Energy Commission.

Increasing solar generation will lead to rising costs stemming from the need to curtail surpluses during periods of high output and shore up system, and flexible, capacity during other times of the day, the [report](#) found.

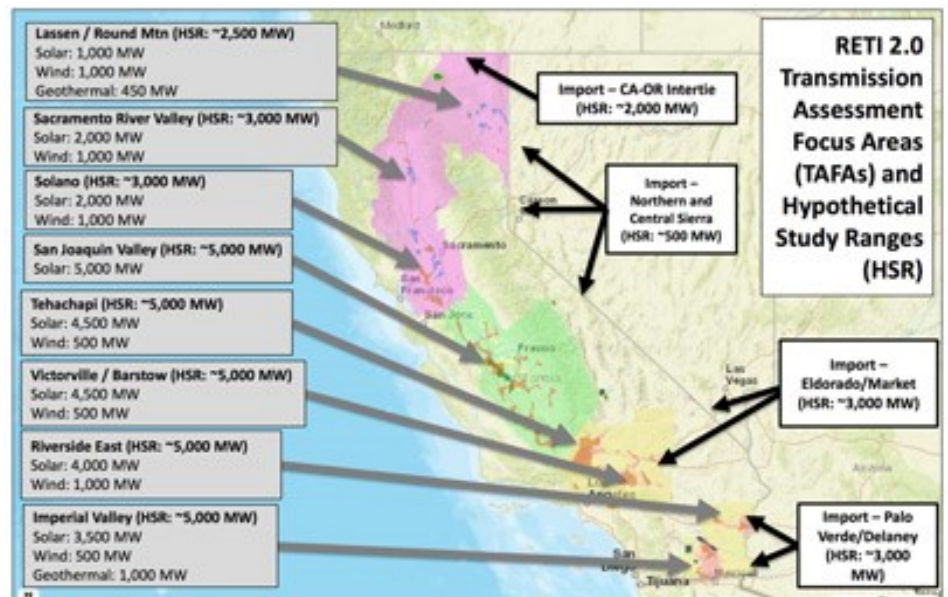
A technologically and geographically balanced portfolio of resources would help offset the technical risks of California's growing reliance on in-state solar generation, while the upgraded transmission required to access those resources could enable the state to export surplus solar outside the state.

The study was conducted on behalf of the multiagency Renewable Energy Transmission Initiative (RETI), a collaboration that includes [CAISO](#), the state's major municipal and investor-owned utilities, the Western Area Power Administration and the California Natural Resources Agency.

The outcome of a yearlong effort, the RETI report provided a "high-level visioning process about what it might take" for California to meet its 2030 mandates for generating 50% of the state's electricity from renewable resources and reducing GHG emissions to 40% below 1990 levels, RETI project director Brian Turner said during a Jan. 4 call to discuss the report.

Turner was careful to point out that the report did not represent "a projection or goal for any total quantity of renewable energy statewide or in any specific areas" or advocate for any specific transmission or generation projects.

And while the study focuses on the potential for utility-scale renewable development in



The Renewable Energy Transmission Initiative report examined the potential for developing renewables in eight California regions — as well as in areas around major import-export points. | *Renewable Energy Transmission Initiative*

California and the rest of the West, Turner noted that it is not intended to express a preference for utility-scale energy over other strategies to help the state meet its goals.

"The overall flavor — objective — here is really one big, 'What if?'" Turner told *RTO Insider*.

The RETI project poses a set of interrelated questions: "To meet [the state mandates], what might it require in terms of renewables? And, if it requires [a certain] level of renewables, what transmission might be required? And if that transmission were required, what cost, environmental and land-use implications might it entail?"

The report is the most comprehensive effort to date to draw on available information to scope out the most cost-effective transmission solutions for meeting California's goals. It relies on information about the most promising areas for renewable development, environmental and local land-use policies within California and the potential for collaboration with the wider West.

"One of the questions to ask is: 'Did we get the synthesis right?'" Turner said during the Jan. 4 CEC call, soliciting feedback from industry participants.

The study assumes that for California to meet its 50% renewable portfolio standard, the state will need to tap an additional 25 to 53 TWh of renewable energy between 2020 and 2030. Based on a 30% capacity factor, that translates into a need for 9.4 to 20.3 GW of new renewable capacity. That figure spikes to 76 TWh (29 GW) under a scenario of accelerated vehicle electrification in the state.

While low-cost utility-scale solar is already cost-competitive throughout California, its continued growth will become costly without the integration of other types of renewable resources to balance out the generation profile for solar.

"Without integration solutions, continued growth in solar PV resources will lead to increased costs from a surplus of generation

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California Tx Policy Must Foster Resource Diversity, Report Shows

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during high solar periods and a shortage of system and flexible capacity at other times,” the report said. CAISO late last year incorporated into its real-time market a mechanism for procuring upward and downward flexible ramping capability in order to respond to variability from renewable sources, the costs for which are borne by load-serving entities and ultimately ratepayers. (See [FERC OKs Ramping Product for CAISO, EIM.](#))

To counter that effect, California will require access to low-cost renewable resources both inside and outside the state, “especially wind and geothermal resources with generation profiles complementary to California solar generation.” The state’s power producers will also need access to energy markets outside California to offload excess generation and reduce ratepayer costs, the study said.

While California has a “substantial amount” of non-firm capacity to interconnect new generators as “energy-only” resources subject to curtailment, the state falls short in the availability of full-capacity interconnections equipped to ensure that output is “fully deliverable” — capable of reaching its load sink without hitting potential constraints.

That distinction is important because under California Public Utilities Commission rules, only fully deliverable resources can be counted toward a utility’s resource adequacy requirements.

The distinction also underlies the RETI report’s assumptions about the hypothetical potential for development of wind, solar and geothermal development in eight transmission assessment focus areas (TAFAs) where large quantities of resources could be constructed to meet the state’s goals.

In most of the TAFAs, full deliverability of new resources would require a significant investment in transmission upgrades in order to relieve constraints. (See [Price Tag on Tx Needed to Meet California 50% RPS: \\$5B?](#)) Development in other TAFAs could be constrained by environmental restrictions or land-use rules.

The Imperial Valley TAFE shows some of the strongest potential for development based on a “hypothetical study range” (HSR) of an additional 3,500 MW of solar and 1,000 MW of geothermal and the existence of favorable land-use planning. New transmission would be necessary to achieve full deliverability.

Development of 4,000 MW of new solar in the Riverside East TAFE would be feasible because of extensive planning on U.S. Bureau of Land Management land through the Desert Renewable Energy Conservation

Plan. (See [Interior Dept. Approves First Phase of California Desert Renewable Plan.](#)) Constructing 500 to 1,000 MW of wind would be less likely because of environmental and land-use restrictions.

While existing transmission in both the Imperial Valley and Riverside East areas could accommodate the lower end of new renewable development estimates, build-out at the high end of the HSR could require up to \$1 billion in transmission upgrades to relieve the so-called “Desert Area Constraint” east of the

Miguel substation.

The sprawling San Joaquin Valley TAFE shows potential for 5,000 MW of new solar development, in part through the reuse of “degraded” — or disused industrial — land, but development could require “substantial” investment in upgrading the region’s low-voltage network.

Full development of Northern California’s renewable potential is considered less likely because of a lack of environmental and land-use planning, as well as limited transmission availability. Tapping an estimated 5,450 MW of wind, solar and geothermal resources could cost between \$2 billion and \$4 billion in new transmission.

The possibilities for development along import-export paths is a mixed bag, according to the report.

Importing an additional 2,000 MW via the California-Oregon Intertie (COI), a major import point from the Pacific Northwest, is not considered feasible without construction of a new 500-kV line from the Oregon border to Tracy, Calif. Still, new transmission built elsewhere in the West and the possibility of dynamic line ratings could result in an increased capacity on the line.

Also, the largely underutilized northbound segment of the COI could transmit 3,000 MW worth of solar exports from California.

“Being in the Northwest, we’re very interested in what are the implications for us,” said Fred Heutte, senior policy associate with the [Northwest Energy Coalition](#), an alliance including environmental organizations, utilities and businesses in Oregon, Washington, Idaho, Montana and British Columbia.

Path 46 out of Arizona has the capacity to accommodate an additional 3,000 MW of imports, although substantial resource development could eventually trigger the Desert Area Constraint, the report said.

“This is quite an impressive bit of work in quite a compressed timeline,” Carl Zichella, director of western transmission for the Natural Resources Defense Council, said of the RETI report. “This is very, very useful work.”

The CEC is seeking comments on the draft final report by Jan. 10. A final study is expected to be issued by the end of this month.

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WAPA, SMUD Extend Scoping Period for Colusa-Sutter Project

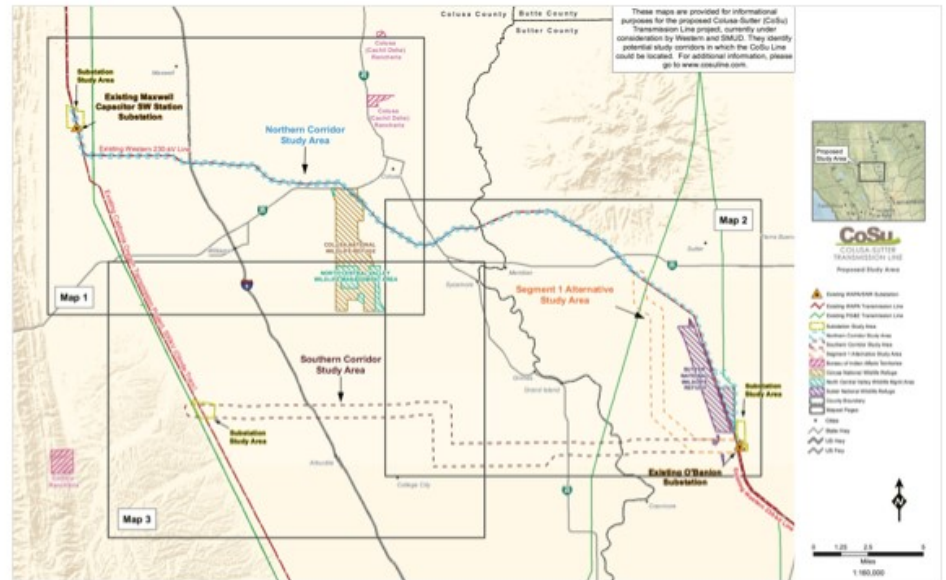
By Robert Mullin

The Western Area Power Administration and Sacramento Municipal Utility District (SMUD) have extended the scoping period for a proposed transmission line intended to increase SMUD's ability to import power from the Pacific Northwest and export from the Sacramento area.

The scoping period for the Colusa-Sutter (CoSu) line will be extended an additional 60 days, from Jan. 6 to March 7, to elicit public comment on environmental issues related to the proposed project, which would create a new 500-kV link between the California-Oregon Transmission Project (COTP) and SMUD and WAPA facilities on the east side of the Sacramento Valley.

Federal power marketing agency WAPA sells power to publicly owned utilities such as SMUD, but its existing transmission facilities do not have enough capacity to meet SMUD's increasing need for energy, the agency said. The new line would connect the COTP system in Colusa County with the Central Valley Project system in Sutter County, improving access to renewable energy generated in the Northwest.

"A recent California Energy Commission



The proposed Colusa-Sutter transmission project is intended to improve SMUD's access to Pacific Northwest renewable resources via the California Oregon Transmission Project. | WAPA

study makes the case for projects like this that enhance transmission capability to import valuable out-of-state renewable resources for California to meet its 50% renewable energy goals by 2030," WAPA and SMUD said in a statement.

That study pointed out that a shortage of available transfer capacity on the California-Oregon Intertie would inhibit California's ability to import additional carbon-free energy from the Northwest. (See [California Tx Policy Must Foster Resource Diversity, Report Shows.](#))

WAPA and SMUD said the project will provide additional bidirectional transmission capacity to improve SMUD's ability to participate in CAISO's Western Energy Imbalance Market (EIM).

SMUD last October announced its intent

to enter negotiations with the ISO to join the EIM, the West's only real-time energy market. (See [Sacramento Utility to Join EIM: Other BANC Members May Follow.](#))

The extended scoping period for the line will include review of an additional study area located about 20 miles south of the three other study areas previously scoped over the past couple years. The newly considered corridor would connect to the COTP in Yolo County and terminate near the Elverta Substation in northwestern Sacramento County, crossing directly into SMUD's service territory.

"The new study area will help us make a more informed choice about how to best meet our future energy needs, while minimizing impacts on the environment and surrounding communities," said Kim Crawford, SMUD's California Environmental Quality Act project manager.

Six public meetings about the line are planned for January and February. Comments received during the meetings will be considered in the preparation of the draft environmental impact report. Any other comments must be submitted by March 7.

WAPA said it will take no action on the proposed project until after the environmental review is completed in 2020.



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FERC Accepts MISO's 2nd Try on Queue Reform

By Amanda Durish Cook

FERC approved MISO's second attempt at new interconnection queue rules, conditioned on the RTO allowing refunds for "significant" changes in upgrade costs and providing more detail on late-stage restudy scenarios.

MISO's new queue process is designed to last 460 days and meant to reduce multiple unscheduled restudies by including mandatory restudies in each stage of the new three-part definitive planning phase. FERC said the design should minimize the backlogs that dogged the old queue by studying project withdrawals "on a more structured basis."

FERC's Jan. 3 order said that while the new queue proposed a longer official timeline than the old process, "the proposal is an improvement compared with MISO's current study process that can take nearly two years due to unscheduled, *ad hoc* restudies." MISO said the old queue process averaged 589 days. The changes formally took effect Jan. 4 ([ER17-156](#)).

In its transition plan, MISO plans to grandfather some late-stage interconnection requests. FERC said MISO's transition "avoids the creation of an unwieldy study group."

Two 'Off Ramps'

The new queue creates two designated off-ramps for interconnection customers to withdraw projects; smaller but more frequent milestone payments that can be applied to an initial payment for the interconnection agreement; and a restriction on restudies after a generator interconnection agreement is executed. If a project is unexpectedly withdrawn, MISO can use milestone payments to fund network upgrades that would have otherwise been needed, lessening the financial

burden on other projects that rely on the upgrades. After an initial \$4,000/MW initial payment, the two subsequent milestone payments are based on a percentage of upgrade costs. (See [MISO: Stakeholders Behind 2nd Queue Reform Attempt](#).) The changes also preserve the ability for MISO to enter provisional GIAs with customers for limited operation "at any time in the interconnection process."

FERC had rejected MISO's first queue proposal in March, saying the higher milestone payments could create barriers to entry and that the RTO placed too much blame for the queue's gridlock on "speculative projects."

"We find that MISO's proposed changes to the Tariff address the commission's previous concerns by implementing more transparent timing and cost information to enhance accountability in preparing timely interconnection studies, providing for more involvement of the interconnection customer in the study process and providing for earlier coordination with affected systems," the commission wrote.

FERC also agreed with MISO that it should weigh stakeholders' feedback before considering a provision that allows projects to withdraw penalty-free if substantial queue delays occur in the future.

Refunds for 'Significant' Changes

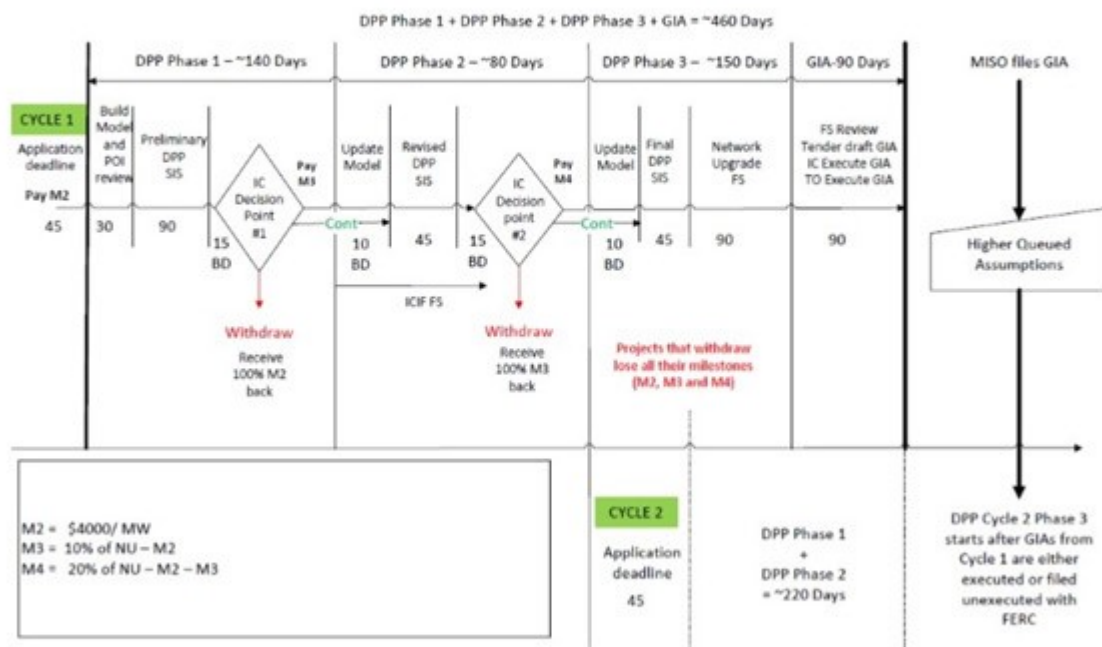
The commission ordered MISO to create a provision allowing refunds of milestone payments if "significant change" affects cumulative network upgrade costs while the project is in the queue's definitive planning phase. It told the RTO to define the degree of change needed to trigger the refund and address the risk of "cascading withdrawals" that penalty-free exits could cause when crafting the provision. MISO's revised filing proposed refund of milestone payments only if the network upgrade cost estimates increase 25% or more between the queue's system impact study and the facilities study of the definitive planning phase.

Additionally, MISO must provide FERC semi-annual informational reports for two years describing the number and types of customers that experience changes in cost estimates for network upgrades greater than 25%. FERC also told MISO to clarify that the RTO does not intend to separately bill withdrawing interconnection customers for another interconnection customer's restudies.

More Detail Required

The commission gave MISO 60 days to clarify what events could initiate a restudy for customers with GIAs. FERC said the

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New MISO interconnection queue: a three-phased approach | MISO



MISO Aims for Improved Frequency Response Modeling

By Amanda Durish Cook

MISO is seeking stakeholder input on how to address declining frequency response capability within the RTO.

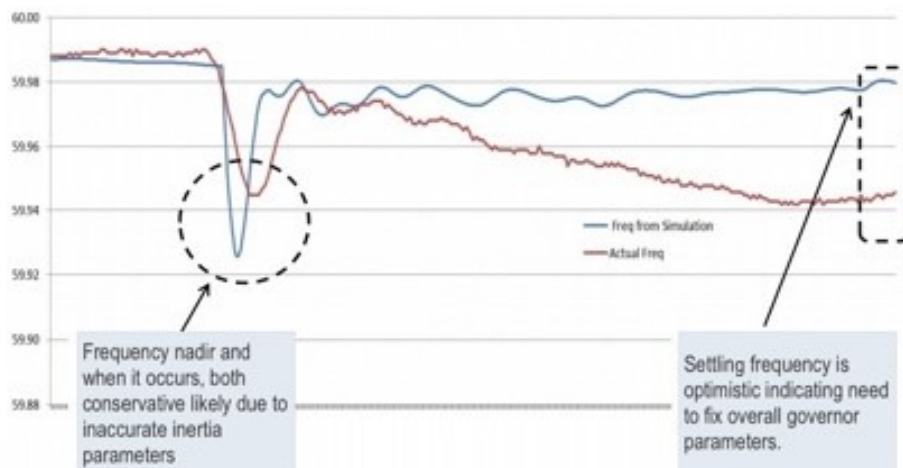
“Frequency response has deteriorated in the Eastern Interconnection over the years,” Michael McMullen, MISO director of regional operations, said at the Jan. 5 Reliability Subcommittee meeting. “It’s currently adequate, but we want to make sure it doesn’t get any worse.”

System operators must maintain the grid at a frequency of 60 Hz in order to maintain network stability. An uncontrolled drop in frequency increases the threat of cascading blackouts.

The RTO says it needs better modeling and is considering more in-depth data collection to support its efforts to improve response to frequency disturbances.

“There is something in the model that isn’t right,” McMullen said, adding that stakeholder involvement is “critical” to more accurate modeling.

McMullen said that MISO’s current post-disturbance modeling is too conservative in estimating the occurrence and length of frequency dips because of its reliance on inaccurate inertia parameters, which factor in the collective ability of generators to



Comparison of post-disturbance frequency at 345-kV bus | MISO

automatically respond to frequency changes based on the pull of load. Simulations show the system recovering too quickly when compared with real events, indicating “a need to fix overall governor parameters,” McMullen said.

MISO currently measures the frequency response of every generator within its system at 24 seconds and 60 seconds following a deviation by polling a megawatt change in output per 0.1 Hz of a frequency deviation. McMullen said the RTO could collect more measurements, including collecting frequency values themselves in addition to megawatt output, gathering data

more frequently at two- to four-second intervals and cataloging local balancing authority and MISO frequency response events in order to identify trends.

Hwikwon Ham, a staffer with the Minnesota Public Utilities Commission, asked if the effort would require major software changes, or if the RTO simply needs to capture more data for better frequency response modeling.

Gathering more data is the first step in determining whether program improvements are needed, McMullen said.

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FERC Accepts MISO’s 2nd Try on Queue Reform

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RTO did not maintain the “existing language regarding restudies related to other types of upgrades or contingencies and has not explained why such existing language is no longer necessary.” The commission rejected the argument of MISO’s generation developers, who said restudies after an executed agreement should be banned altogether.

Per FERC’s order, MISO also has 60 days to add language to make scoping meetings mandatory for transmission owners. The RTO had only proposed mandatory scoping meetings for interconnection customers. FERC said transmission owner attendance is “essential to the purpose of that meeting,

which is to discuss alternative interconnection options, to exchange information including any transmission data that would reasonably be expected to impact such interconnection options, to analyze such information and to determine the potential feasible points of interconnection.”

FERC OKs New Rule on Milestone Payments

In a related order also issued Jan. 3, FERC accepted MISO’s revised plan that applies the M2 milestone payment across all classes of interconnection customer, including external customers (ER16-1817-001).

“The Tariff changes will ensure comparable treatment for all customers, external or

internal, existing or new,” FERC said.

After revising a service agreement last spring for the Louisiana Energy and Power Authority, MISO proposed that external customers should be exempted from interconnection milestone payments because the fees serve to deter speculative projects, and such generators are either in-service, under construction or have an executed interconnection agreement with the transmission provider to which they directly interconnect. MISO also pointed out that the fee is refunded once a generator begins commercial operations. FERC rejected MISO’s stance in October, saying it amounted to preferential treatment. (See [FERC Orders MISO to Levy Interconnection Fees Equally.](#))

MISO said the new queue rules makes it “clear that the M2 milestone payment assessed to any customer is not zero.”



Reliability Subcommittee Briefs

Dispatch Timing Moved Up to Improve Response

MISO told stakeholders last week that its own data set might have been partly to blame for generators not responding efficiently to dispatch instructions.

Steve Swan, MISO senior manager of dispatch and scheduling, said part of the problem was the timing of the RTO's unit dispatch system, which previously captured generator output measurements prior to the end of a five-minute settlement interval in order to inform the next dispatch. Swan said MISO moved the timing forward about 40 seconds — but still prior to the end of the five-minute period — to ensure that results contain the most up-to-date dispatch information to avoid improperly restricting generator movement.

The RTO hopes the new timing will reduce the likelihood that a generator mistakenly appears to be lagging based on a dispatch estimate that lacks the most up-to-date information. The change took place Dec. 15.

"I don't know if it's going to solve all of the problems, but at least now when they see a generator not moving at the offered ramp rate, it'll not be because of MISO instructions," Swan said during the Jan. 5 Reliability Subcommittee meeting.

MISO currently marks generators off-

control — online but not dispatchable — if they fail to follow set point instructions and do not move on their offered ramp rate.

Swan said MISO will compare data before and after the change to determine whether any lags remain and the RTO needs to pursue the issue further.

Independent Market Monitor staff member Michael Wander said that — even after the change — there will be some degree of lag that will be "practically impossible" to eliminate. Still, he thinks the change will bring an improvement.

The Monitor's 2012 State of the Market Report suggested that MISO develop better tools to identify units that are derated or not following dispatch so that they may be placed off-control. That suggestion was included among other recommendations for improving thresholds for uninstructed deviations. (See [Monitor Again Criticizes MISO's Uninstructed Deviation Rules.](#))

MISO Reports Successful November

MISO reported a smooth November in its latest monthly operations [roundup](#), with markets performing as expected.

Above-average temperatures during the month contributed to an average 68 GW of load and a peak load of 81.9 GW on Nov. 21. November gas prices averaged \$2.44/MMBtu, down 16.2% from October.

The month was free from any minimum or maximum generation events or warnings, but MISO on Nov. 12 earned the lowest unit commitment performance rating for the month, with committed but unnecessary resources remaining online to meet minimum run-times.

The RTO on Nov. 28 hit a new 13.3-GW wind production record, which was surpassed Dec. 7 when output reached 13.7 GW.

FERC Liaison: No Commission Disruptions

Chris Miller, FERC liaison to MISO, told stakeholders that the commission will continue to operate as a three-person panel in the near term.

"They all work very well together and have gotten a lot of work done," Miller said of commissioners Norman Bay, Colette Honorable and Cheryl LaFleur.

Honorable's term ends in June, but she is eligible to serve until the end of the year under a grace period if the Senate is unable to confirm a replacement, Miller noted. He said FERC staff are prepared for the impending leadership change, and as direction changes are the norm at the commission, the agency expects no delays in work output. (See [CPP, FERC's Bay, Honorable Among Losers in Trump Win.](#))

— Amanda Durish Cook

MISO Aims for Improved Frequency Response Modeling

Continued from page 7

"It's getting enough data to be able to talk with entities," he said.

MISO is also exploring incorporating its phasor measurement units — devices installed across the Eastern Interconnection to measure the electrical waves on the grid at a specific point in time — in the effort. Those devices can isolate a frequency event and identify specific responses by generators, although their use for model validation is currently in the "embryonic" stage.

The RTO is continuing its efforts to capture data and correlate the numbers to a disturbance, McMullen said. It must also work on providing phasor measurement

unit data to member companies.

MISO agrees with FERC's recently proposed rule mandating that all new resources connecting with the grid have frequency response capability as a precondition for interconnection, McMullen said ([RM16-6](#)). (See [FERC: Renewables Must Provide Frequency Response.](#)) However, he noted that the new rule is not tailored to an energy market and does not propose any compensation mechanisms for providing frequency response.

MISO Consulting Advisor Terry Bilke said MISO consistently performs above NERC's frequency response standard ([BAL-003-1](#)).

"We don't anticipate any frequency problems as long as there's not a change in fleet," Bilke said. "The [Notice of Proposed

Rulemaking] requiring new interconnection agreements to [have a governor] will ensure there's no backsliding."

Responding to a request by RSC Chair Tony Jankowski that MISO release its 2016 frequency response data, McMullen said the RTO must first determine what information can be shared publicly.

In 2015, MISO met NERC's frequency response requirement at an average of -475 MW/0.1 Hz, more than doubling the NERC obligation of -211 MW/0.1 Hz. Still, the results were not as good as in 2014. (See "MISO Frequency Response Doubles NERC Requirements," [MISO Reliability Subcommittee Briefs.](#))

McMullen said he would update the subcommittee on MISO's progress on the matter in April.



PJM Monitor Asks FERC to Act on 'Paper Capacity'

RTO Effort to Eliminate Arbitrage Was Rejected in 2014

By Rory D. Sweeney

PJM's Independent Market Monitor urged FERC to address longstanding concerns over demand response providers and others selling "paper capacity" to arbitrage price differences between the Base Residual and Incremental auctions.

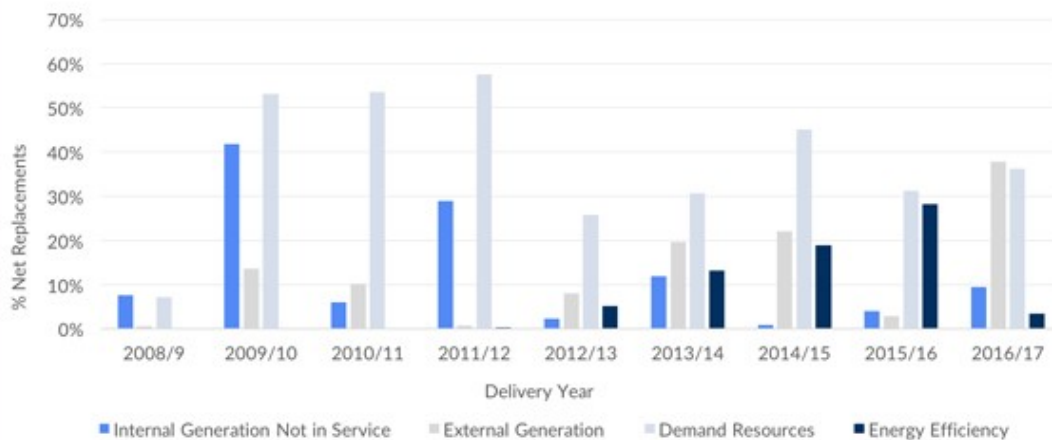
The Monitor made its request in a Dec. 30 filing that was accompanied by a report analyzing the use of replacement capacity since 2007 ([ER14-1461, EL14-48](#)).

"The lack of a specific requirement that all capacity resources be demonstrably physical assets when offered into PJM capacity auctions continues to provide strong incentives to offer speculative paper capacity," the report concludes. "The pattern of IA prices being substantially lower than BRA prices, exacerbated by PJM's preannounced sales of capacity at low prices in IAs, continues. The pattern of consistently extraordinarily high levels of replacement by DR providers and very high levels of replacement by capacity imports and planned internal generation continues."

PJM attempted to address the issue in 2014, but FERC rejected its proposed rule changes to curb speculation in the auction, saying it created undue barriers to entry. The commission said PJM's proposed arbitrage fix — which the RTO proposed unilaterally after failing to obtain stakeholder consensus — "will simultaneously increase risk to suppliers and costs to load, without guaranteeing equally offsetting benefits to the PJM grid as a whole." (See [PJM Wins on DR, Loses on Arbitrage Fix in Late FERC Rulings](#).)

Instead, the commission said it would convene a technical conference to find a solution. But FERC has not scheduled the conference, the Monitor noted, because of PJM's request to defer action pending implementation of Capacity Performance.

The Monitor's Dec. 30 filing asked the commission to "proceed without further



PJM's Independent Market Monitor says demand response providers disproportionately replace commitments from Base Residual Auctions compared with sellers of other resource types. External generation and internal generation not in service also had high rates of replacement in some years. | PJM

delay towards solutions to the issues."

"Sellers of demand resources in [Reliability Pricing Model] auctions disproportionately replace those commitments on a consistent basis compared to sellers of other resource types," the Monitor said in its report. "The risks to the markets associated with the sale of DR without any supporting information on the plausibility of the underlying assets [mean] ... the system is less reliable than it might otherwise be because the full amount of DR that cleared the RPM auction is not actually available, the price to other capacity resources has been suppressed by the sale of the speculative DR, new entry of other capacity resources could have been forestalled by the sale of speculative DR and there may not be adequate replacement resources available with short notice prior to the delivery year."

"There is no reason for further delay on this matter," says the analysis, which updates reports from 2012 and 2013. "The evidence has been and continues to be quite clear."

The filing comes just weeks after the Monitor teamed with PJM to reinstate capacity-replacement rules that had been stripped away in November through a stakeholder initiative to reduce the accounting reconciliation time for Incremental Auction capacity transactions. (See "PJM, IMM Win Approval for Reinstatement of Capacity-Replacement Rules," [PJM Markets](#)

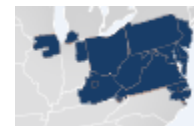
[and Reliability Committee Briefs](#).)

Both PJM and the Monitor had opposed the stakeholder proposal, and the Monitor filed a complaint with FERC that caused some stakeholders who had supported the proposal to reconsider their positions. The complaint was withdrawn after the PJM/IMM proposal was approved.

At issue was a rule implemented in May that could allow what the Monitor describes as "speculative" capacity offers to clear at BRAs and then be replaced without justification at lower prices with capacity in subsequent Incremental Auctions. The rule — meant to help participants avoid Capacity Performance penalties when legitimate bids into the BRA from participants like DR providers unexpectedly become unable to deliver — had been superseded by a pre-existing rule that required justification for replacement.

However, PJM stakeholders who provide financial services find it onerous because it requires them in certain situations to maintain collateral for positions they have sold out of, a situation Citigroup Energy's Barry Trayers termed "double counting."

Monitor Joe Bowring stated at the time that reinstating the rule wasn't "optimal," but it was better than allowing capacity replacements without justification.



FERC Conditionally Approves PJM's Excess Capacity Plan

By Rory D. Sweeney

FERC has approved PJM's proposal for selling back excess capacity in this February's third Incremental Auction for the 2017/18 delivery year.

The commission, however, agreed with objectors on several points, prompting it to require key revisions to the plan ([ER17-335](#)).

"While we acknowledge deficiencies in PJM's filing ... we also agree with PJM that it is just and reasonable for PJM to alter the shape of its sell-back offer curve to a straight line, eliminating the potential that the relevant Incremental Auction could clear at or near \$0/MW-day," the commission said.

The proposal dealt with PJM's transition to the Capacity Performance market construct, which was approved in 2015 and gradually implemented over the 2016/17 and 2017/18 delivery years. The RTO had already obtained capacity for those years under previous rules, so the approval also established two transition auctions to procure any additional capacity needed.

The transition auction for the 2017/18 delivery year saw the RTO procure 10,017 MW of previously uncommitted capacity. PJM holds three IAs following the initial Base Residual Auction for a specific delivery year, during which committed capacity resources can buy back their supply obligations and PJM can acquire or release capacity in response to updated load

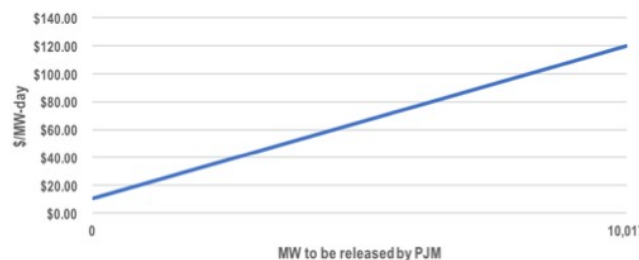
forecasts. The IAs for the transition years also covered the results of the transition auctions.

The methodology PJM used for releasing excess capacity from the 2016/17 delivery year resulted in 4,818 MW sold at an average price of \$4.79/MW-day, and PJM warned that using the same process to release any of the 10,017 MW for 2017/18 would potentially result in an offer of \$0/MW-day — with no money flowing back to load.

To better reflect the capacity's value, the grid operator proposed an alternative approach that would identify any necessary changes to the amount of capacity the RTO had already procured and create a price curve for selling any excess.

PJM additionally proposed that any excess that doesn't sell at the auction would not be eligible to become excess-commitment credits. PJM creates the credits from excess capacity that doesn't clear IAs and allocates them to load-serving entities, who can trade them or use them to replace existing capacity requirements. (See "Proposal Chosen for Capacity Release," [PJM Markets and Reliability and Members Committees Briefs](#).)

FERC approved PJM's plan but ordered several changes in recognition of objections made by American Municipal Power. The commission directed PJM to revise the price



FERC-approved excess capacity price curve | PJM

curve so that it begins at the lowest price point on the current sell-back offer curve and ends at the BRA clearing price for that delivery year. It also ordered allocating uncleared excess capacity as excess-commitment credits and consolidating separate capacity sellbacks into the single auction.

"Performing two auctions in this manner will result in creating two prices for the same product in the same auction, without any justification for the different price," the commission said.

FERC clarified that the approved changes to the sell-back procedure only apply to the third IA in February.

PJM Independent Market Monitor Joe Bowring was surprised the commission put so much effort into what he felt was a minor detail, but he was still disappointed that his office hadn't intervened in the docket. During discussions to secure stakeholder endorsement of PJM's proposal, the Monitor repeatedly objected to the plan.

PJM Analysis on Artificial Island Project Delayed Again

PJM announced that its comprehensive analysis and recommended solution for issues related to Artificial Island won't be ready until April.

Staff had expected to present the plan at the February meeting of the RTO's Board of Managers.

"While PJM's analysis is progressing well, during discussion of preliminary results with stakeholders, several questions and considerations were raised," PJM's Steve Herling said in an emailed announcement. "More time is needed to evaluate and respond to these questions and considera-

tions."

Following complaints over cost allocation and a near doubling of the estimated costs, the board suspended the Artificial Island project, PJM's first Order 1000 competitive solicitation, pending a "comprehensive" staff analysis to be completed by next month. (See [PJM Board Halts Artificial Island Project, Orders Staff Analysis](#).)

PJM presented preliminary results of its analysis at its Planning Committee meeting in December and concluded that several elements of the scope of work would change. Stakeholders raised concerns about

the changes and questioned whether PJM planned to re-evaluate all of the proposals in light of the updated criteria. Herling said at the time that the RTO was only "realistically" focused on the finalists. (See "PJM Review of Artificial Island Bid Elements Completed," [PJM Planning/TEAC Briefs](#).)

Independent Market Monitor Joe Bowring characterized the decision as a "tough call" and said the extra two months "is not that big a deal."

— Rory D. Sweeney

SPP NEWS



Seams Steering Committee Briefs

SPP Stakeholders Approve Revisions to Seams Project Cost Allocations

SPP stakeholders agreed on Wednesday to amend a two-year-old policy paper and clarify when FERC approval would be needed to allocate costs for some seams projects between 100 kV and 300 kV.

The Seams Steering Committee voted 6-1 in favor of the change.

The change clarifies that the RTO will recover costs for seams projects greater than 300 kV under its nationwide highway cost allocation methodology. Costs for projects lower than 300 kV would also be allocated under highway funding unless the project meets certain criteria. In those cases, the Regional State Committee or Markets and Operations Policy Committee could recommend costs be allocated using SPP's highway/byway methodology.

The highway/byway methodology considers facilities of 300 kV or above as highway facilities, with their costs allocated on a regionwide, postage stamp basis. Facilities between 100 kV and 300 kV are categorized as byway facilities, with two-

thirds of the costs assigned to the host zone and one-third allocated regionwide. Projects below 100 kV are allocated entirely to the host zone.

Under the revised language, projects or tie lines of 100 kV or higher within a seams partner area could be allocated regionwide. Alternatively, based on the results of a seams project study, the RSC and the MOPC may recommend the Board of Directors approve cost allocation under the highway/byway cost allocation methodology, with the byway costs assigned to a zone expected to receive at least 60% of the project's benefits. If the board approves such cost allocation, it would seek FERC approval on a project-by-project basis.

Within SPP, projects and tie lines of 100 kV or higher could also be allocated regionwide subject to FERC approval on a project-by-project basis, potentially expanding the number of projects that can be funded through the highway/byway methodology. FERC approval would be required only if the Tariff does not already allow such cost allocation.

Otherwise, based on the seams project study, the MOPC and/or the RSC can

recommend the board approve highway/byway cost allocation if a single zone will receive at least 60% of the benefits. No FERC approval would be required.

SPP defines seams projects as non-interregional projects of 100 kV and above that benefit the RTO and one or more neighbors with a minimum cost of \$5 million, and usually require a benefit-cost ratio of at least 1.0. SPP and the seams partner must agree to cost sharing.

ITC Holdings' Marguerite Wagner cast the lone dissenting vote. Wagner and ITC contended the revisions would carve out seams projects from FERC's Order 1000 process "without justification."

Wagner expressed a preference for FERC-enforceable joint operating agreements to determine project cost allocation. David Kelley, SPP's director of interregional relations, noted that would require the negotiation of a series of JOAs with multiple seams partners.

"I don't know whether there's a one-size-fits-all formula we can put down," he said.

Two other committee members, the Northeast Texas Electric Cooperative and Xcel Energy, abstained.

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 April 3 – 4, 2017
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 Washington, DC

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Seams Steering Committee Briefs

Continued from page 11

The FERC filings would be necessary because the SPP Tariff does not currently allow highway/byway cost allocation of seams projects.

The policy changes reflect input from the board and RSC since the paper was originally approved in 2014. Staff said the paper will remain separate from SPP's business practices and other governing documents and not require a revision request.

The revisions struck previous language that would have required seams projects greater than 300 kV to be recovered according to the highway/byway methodology. Those projects below the 300-kV threshold would have been recovered regionally through highway funding.

The committee will now send the policy paper to the Cost Allocation Working Group for its review. It hopes to have a finalized document for approval by the April meetings of the board, MOPC and RSC.

SPP-AECI Joint Study Recommends Two Projects

SPP and Associated Electric Cooperative Inc. staff are proposing two joint projects

addressing thermal overloads and high-voltage issues along their seam in southern Missouri, according to a draft version of the biennial SPP-AECI Joint and Coordinated System Plan [report](#) released Friday.

The report identified a reactor in and/or around SPP's 345-kV substation in the Brookline area and a new 345/161-kV transformer at AECI's Morgan substation, along with an uprate of the 161-kV line between Brookline and Morgan, as being "mutually beneficial" to both entities.

Kelley told the committee the Morgan portion of the projects is "effectively" on the AECI system and will still have to undergo a regional review.

SPP and AECI evaluated 56 different potential transmission solutions to address the Brookline area's needs. Staff looked at five targeted areas in all but determined one was no longer an issue and agreed the other three could be managed without joint projects.

Any final solutions will be coordinated with the SPP 2017 Integrated Transmission Planning's 10-year assessment.

The joint study focused on predetermined target areas "to concentrate study resources on the geographic areas along the SPP-AECI seam most likely to benefit from mutually beneficial transmission projects."

Those areas were determined by historical analysis, operational experience, recent regional planning efforts and stakeholder feedback.

The SPP-AECI joint operating agreement requires a joint study be conducted every two years to ensure "reliable, efficient and effective operation[s]" along the seam.

Stakeholder comments on the report are due to SPP's [Adam Bell](#) or AECI's [James Vermillion](#) by Friday. That feedback will be incorporated in the final version of the joint study, which will be posted on SPP's website.

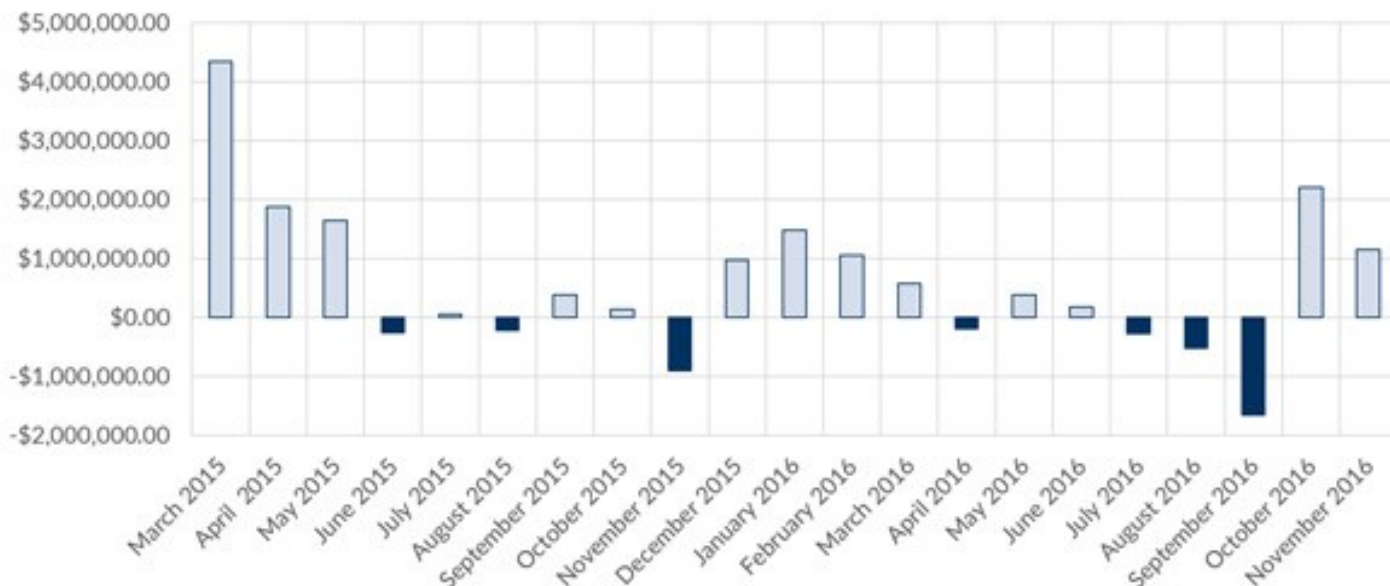
Based in Springfield, Mo., [AECI](#) is owned by six regional generation and transmission cooperatives.

MISO M2M Payments Total \$1.2M in November

Staff's monthly market-to-market update once again showed a large flow of dollars from MISO to SPP, primarily attributed to temporary flowgates between the two RTOs. MISO sent \$1.15 million to SPP in November, with \$879,305 coming from temporary flowgates, and it has now compensated its seams neighbor more than \$12.4 million for M2M since March 2015.

Temporary flowgates incurred 265 hours of binding M2M, with permanent flowgates accounting for 92 hours binding.

— Tom Kleckner



Note: Positive values are payments to SPP from MISO; negative values are payments from SPP to MISO.

M2M settlements | SPP



SPP Requests DOE Approval to Export Power to Canada

SPP has filed an application with the Department of Energy seeking permission to transmit electricity from the U.S. into Canada, using member Basin Electric Power Cooperative's existing transmission facilities in North Dakota.

The RTO wants to supply power on an emergency basis for five years, exporting surplus energy in excess of SPP's load requirements. According to the [filing](#), Basin Electric's facilities were previously authorized by a presidential executive order and "are appropriate for open access transmission by third parties."

SPP said Thursday that it wants to "address emergency assistance transactions," but

that it doesn't normally purchase or sell power to or from "such external entities." In December 2015, it completed its first — and only — international transaction when it imported power from Canadian electric utility SaskPower during an emergency situation in North Dakota. (See [SPP, SaskPower Make First International Trade](#).)

SPP made the filing Nov. 14 pursuant to Section 202(e) of the Federal Power Act. It was published in the *Federal Register* on Jan. 4.

The Energy Department will evaluate environmental impacts and determine whether the proposed action will negatively affect U.S. electric supplies or reliability before issuing a final opinion. International energy

transactions fall within the department's jurisdiction.

In March, FERC approved the RTO's request to recognize the U.S.-Canadian border as a point of sale for transactions with Canadian transmission providers. The ruling allows Canadian companies to register their resources with and make them available to SPP under its market rules. (See "FERC OKs Canadian Border Point-of-Sale Filing," [SPP Briefs](#).)

SPP gained an interconnection with Canada when Basin Electric became a member in October 2015 as part of the Integrated System.

— Tom Kleckner

Mountain West to Explore Joining SPP

Continued from page 13

do, Platte River Power Authority, and Tri-State Generation and Transmission, which together control about 11,000 miles of transmission.

"Participation in a regional market can provide operational efficiencies through economies of scale and increased opportunities to bring lower-cost renewables into our system," Platte River CEO Jason Frisbie said.

"Like our decision to join SPP for our east-side power supply, this announcement reflects years of diligent work and analysis by our employees and the Mountain West team," said Paul Sukut, CEO of Basin Electric.

Steve Beuning, Xcel's director of market operations, said the discussions will be a "crucial step in evaluating the potential benefits of a regional energy market." Xcel has been a strong advocate for an organized market in the interior West to improve integration of its generation portfolio heavy in wind resources.

Mountain West expects to reach a decision whether to join SPP by midyear and is targeting 2019 for market implementation, subject to stakeholder input and necessary approvals.

"While Mountain West is optimistic that an RTO may benefit its entire membership, each Mountain West participant will ultimately need to evaluate for itself whether potential membership makes sense," the group said.

In the event that negotiations with SPP are unsuccessful, Mountain West could pursue similar discussions with MISO and PJM, the group said.

4th Annual MISO South Regional Conference

Thursday, February 16th

The Hilton New Orleans Riverside
Two Poydras Street
New Orleans, Louisiana



ERCOT Market Summit

February 27 – March 1, 2017
Courtyard by Marriott Austin
Downtown/Convention Center
Austin, TX

COMPANY BRIEFS

John Kotek Joins NEI as VP for Policy Development

John Kotek has joined the Nuclear Energy Institute as vice president for policy development and public affairs, succeeding Vice President Revis James. He will provide policy and public affairs leadership on financial, economic, tax, electricity market and environmental issues.



Kotek served as acting assistant secretary in the Department of Energy's Office of Nuclear Energy since July 2015, following an appointment as principal deputy assistant secretary in January 2015.

Additionally, Beverly Marshall, who has served as NEI's acting vice president for governmental affairs for the past four months, has been promoted to the position on a permanent basis.

More: [Nuclear Energy Institute](#)

Tillerson Cuts Ties with Exxon Prior To Senate Confirmation Hearing

Exxon Mobil CEO Rex Tillerson, President-elect Donald Trump's nominee for secretary of state, is cutting ties with the company one week before his Senate confirmation hearing.



Darren Woods, an Exxon veteran for 25 years who served as the company's president, took over as CEO at the beginning of the year.

Tillerson, who worked for Exxon for more than 40 years, will receive a \$180 million retirement package.

More: [The Associated Press](#)

Duke Reveals Possible Coal Ash Spill at Rogers Energy Complex

Heavy rain last week washed out part of a temporary berm at Duke Energy's Rogers Energy Complex, raising the possibility that storm water contaminated with coal ash ran into a nearby creek.

Duke does not know yet whether the storm water contained coal ash. It has taken water samples from Suck Creek and the Broad River, to which it runs. Crews from three divisions of the North Carolina Department




of Environmental Quality have been on site and haven't seen any coal ash in the storm-water channel.

"This is just the latest in a long line of Duke Energy failures to safely store coal ash and operate dams near waterways," said Frank Holleman, a senior attorney with the Southern Environmental Law Center.

More: [Charlotte Business Journal](#); [Charlotte Business Journal](#)

Xcel Files Plan to Make Minn., ND More Independent

 Northern States Power-Minnesota, a subsidiary of Xcel Energy, filed with state regulators last week a proposed resource treatment framework that would effectively exclude North Dakota from future power plant capacity additions in the utility's five-state service area in the upper Midwest.

The proposed RTF, which was filed simultaneously in North Dakota, seeks a "framework that would allow Minnesota and North Dakota to gradually become more independent of one another with respect to future resource selection."

The utility noted that it advocated against selection of the Aurora Solar project in Minnesota, but the project was selected regardless. Thereafter, it defended the project — despite its reservations — to North Dakota regulators, who have not approved it.

More: [GenerationHub](#)

MDU Agrees to Purchase Power From Expanded Wind Farm

Montana-Dakota Utilities has signed a 25-year power purchase agreement for the Thunder Spirit Wind expansion consisting of 13 to 16 turbines in southwest North Dakota, with an option to buy at the close of construction.


The agreement with a subsidiary of ALLETE Clean Energy increases MDU's generation

portfolio from about 20% renewables to 25%.

MDU purchased the original 107.5-MW wind farm from ALLETE in December 2015. The new project provides a combined 150 MW and is expected to go online in December 2018.

More: [MDU Resources Group](#)

Ormat Acquires Viridity for \$35M, Future Payments Possible


 Ormat Technologies announced last week that it will acquire Viridity Energy for \$35 million with the possibility of additional monies payable upon achievement of performance milestones at the end of fiscal years 2017 and 2020.

During its eight years in business, Viridity has sought to aggregate distributed energy resources into virtual power plants. It received more than \$40 million in venture capital.

The acquisition marks Ormat's entry into energy storage and distributed generation markets.

More: [Greentech Media](#)

SDG&E's Lobbying on Community Choice Suspended

 San Diego Gas & Electric's plan to lobby on a community-choice program has been suspended, with state regulators saying the utility is not complying with directions.

Under California law, SDG&E is prohibited from lobbying or marketing on community choice unless it forms an independent district funded by shareholders, rather than ratepayers. Although the California Public Utilities Commission approved SDG&E's plans, it now says it does not have enough information to show that the independent marketing district is truly separate from SDG&E.

Allison Torres, a spokeswoman for SDG&E, said the utility would provide more information to the CPUC this month.

More: [KPBS](#)

Continued on page 15

COMPANY BRIEFS

Continued from page 14

Dominion's Leidy South Project Gets FERC's Authorization

Dominion Transmission has received all federal authorizations necessary to begin construction on its \$210 million Leidy South Project after FERC gave its thumbs-up last week.

The project will serve new and existing power generation facilities with natural gas traveling from the Leidy Interconnect in Clinton, Pa., to points in Loudoun County, Va., moving through Maryland.

Panda Stonewall, Virginia Power Services Energy and Mattawoman Energy have signed binding agreements for all of the project's capacity, Dominion told FERC.

More: [Natural Gas Intelligence](#)

Dominion Goes Forward on Pipeline Despite Environmental Battles

Dominion expects to begin construction on its Transco-to-Charleston pipeline project in South Carolina in early 2017, notwithstanding a battle with environmentalists.

Upstate Forever is challenging an environmental assessment issued by FERC on Oct. 19 that found the project would not have a significant impact. The group also seeks to stop South Carolina regulators from issuing a permit for construction in navigable waters.

Dominion spokesperson Kristen Beckham said the company has reached agreements regarding about 60% of the easements required for the project and is in the process of selecting a construction contractor, procuring materials and seeking federal, state and local permits.

More: [Greenville News](#)

FEDERAL BRIEFS

New Group Asks for Millions to Fight Opposition to Trump's EPA Pick

A new nonprofit that doesn't have to disclose its donors is seeking contributions to help get President-elect Donald Trump's nominee to head EPA, Oklahoma Attorney General Scott Pruitt, installed in the post.



The group, Protecting America Now, has issued a flier, obtained by Politico, assuring individual and corporate donors that its 501 (c)(4) status means they can remain anonymous. It is asking for contributions ranging from \$25,000 to \$500,000.

It is unclear who is behind the group, which says it needs millions of dollars for advertising and social media campaigns to fight "anti-business, environmental extremists" who oppose Pruitt.

More: [Politico](#)

Audit Cites BPA for Improperly Managing Contractor Workforce



The Bonneville Power Administration failed to properly monitor the outsourcing of tasks that may be inherently governmental, according to a Dec.

29 audit by Rickey Hass, acting Department of Energy inspector general.

The audit, which arose from a 2015 hotline complaint, found that in administering its 1,921 active service contracts, BPA sometimes "created prohibited personal services contracts by establishing improper employer/employee relationships with supplemental labor workers."

BPA's management agreed to recommendations in the audit report, which included that the agency review its contract terms and administration of supplemental labor laws to ensure against personal services contracts. The report also recommended that BPA develop a workforce plan targeted at finding an appropriate mix and number of federal contract services.

More: [Government Executive](#)

Ontario Power Undeterred from Burying Nuke Waste by Lake Huron



Bruce Power Generating Station

Ontario Power Generation still wants to bury its nuclear power plant waste near Lake Huron after examining two alternative

sites in response to a request by Canadian Environment Minister Catherine McKenna.

Ontario Power is proposing burying low- and intermediate-level waste on the grounds of the Bruce Power Generating Station near Kincardine, Ontario. The waste would be encased in a limestone formation that it says has been stable for 450 million years, with the storage chamber being much deeper than the lake.

Building a disposal facility at either of the alternative sites — one in a crystalline rock formation in north-central Ontario and the other in limestone in the province's south — would create a new industrial footprint and boost greenhouse gas emissions for decades, according to the company's studies.

More: [The Associated Press](#)

Native American Sites Become Issue in Federal Dam Review

The Federal Columbia River System Cultural Resources Program, which manages thousands of Native American sites, is contributing information for a court-ordered environmental impact statement concerning the struggling salmon population and the operation of 14 federal dams in the Columbia River Basin.

The Cultural Resources Program does not publicize its accomplishments in order to protect Native American sites from looters.

The review is being conducted under the

Continued on page 16

FEDERAL BRIEFS

Continued from page 15

National Environmental Policy Act, which requires equal weight be given to the National Historic Preservation Act in addition to the Endangered Species Act.

More: [The Associated Press](#)

DOE Pulls Funds for Windmill Farm off NJ Coast

The Department of Energy has cut off federal funding for a project to build six windmills about 3 miles off the Atlantic City, N.J., coast because of the developer's failure to meet a Dec. 31 deadline to have a power purchase agreement in place.

The department is revoking most of the \$47 million it pledged to the project by Fishermen's Energy in 2014. Some \$10.6 million was already spent on preliminary work.

New Jersey regulators had rejected the plan three times. Fishermen's CEO Chris Wissemann said the company will try to keep the project viable without federal funding, even if it must wait until a new administration is in place following Republican Gov. Chris Christie's departure in 2018.

More: [The Associated Press](#)

Timothy Massad Resigns As Chairman of CFTC

Timothy G. Massad resigned last week as chairman of the Commodity Futures Trading Commission, effective Jan. 20, 2017.

Massad was sworn in as chairman on June 5, 2014. He previously served as assistant secretary for financial stability at the Treasury Department, overseeing the Troubled Asset Relief Program. Before becoming assistant secretary, he served as chief counsel for the program.

More: [U.S. Commodity Futures Trading Commission](#)

Trump Poised to Appoint TVA Board Majority

President-elect Donald Trump could appoint a majority of the Tennessee Valley Authority's nine-member board as early as May 18 — and he could use that power to fulfill a campaign promise to promote more coal generation.

One-third of the board was vacated last week because of the Republican-controlled Senate's failure to confirm President Obama's reappointment of Chairman Joe Ritch and the chairmen of two key board committees, Peter Mahurin and Mike

McWherter, all of whom are Democrats. Two other seats additionally will be vacated this year.

Over the past three years, TVA CEO Bill Johnson moved the agency away from its dependence on coal-fired power generation in favor of more nuclear, natural gas and purchased wind or solar-generated power.

More: [Times Free Press](#)

Methane Regulations May Get Axed Under Trump Administration

Regulations under the Obama administration to cut methane emissions by the oil and gas sector may be in for a wild ride when President-elect Donald Trump takes office.

Scientists have found that after many years of little change, concentrations of methane in the atmosphere have increased by 3% over the past eight years.

While the U.S. government has taken steps under President Obama to stem methane emissions, Trump has said environmental regulations increase the cost of doing business and kill jobs. Oklahoma Attorney General Scott Pruitt, Trump's pick to head EPA, has claimed the agency overly regulates oil and gas companies.

More: [NPR](#)

STATE BRIEFS

ARIZONA

ACC to Consider Correcting Solar Net Metering 'Grandfathering' Period



Rooftop Solar

The state's Corporation Commission this week will consider an amendment correcting the grandfathering period for rooftop solar customers' eligibility for retail net metering.

In late December, the commission voted to end net metering but grandfather the rules for customers whose systems are already interconnected with their utility when new export rates become effective. Grandfathered customers will keep their net metering rates for 20 years, starting from when their systems were turned on.

Arizona Public Service filed documents saying it believes the grandfathering period was supposed to apply to customers who submit an interconnection application by the effective date of the export rate decision issued in their utility's rate case, as opposed to date of interconnection.

More: [Arizona Daily Star](#)

Dispute from 2014 Continues As Utility Regulators Sworn in

Last week's swearing-in ceremony for state utility regulators did not put to rest a battle

in the Corporation Commission that's been brewing since 2014.

Incumbent Commissioner Bob Burns is continuing his efforts to find out how much of the more than \$3 million spent to elect Tom Forese and Doug Little in 2014 came from Arizona Public Service or Pinnacle West Capital. He has issued subpoenas, which APS and Pinnacle are fighting in court.

Burns refused to support Forese for chairman, saying after the meeting that he and incumbent Andy Tobin, who was elected to a new four-year term, had improperly tried to fire a commission employee and effectively got another to quit. Forese denied the allegations.

More: [Capitol Media Services](#)

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STATE BRIEFS

Continued from page 16

CALIFORNIA

Appeals Court to Hear San Onofre Settlement Case in February



The 9th U.S. Circuit Court of Appeals has agreed to hear arguments in February in a lawsuit filed by San Diego nonprofit Citizens' Oversight seeking to overturn a 2014 settlement that assigned ratepayers \$3.3 billion of the \$4.7 billion costs of the San Onofre nuclear plant closure in 2012 amid a radiation leak.

The group unsuccessfully argued to the lower court that the deal was lopsided and improperly influenced by an undisclosed meeting between state regulators and a utility executive.

The state Public Utilities Commission argued in a new court filing last week that the case is moot because it reopened the settlement agreement in May and a new law requires regulators to disclose backchannel conversations.

More: [The San Diego Union-Tribune](#)

San Diego Lighting Up with 14,000 Energy-Efficient Lights

San Diego has struck a \$30.3 million deal with General Electric subsidiary Current, powered by GE to replace 14,000 outdoor city lights early this year to make them more energy efficient, with the capability to dim and brighten as needed.

The lights, which San Diego will pay for over the next 13 years, are expected to reduce the city's energy consumption by 11,600 MWh/year and generate \$2.4 million per year in energy savings.

They additionally will help the city meet some of the goals of its climate action plan,

which calls for sharp reductions in greenhouse gas emissions.

More: [The San Diego Union Tribune](#)

State-Funded Program Breaks Solar Barrier for Low-Income Households

A state-funded program paid for by cap-and-trade revenues is bringing solar energy to households in poor neighborhoods.

Grid Alternatives, a nongovernmental organization, recruits volunteers to help implement the state's \$162 million Single-Family Affordable Solar Homes incentive program.

Stan Greshner, one of Grid Alternative's vice presidents, said low-income families for years have been indirectly paying for solar programs through ratepayer fees or taxes but can't afford to take advantage of the long-term savings solar offers. "It's the right thing to do," he said.

More: [CBC News](#)

KENTUCKY

State Rep. Gerald Watkins Seeks to End Moratorium on Nuclear Plants

State Rep. Gerald Watkins has prefled legislation to allow nuclear power plants in the state. If passed, it would eliminate a 1980s moratorium that bars nuclear power plants until the U.S. has a permanent repository for nuclear waste.

"Although no permanent site is planned anytime soon, the reality is that this ban no longer makes sense, because we have come a long way in making sure the waste is handled in a responsible way," Watkins said.

He said Western Kentucky is particularly suited for a nuclear plant, given the know-how the local workforce gained through the Paducah Gaseous Diffusion Plant.

More: [Rep. Gerald Watkins](#)

MARYLAND

First Net-Zero Energy School Opens in Columbia

Wilde Lake Middle School in Columbia debuted this week as the state's first net-zero energy school, with a 2,000-solar-panel array.



The roof of the \$33 million building holds 1,400 solar panels, and another 600 panels collect sunlight from the ground. The building also has energy-efficient architecture and insulation, a geothermal heat pump system and lights that respond to the amount of sunlight in a room and turn off when it's empty.

The state's Energy Administration provided a \$2.7 million grant to assist with construction.

More: [The Baltimore Sun](#)

MASSACHUSETTS

Pipeline Project Settles ROW, Contends with Water Permit Appeal



Tennessee Gas Pipeline struck a legal settlement last week to access a

right of way through a state forest for its \$93 million Connecticut Expansion Project, but it still must contend with an opponent's legal appeal of a water quality permit before it can begin construction of its new pipeline.

Parent company Kinder Morgan will pay \$1.28 million so it can access a right of way through the state forest in Sandisfield and hopes to begin construction by Nov. 1. The settlement with the state, the Department of Conservation and Recreation and other parties includes environmental remedies, replacement land for state conservation, compensation to landowners and recreational upgrades within the 400-year-old woodland preserve.

The Massachusetts Pipeline Awareness Network is appealing the Department of Environmental Protection's grant of a water quality permit to the 1st U.S. Circuit Court of Appeals. Hearings are scheduled for Jan. 10 and Jan. 18.

More: [The Berkshire Eagle](#)

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STATE BRIEFS

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MICHIGAN

PSC Seeks Details from Consumers On Plan to Close Palisades Plant

State regulators have given Consumers Energy 30 days to file an updated five-year energy forecast following its December announcement of a business deal to close the Palisades nuclear plant in South Haven.

Consumers sold the plant to Entergy in 2007 and was supposed to keep buying power from it through at least 2022. Entergy has a license to operate Palisades through 2031. However, the two companies struck a business deal that includes closing the plant in October 2018.

In December, the Public Service Commission sent a letter to Consumers seeking information on the expected closure, including its effect on grid reliability, air pollution and emissions; how Consumers plans to replace the roughly 800 MW of power it generates; and other alternatives that were considered. No timeline has been set for Consumers to respond.

More: [Michigan Radio](#)

OHIO

Renewable Energy Returns to General Assembly's To-Do List

Less than a week after Gov. John Kasich vetoed an attempt by the General Assembly to extend a freeze on renewable energy

mandates on investor-owned utilities, renewable energy is back on the General Assembly's to-do list on the first day of the new legislative session.

Speaking to reporters last week, Senate President Larry Obhof said that to promote investment in the state, middle ground between the traditional energy sector and the emerging one must be found. "We want you to be able to invest in Ohio and know that the law isn't going to change radically every two years or every four years," he said.

Re-elected House Speaker Cliff Rosenberger told reporters the General Assembly was "open and eager" for a long conversation about the state's entire energy climate.

More: [Cleveland.com](#)

Supporters Seek to Overturn Md. Governor's Increased RPS Veto

Sponsors of a bill to increase Maryland's renewable portfolio standard joined environmental advocates Jan. 5 in calling for the General Assembly to override Gov. Larry Hogan's veto.

Rallying on the steps of the Maryland State House, Sen. Brian Feldman and Delegate Bill Frick, both Democrats representing Montgomery County, attempted to link Hogan's veto of the measure — dubbed the Clean Energy Jobs Act — to the anti-environmental sentiment of President-elect Donald Trump.

"We're here because the administration

decided to play politics," Frick said.

Hogan vetoed the bill last year because it would increase rates to cover the costs of additional wind and solar generation.

The legislature returns next week for its annual 90-day session and could consider the measure then. The bill would increase Maryland's RPS requirements from 20% by 2022 to 25% by 2020, improve access to capital for small, minority and women-owned renewable energy businesses, and commission an industry workforce-needs study.

Frick said the bill has 70% public support.

Renewable industry representatives were supportive as well. Kevin Sheen, spokesman for Empower, promised the wind and solar company would continue investing in the state and said increasing the RPS was "imperative."

Dana Sleeper, executive director of the Maryland/D.C./Virginia chapter of the Solar Energy Industries Association, said there are about 4,000 solar industry workers in Maryland making an average of \$21/hour. It's important to have such low-skill jobs in the state, Sleeper said.

— Rory D. Sweeney


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Entergy to Shut Down Indian Point by 2021

Continued from page 1

“aggressively pursuing and incentivizing the development of clean, reliable energy” and that the state is “fully prepared” to replace Indian Point’s output at a “negligible cost” to ratepayers.

An agreement to close the two units — which combined have more than 2,000 MW in generating capacity — was first reported by *The New York Times* on Friday.

Entergy said energy economics driven by low natural gas prices forced the closure, which will mark the company’s exit from the merchant power generation business.

“Key considerations in our decision to shut down Indian Point ahead of schedule include sustained low current and projected wholesale energy prices that have reduced revenues, as well as increased operating costs,” Bill Mohl, president of Entergy Wholesale Commodities, said in a statement. “In addition, we foresee continuing costs for license renewal beyond the more than \$200 million and 10 years we have already invested.”

Mohl noted that regional power prices have fallen by about 45% over the past 10 years to an average of \$28/MWh, largely the product of record low gas prices stemming from increased supply out of the Marcellus Shale formation.

“A \$10/MWh drop in power prices reduces annual revenues by approximately \$160 million for nuclear power plants such as Indian Point,” Mohl said.

The agreement would allow the plants to operate for two additional two-year increments — with final closure slated for 2025 — if an emergency affected reliability in the New York City area.

Both units, whose permits expired in 2013 and 2015, have applied for 20-year license extensions from the Nuclear Regulatory Commission, which has granted the extensions pending review. Under the agreement, Entergy will instead apply for a six-year license renewal.

The plant has had a series of mishaps in

recent years, intensifying pressure from state officials.

“Shutting down the Indian Point power plant is a major victory for the health and safety of millions of New Yorkers and will help kick-start the state’s clean energy future,” Attorney General Eric T. Schneiderman said.

Among the many challenges he has filed against the facility, Schneiderman has sought to deny Indian Point state water quality permits. (See [Loss on Water Permit a Setback for Indian Point Extension](#).) New York will issue a coastal zone certificate and water quality permit for the plant as part of the settlement.

Schneiderman and environmental group Riverkeeper were also parties to the settlement.

“This agreement is a win for the safety of our communities and the health of the Hudson River, and it will pay big dividends in new sustainable energy sources and the well-paying jobs that come with them,” Riverkeeper President Paul Gallay said in a statement.

Other aspects of the agreement include:

- Annual safety inspections by the state, along with the transfer of used fuel to protective storage in dry casks, the preferred method of safely storing spent fuel;
- A commitment by Entergy to offer plant employees new jobs at other facilities, while the state will offer employment assistance and worker retraining, including for new skills needed for employment in the renewable energy sector; and
- A requirement that Entergy establish a new emergency operations center in nearby Dutchess County, as well as create a \$15 million fund for environmental projects.

Entergy’s previous agreements to make payments in lieu of taxes to local government entities and school districts will continue through 2021. Those agreements will persist before being gradually stepped down at a negotiated level following shutdown. The state will also work with

local communities to address potential revenue shortfalls, enacting programs similar to those implemented for other communities affected by plant closures through the existing fossil fuel plant retirement fund.

New York has committed to a 50% renewable energy power mandate by 2030, with nuclear power seen as a bridge until clean power sources can be built at sufficient scale.

“With the news that the Indian Point nuclear power plant will close by 2021, New York should look to wind power, solar power and offshore wind to meet electricity needs, rather than relying more on natural gas,” said Anne Reynolds, executive director of the Alliance for Clean Energy New York. “New York essentially has five years to get new renewable energy online to meet this demand, and the renewable energy industry is more than ready.”

The state Public Service Commission has said the closure will have minimal impact on customer bills, with adequate resources expected to be online by 2021. Transmission upgrades and energy efficiency measures totaling 700 MW are already in place, officials said. (See [FERC OKs Settlement for NY TOTS Projects](#).)

“The NYISO is required to perform an electric system reliability impact analysis after receiving an official retirement notice for any bulk system generation asset,” NYISO spokesman David Flanagan told *RTO Insider*. “Additionally, the NYISO’s Comprehensive Reliability Plan, to be issued in July 2017, will consider future grid reliability needs and generation capacity margins over a 10-year time horizon under expected system conditions.”

Indian Point’s closure will mark Entergy’s exit from the merchant power business. In little more than two years, the company has shuttered the Vermont Yankee nuclear plant in Vermont and announced the closures of two other nukes, including Pilgrim in Massachusetts and Palisades in Michigan. The sale of New York’s James A. FitzPatrick nuclear plant to Exelon is pending. The company has also sold a natural gas-fired power plant in Rhode Island.

Entergy said it will record a non-cash impairment charge of approximately \$2.4 billion pre-tax and \$1.5 billion after-tax in the fourth quarter of 2016. It also expects additional charges totaling about \$180 million for severance and employee retention costs by the end of 2021.

The company said it has invested \$1.3 billion in Indian Point in the 15 years it has owned the plant.

“This agreement is a win for the safety of our communities and the health of the Hudson River, and it will pay big dividends in new sustainable energy sources ...”

Paul Gallay, Riverkeeper



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