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

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Trump Order Begins Perilous Attempt to Undo Clean Power Plan

By Rich Heidorn Jr. and Michael Brooks

WASHINGTON — President Trump signed an executive order last week directing EPA to begin the lengthy process of undoing its Clean Power Plan, a centerpiece of American efforts to battle climate change.

Years of Litigation to Come?

The long-promised order, which directs EPA Administrator Scott Pruitt to immediately review and begin steps to rescind the CPP, is but the first step in a process that could take years. And it's unclear if the effort will ultimately succeed.

The Supreme Court stayed the CPP in February 2016 pending a legal challenge by more than two dozen states that contended the rule overstepped EPA's regulatory authority. The D.C. Circuit

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RTOs Unfazed by Trump Climate Order

Treating the CPP Like Schrödinger's Cat

By Michael Brooks, Amanda Durish Cook and Tom Kleckner

While President Trump's executive order rolling back the Obama administration's efforts to combat climate change upset environmentalists, RTO officials are largely shrugging their shoulders, vowing to continue on without the federal government as market forces and state policies continue decarbonizing their generation mixes.

Their reaction to Trump's

Continued on page 26

Trump, his cabinet members and coal miners in the EPA Map Room. | *© RTO Insider*

Trump Policies Likely Little Help to Coal

Most reaction to promises of a rebound in jobs ranged from skepticism to derision. (p.27)

Mountain West, SPP Tout RTO Membership to Colo. PUC

By Tom Kleckner

DENVER — SPP and the Mountain West Transmission Group pitched the benefits of RTO membership last week in an open forum before Colorado's Public Utilities Commission as the two entities pursue a possible collaboration.

Taking advantage of the opportunity to get the last words in, SPP COO Carl Monroe grabbed a podium microphone just before the meeting adjourned to let his audience know the RTO would be holding its regular quarterly governance meetings in Denver in July, and that it would be a chance to see firsthand how SPP works with its members.

Coincidence?

Maybe not. SPP scheduled the meetings in

SPP COO Carl Monroe makes his point alongside General Counsel Paul Suskie (left). | *© RTO Insider*

the middle of last year, about the same time Mountain West was considering joining CAISO, MISO, PJM or SPP. Mountain West announced in January it was entering into discussions with SPP to further explore the relationship. (See *Mountain West to Explore Joining SPP*.)

The PUC scheduled the forum so regulators, consumer advocates and other stakeholders could gather information and discuss with

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In this Week's Issue

Correction

An article in the March 28 issue of *RTO Insider*, "ERCOT Says DER not yet a 'Reliability Concern,'" incorrectly attributed a 10% growth rate in distributed energy resources to ERCOT. The Texas ISO does not currently estimate the growth rate of DER, though others in the industry do.

EBA Annual Meeting 2017

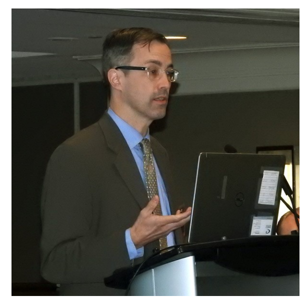
The following are pictures from the first day of the Energy Bar Association Annual Meeting this week. *RTO Insider* will provide full conference coverage in next week's issue.

Nicholas Pascale, assistant general counsel for the National Rural Electric Cooperative Association (left), moderated a panel on the implications of state-legalized marijuana growing on electric utilities. Listening, left to right, are Drew Bolin, chief of the Research & Emerging Issues Section, Colorado Department of Regulatory Agencies; Richard Lorenz, a partner in Cable Huston of Portland, Ore.; and Crystal McDonough, of McDonough Law, Greely, Colo. | *© RTO Insider*

Tamara Linde, executive vice president and general counsel for Public Service Enterprise Group (second from left), speaks in a panel on the duties of utility general counsels. Listening, left to right, are Emily Fisher, Electric Edison Institute; Mrg Simon, legal director for Missouri River Energy Services; and Jane Lewis-Raymond, a partner with Parker Poe. | *© RTO Insider*

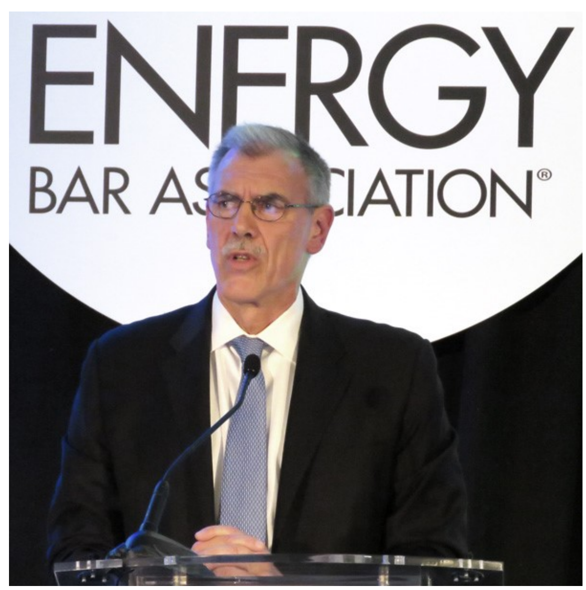
More than 450 attorneys, regulators and others attended the Energy Bar Association's annual meeting. | *© RTO Insider*

Tamara Linde, PSEG



Nick Martin, Xcel Energy

C. Todd Piczak, of Kinder Morgan, speaks at a panel on the status of gas-electric coordination, as David K. Ismay, of the Conservation Law Foundation, left, and Macdara Nash, vice president of U.S. business development for National Grid, listen. Nash and Piczak advocated for increasing pipeline capacity, while Ismay called for efforts to shave off demand peaks with efficiency upgrades and demand response. | *© RTO Insider*



Former U.S. Solicitor General Donald B. Verrilli Jr., who defended the Obama administration's positions in major legal issues before the Supreme Court, was the luncheon speaker Monday at the Energy Bar Association's annual meeting. Verrilli, now with Munger, Tolles & Olson, spoke about the fight over Supreme Court nominee Neil M. Gorsuch. | *© RTO Insider*

CAISO to Create New TAC Area for Water District

By Robert Mullin

CAISO is seeking to create a new transmission access charge (TAC) area for a California load-serving entity that does not intend to become a participating transmission owner in the ISO.

The "one-off" proposal with the Metropolitan Water District of Southern California (MWD) would create an unorthodox relationship between the CAISO and an important transmission provider that seeks to retain rights over its own network, while also protecting the ISO's access to key delivery points along the California-Nevada border.

MWD delivers water to 26 member agencies serving 19 million consumers in six Southern California counties. It owns about 300 miles of 230-kV transmission lines that feed five pumping plants moving water from the Colorado River Aqueduct and State Water Project into Southern California. At full power, the pumps consume 300 MW of load, which is served by the agency's share of output from the Hoover and Parker dams.

Edison Agreement Ending

Southern California Edison has been operating MWD's transmission under a decades-long agreement that predates the existence of the ISO. SoCalEd has declined to renew the agreement when it expires Sept. 30 because of the utility's reduced allocations from the Hoover Dam.

As a result, MWD is seeking a similar arrangement with CAISO allowing it to preserve its transmission operating rights (TORs) while continuing to offload responsibility for operating its grid. The ISO late last year agreed to act as the water agency's transmission planning coordinator in matters related to meeting NERC reliability requirements.

While MWD's generating assets sit outside CAISO's balancing authority area, its agreement with SoCalEd has firmly integrated the agency's transmission network into the ISO's operations. It has allowed the utility to take advantage of MWD's regulation, ramping capability and capacity reserves. The utility has, in turn, used its own baseload resources to serve MWD's 24/7 pump loads at a flat rate.

The agreement also requires MWD to turn over its excess transmission capacity to SoCalEd — and now CAISO — for market use. That last point is especially important, because MWD's transmission broadens the ISO's access to the key Mead wheeling point out of Nevada and provides the ISO market its only access to the Parker delivery point.

"The ISO has been working with MWD on an operations agreement, which is what we typically do with entities inside the ISO [balancing authority area] that are nonparticipating TOs, but still have a substantial system within the ISO," Deb Le Vine, CAISO director of infrastructure contracts and management, said during a March 28 call to discuss the issue.

Self Sufficient

As Le Vine explained, MWD is positioned to interact with the ISO as a nonparticipating TO because of its self-sufficiency: The agency can completely serve its load with its own generation and transmission.

"MWD does not lean on the CAISO system at all," Le Vine said. "They have sufficient generation to meet the [California Energy Commission's] resource adequacy requirements."

And the ISO will derive a key benefit from continued integration with MWD. "They are going to still let us use their excess transmission," Le Vine said.

MWD does have an alternative to being required to join CAISO as a full member. It could instead turn control of its assets over to the Western Area Power Administration's Lower Colorado balancing area, which would narrow the reach of the ISO's market.

"We'd stay at Mead, but only with Southern California Edison's transmission," Le Vine said. "We would no longer have access to Parker. We'd no longer have MWD's parallel transmission line [out of Nevada] and the ability to use their transmission."

Resource Adequacy Requirements

The need to create a new TAC area for MWD is based on an "unfortunate" technicality rooted in the link between California's resource adequacy (RA) requirements and the ISO's TAC areas, according to Le Vine. In adopting the state's RA framework, the ISO chose to use TAC areas as the basis for allocating requirements among LSEs.

"We just need to create this TAC area to

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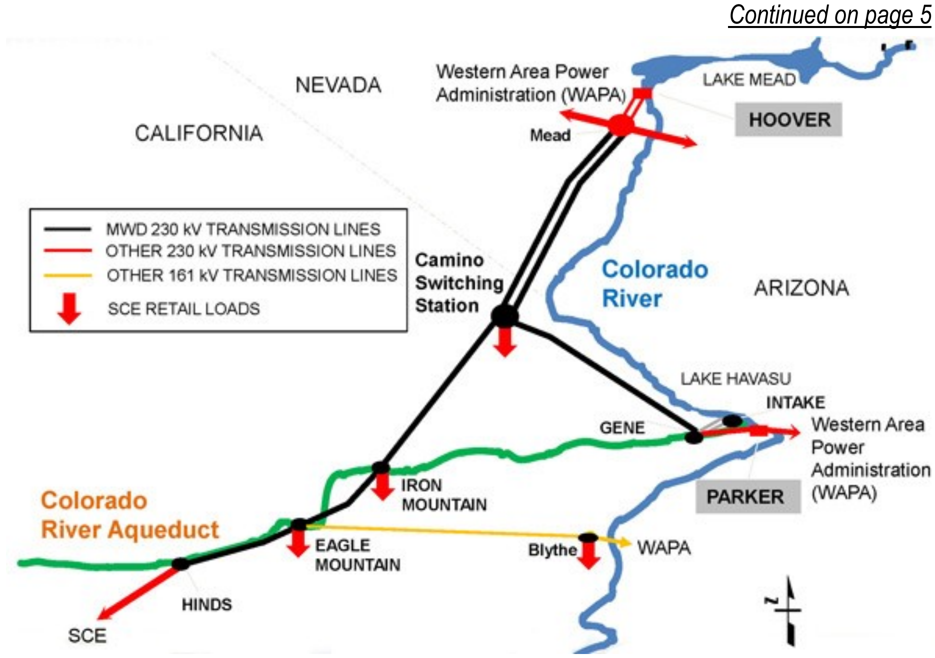

CAISO's proposed new TAC area would cover the transmission system the Metropolitan Water District uses to feed pump stations used to move water from the Colorado River Aqueduct into Southern California. | *CAISO*

CAISO NEWS

New Campaign Urges Renewed Effort to Expand CAISO

By Robert Mullin

A coalition of environmental, renewable energy and business groups called on California officials last week to reignite CAISO's effort to expand its operations into other areas of the West.

The groups — which include the Natural Resources Defense Council, Environmental Entrepreneurs, Union of Concerned Scientists and the Solar Energy Industries Association — issued a letter urging Gov. Jerry Brown and top state lawmakers to support legislation facilitating the ISO's transition into a Western RTO.

"An integrated Western Grid is essential to a goal that we know all of you share: meeting our ambitious clean energy targets while driving down energy costs and creating new good-paying jobs," the letter said. "We urge you to continue the process toward legislative authorization of a transition to a fully independent board for an independent grid operator that all Western utilities and generators will have the opportunity to join."

The coalition kicked off its Secure California's Energy Future campaign in response to the Trump administration's move to roll back the Clean Power Plan, EPA's chief initiative to combat climate change by reducing carbon emissions from the nation's power plants. (See *Trump Begins Attempt to Undo Clean Power Plan*.)

"California has an opportunity — and a responsibility — to continue its leadership in responding to our climate crisis by working to integrate the Western grid," Ralph Cavanagh, codirector of NRDC's energy program, said in a statement. "While the White House and some in Congress are

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account for [MWD's] load-serving entity obligations separately from how they've been accounted for in the past, which was all part of the Edison arrangement under the existing contract," said John Anders, CAISO assistant general counsel.

Creation of the area will allow MWD to cover the resource adequacy requirements for powering its pumps along the Colorado River Aqueduct system.

"Are they going to pay the same TAC that load everywhere else pays?" asked Susan Schneider of Phoenix Consulting.

"No, MWD has TORs," replied Le Vine. "They own their own transmission system, so they have never paid the TAC since 1998," when the ISO began operations.

Eric Little, manager of wholesale market and greenhouse gas market design with SoCalEd, asked if the ISO expected MWD to serve a "significant portion" of its RA requirement with its own pumping load, which can provide system RA in a demand response capacity. Little noted that CAISO's Tariff exempts participating load from ISO penalties meant to guarantee the availability of resources. Entities that enter a participating load agreement with the ISO are entitled to self-supply to meet their requirements.

"Which means that if they were to use a significant portion of their pumping load to serve as their RA, they would meet RA without having a similar obligation as others because they wouldn't be penalized if they didn't meet the obligation," Little said.

"Well, that's a decision for MWD to make, and they'd need to be consistent with what's in the ISO Tariff," Le Vine said.

"I don't think there is any other load-serving entity out there that is in that same boat," Little said. "I think everybody else, if they've got participating load, [pumping load] is a very small proportion of their load."

Le Vine disagreed.

"There's a very large entity that has a significant amount of participating load that is pumping load that uses that as RA," she countered, referring to the California Department of Water Resources.

"It's concerning, but I guess that ship has already sailed," Little responded.

CAISO wants stakeholders to submit comments on the proposal to create the MWD TAC area by April 11, and expects to seek Board of Governors approval on the measure in May.

CAISO NEWS

CAISO, BPA Ink Agreement to Ease Northwest EIM Transfers

By Robert Mullin

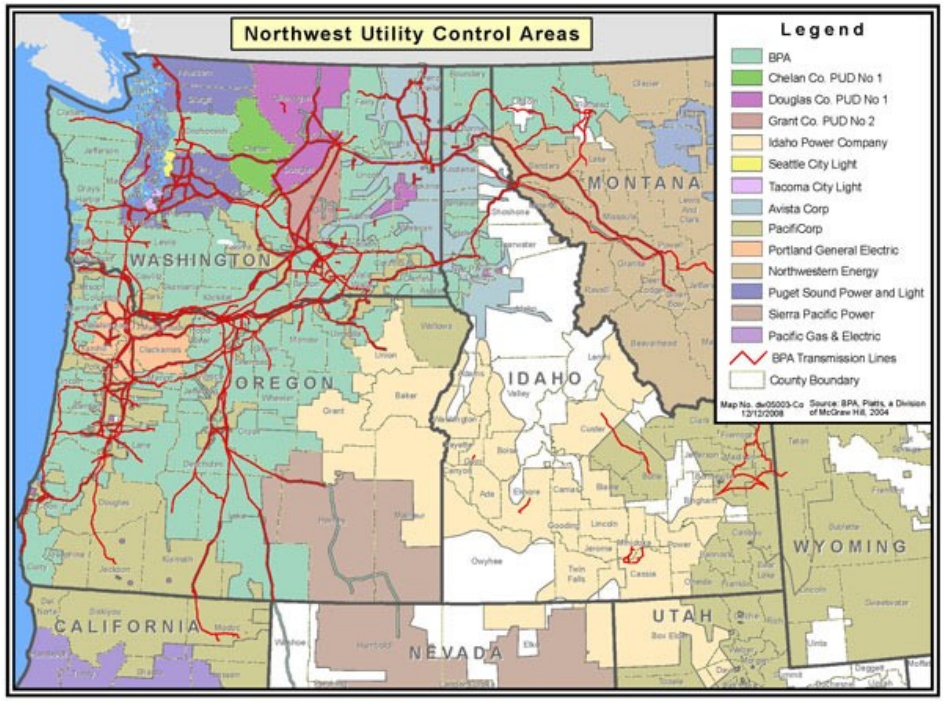
CAISO has signed an agreement with the Bonneville Power Administration designed to facilitate Energy Imbalance Market (EIM) transfers in the Pacific Northwest while ensuring that the agency can continue to reliably serve its own transmission customers.

The Coordinated Transmission Agreement (CTA) could provide a model for future joint efforts between the two agencies that operate most of the transmission network along the West Coast, according to Todd Miller, a senior project manager with BPA.

"This agreement kind of seems like a no-brainer," Miller said during a March 27 call hosted by the EIM Body of State Regulators (BOSR), an informal network of Western utility commissioners that convenes regularly to discuss market issues. "We need to have an operating agreement ... so everybody understands the rules of the road."

The agreement also represents a "milestone" in cooperation between BPA and CAISO, Miller said. "I think it's really a first step in being able to coordinate seams issues."

The CTA largely formalizes procedures



The agreement between CAISO and Bonneville Power Administration is intended to facilitate Energy Imbalance Market transfers on Bonneville's system, which accounts for about 70% of transmission capacity in the Northwest. | *Bonneville Power Administration*

already put in place before the EIM was launched in November 2014. At the time, BPA worked with PacifiCorp — the EIM's first member — and the ISO to define

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trying to roll back the climate progress we've made, Sacramento can take action and secure California's energy future."

Reduced Costs, Increased Reliability

The campaign's supporters contend that integration of the Western grid would reduce costs and increase reliability for the region's electricity customers, reduce the need to curtail output from renewable resources and "safeguard against price gouging by unscrupulous power marketers," while at the same time allowing state governments to retain control over their energy policies. They also tout the benefits to California's economy, including expansion of the state's clean technology sector.

"Every day, California is basking in clean, affordable, reliable solar electricity," SEIA CEO Abigail Ross Hopper said. "By enabling the state to fully utilize this solar resource, including sharing it across state lines, Californians will reap the benefits of increased jobs and investment and billions of dollars in electricity savings."

A 2015 California law requires the grid operator and state energy agencies to explore ISO expansion to help the state meet its 50% renewable energy mandate. California lawmakers must sign off on any such expansion, which would necessitate that the state yield its direct oversight authority over CAISO once the grid operator becomes a multistate organization.

Brown Presses Pause Button

With skepticism mounting against regionalization efforts, Brown last August postponed CAISO's expansion effort, saying he wanted state agencies to take more time to develop a governance proposal for the new RTO. (See *Governor Delays CAISO Regionalization Effort*.) Before that announcement, Brown had expressed hopes of delivering a proposal to state lawmakers before they concluded their 2016 session in September.

Progress on regionalization has since slowed. While the ISO last October released the third draft of a proposal outlining the principles for governing a Western RTO, nothing formal has been submitted to the

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CAISO NEWS

CAISO, BPA Ink Agreement to Ease Northwest EIM Transfers

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practices around exchanging transfer data and setting limits on the use of dynamic transfers on the BPA system.

Since its rollout, the market has expanded farther into the Northwest to include Puget Sound Energy, with Portland General Electric slated to join later this year, followed by Idaho Power in early 2018. All three utilities rely to some extent on BPA, which controls about 70% of the transmission in the region.

"Some of [the original practices were] captured in operating procedures, but until the CTA, there was no contractual obligations regarding these requirements," BPA said.

The agreement spells out an obligation for both parties to share transmission system data: CAISO must share total market dispatch for EIM resources during a market interval and load forecasts for EIM balancing authority areas, while BPA must convey real-time managed limits and actual flows on its facilities. The agreement clarifies the processes by which that data will be made available, including frequency and granularity.

"It also includes a confidentiality provision," Miller said. "Everybody is doing what they're supposed to be doing, but now there's something in the contract that makes the lawyers feel better about things."

The agreement also codifies BPA's right to place limits on the upward and downward

"Hopefully we'll have another FERC commissioner at some point so it can actually be approved."

Todd Miller, BPA

rate of change in usage that EIM dynamic transfers would impose on its transmission network — making explicit an already existing practice.

"Bonneville will set the upper rate of change limit and lower rate of change limit at its discretion and notify the CAISO of such limits for each Bonneville-managed facility before each market interval," the agreement states.

The agreement gives BPA the ability to manage system operating limits on its paths at its own discretion, but requires it to alert the ISO to any changes ahead of an interval.

It also provides for the development of "flow-relief tools" related to the EIM. Among those tools: a procedure that, in a curtailment situation, will allow BPA to transmit to CAISO the EIM's prorated share of curtailed flows on an affected transmission flowgate between the two balancing areas.

New Groups

The CTA additionally calls for CAISO and BPA to convene a Coordinating Committee every quarter to address operational issues related to the agreement, resolve disputes and offer up potential revisions.

The agreement also establishes a working group — consisting of Pacific Northwest EIM members, a select group of BPA transmission customers and the Coordinating Committee — charged with discussing implementation, data exchange and transmission operations under the agreement.

"As far as the selected Bonneville customers, we haven't decided how we're going to do that yet, but we want to select customers that are representative of our various classes of transmission customers," Miller said.

Ann Rendahl, a Washington Utilities and Transportation commissioner and chair of the BOSR, noted that the "whereas" clause at the beginning of the CTA specifies that the Coordinating Committee will discuss seams issues.

"I assume that the working group is also to discuss seams issues, but to get at them from a more granular level," Rendahl said.

Miller agreed and said the group could also be the body that initiates other "major" types of coordination and constraint relief along the interties.

CAISO and BPA plan to file the agreement with FERC in April. "Hopefully we'll have another FERC commissioner at some point so it can actually be approved," Miller said.

New Campaign Urges Renewed Effort to Expand CAISO

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legislature for consideration. (See *Latest CAISO Proposal Fills out Western RTO Governance Plan*.)

"We continue to be involved in discussions with stakeholders, and we get requests for briefings from lawmakers about the studies" related to the economic and environmental impacts of regionalization, CAISO spokesperson Anne Gonzales told *RTO Insider*. "The ISO is a technical resource for policymakers to understand the studies and the governance changes."

Gonzales said the ISO has no stakeholder meetings scheduled to further discuss regionalization.

Agreement on a governance plan represents the biggest hurdle for expanding CAISO. Skeptics outside California have expressed concerns about the populous state's potentially outsized influence over a Western RTO, while those within California are worried about losing the ISO as a key instrument for achieving the state's environmental goals. (See *Governance Plan Critics Urge Slowdown of Western RTO Development*.)

The new campaign appears to be an attempt to jump-start the effort to overcome barriers to grid integration.

Other campaign supporters include the Independent Energy Producers Association, Bay Area Council, Health Care Without Harm, Sierra Business Council, Silicon Valley Leadership Group and SunPower.

ERCOT News

Texas PUC Puts Brakes on NextEra's Oncor Acquisition

By Tom Kleckner

The Public Utility Commission of Texas unanimously agreed Thursday that NextEra Energy's proposed $18.7 billion acquisition of Texas utility Oncor is not "at this point" in the public interest.

Chairman Donna Nelson and Commissioner Ken Anderson both read prepared statements into the record during a PUC open meeting. They cited the need for strong ring-fencing provisions that would include an independent board of directors for Oncor — a requirement NextEra has called a "deal-killer."

"The tangible benefits to this transaction are few," Nelson said. "In order to find this in the public interest, I would need to keep those ring-fencing provisions in place."

"Bottom line, I do not find the tangible and quantifiable benefits are an improvement over the status quo to justify approval" of the deal, Anderson said, reading from a memo he later filed (Docket 46238). "To be honest, it has to do with their deal-killers."

Commissioner Brandy Marty Marquez agreed with Anderson, saying she took NextEra "at its word" and complimented the company on its candor in the proceeding.

"I don't believe they were posturing," she said. "They were telling us quite clearly what they could and could not live with. I'm not happy to say that those were, unfortunately, the things I feel like we should not bend on."

PUC staff will now draft a preliminary order that the commissioners can adopt during their April 13 open meeting.

Next Step Unclear

Whether this ends NextEra's bid to acquire Oncor — which the Florida-based company has eyed for several years — remains to be seen. NextEra and Oncor representatives were not given an opportunity to appear before the PUC on Thursday, and both companies declined to comment on the commissioners' remarks or next steps.

A previous attempt to acquire Oncor, by Dallas-based Hunt Consolidated, ended last May when Hunt withdrew its yearlong application over PUC requirements it found too onerous. (See *Texas PUC Denies Rehearing on Oncor Sale, Ends Hunt Bid*.)

Hunt officials would not say Thursday whether they hope to make another bid.

"We have a long-standing policy of not commenting on other parties' regulatory proceedings," said Hunt spokesperson Jeanne Phillips in a written statement. "We are watching these events with interest and will wait for the commission's final vote."

Oncor has long been considered the crown jewel of Energy Future Holdings' assets. EFH — previously TXU Corp. before being acquired by private-equity firms in a leveraged buyout — declared Chapter 11 bankruptcy in 2014 and has since spun off its generation and retail electric service providers as part of Vistra Energy.

Board Independence Issue

The utility has been ring-fenced since the 2007 buyout. That helped insulate Oncor from much of the $45 billion in debt EFH had incurred when it declared bankruptcy.

"The lack of a truly independent disinterested board and the lack of independent board control over the dividends are what worry me the most," Nelson said. "And unfortunately, those are the issues on which it seems NextEra Energy is not willing to budge."

During a public hearing in February, NextEra told the PUC it needs to maintain control over Oncor's board to ensure its ability to appoint or remove the utility's directors. The company said that is a fair trade-off for lending its A- credit rating and $59.2 billion market capitalization to help Oncor eliminate debt left by EFH. (See *Hearings Over, PUCT, NextEra Ponder Oncor 'Deal-Killers'*.)

In its most recent filing, NextEra said its proposed ring fence retains virtually all of the 2007 conditions, while adding additional protections "that would not impede consolidation of NextEra Energy's and Oncor's credit profiles."

The company noted it is proposing "a comprehensive suite of 73 regulatory commitments," some in response to staff and intervenor concerns.

"These regulatory commitments offer substantial protections and benefits for Oncor and its customers and are more than sufficient to protect Oncor and its customers from any perceived risks associated with NextEra Energy's ownership of Oncor," NextEra said.

Nelson also referenced a July 2016 ratings report from Moody's Investor Service. She quoted the report as saying "the acquisition-related debt without a material amount of deleveraging would exhaust NextEra Energy's debt capacity at its current rating" and "makes the company more vulnerable to unforeseen events or margin shortfalls."

NextEra told the PUC in February it has $12.2 billion reserved for funding the transaction — $9.8 billion for an 80% interest in Oncor and $2.4 billion for a 20% interest in various holding companies. It would assume the remaining $6.5 billion in debt, in line with its 60/40 debt-to-equity ratio.

"I worry about removing the ring-fence protections in this situation, where the debt above Oncor isn't being extinguished, but is instead being refinanced with new debt at NextEra Capital Holdings," Nelson said. "The parent company will remain substantially leveraged in order to make the purchase happen."

"I see as much downside as upside to linking Oncor's credit rating to NextEra Energy," Anderson said. "I would require staff's version of the condition de-linking the respective credit ratings … but given that they are all also NextEra Energy deal-killers, it seems to me that we would be wasting time and resources to proceed further down the road of appearing to approve the transactions with such conditions."

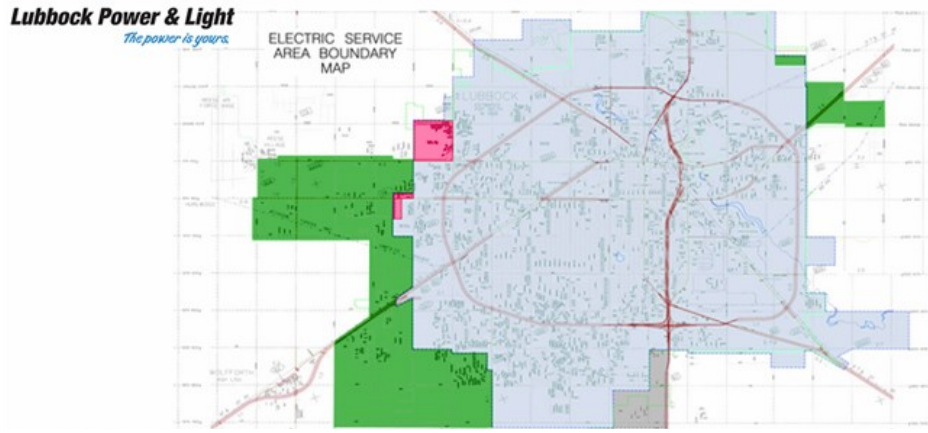
"The tangible benefits to this transaction are few."

Donna Nelson, PUCT Chair

ERCOT NEWS

Texas PUC Briefs

PUC OKs Sharing of Confidential Generator Info with LP&L



The Public Utility Commission of Texas last week approved an ERCOT request to share confidential generator-specific information with Lubbock Power & Light as the municipal utility determines how to integrate its load with the ISO.

LP&L has said it will transition about 430 MW of its load from SPP to ERCOT in June 2019. LP&L and the two grid operators are each conducting studies on how the move will affect their systems and stakeholders. (See *Texas PUC OKs ERCOT, SPP Studies on Lubbock Move*.)

As part of its study, LP&L asked ERCOT for data the ISO is only authorized to give to transmission or distribution service providers. ERCOT asked the commission to approve a confidentiality agreement so it could provide the information to LP&L (Docket 45633).

"I think the process ERCOT has proposed is not only acceptable, but the right thing to do," Commissioner Ken Anderson said during an open meeting Thursday.

ERCOT said LP&L's planned move creates "unique" procedural questions that are not clearly defined in any rule or protocol. It concluded "it would be appropriate to provide generator-unit specific data to certain LP&L representatives in advance of the anticipated contested case because this is data that ERCOT is using in preparing its commission-requested study, and thus would likely be necessary to any similar study conducted by LP&L."

The Texas ISO's legal counsel, Chad Seely, told the commissioners that ERCOT will file a market notice informing all resource entities of the discussion before the PUC and asking for their feedback on the draft confidentiality agreement.

The PUC has delayed a decision on who will pay for studies related to the planned move. LP&L requested the delay, saying study costs shouldn't be assigned until ERCOT and SPP finish their separate cost-benefit studies, which are expected to be finalized by midyear. (See *Texas PUC Delays Assignment of LP&L Study Costs*.)

An ERCOT analysis completed last June indicated it will cost $364 million and take 141 miles of new 345-kV transmission to incorporate LP&L into the Texas grid.

PUC Chair Donna Nelson referenced the March 23 announcement by LP&L and Xcel Energy subsidiary Southwestern Public Service that they had agreed to a two-year extension of a 400-MW power purchase agreement through May 2021. The contract would have expired May 31, 2019.

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Texas PUC Briefs

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"Not that we should slow our process down," Nelson said pointedly.

The announcement followed months of negotiations and more than a year of research by LP&L management to secure a "seamless transition" beyond the current PPA's expiration. Utility officials said the extension allows the city more time to evaluate its future options and "not be pressured by the calendar."

The "transition contract … is an important step in securing affordable and reliable power for our customers as we work toward achieving our long-term power supply goals," said David McCalla, LP&L's director of electric utilities, in a statement.

LP&L has been a total requirements customer of SPS since 2004, with 100% of its power purchased from SPS through the West Texas Municipal Power Agency. The utility will replace that contract with capacity and energy through a 170-MW partial-requirements wholesale contract signed with SPS in 2010; a 100-MW wind contract through its membership with the West Texas agency; 114 MW of LP&L-owned generating plants; and the 400-MW transition contract, according to the *Lubbock Avalanche Journal*.

Lubbock Mayor Dan Pope called the extension an "important milestone" for the city, saying it would provide "a stable and cost-effective source of power for LP&L customers while we work to join the majority of Texas as participants in the ERCOT market."

LP&L is the third largest municipal utility in Texas, behind Austin Energy and CPS Energy, with a peak load of about 605 MW. It serves more than 104,000 meters and owns and maintains 4,936 miles of power lines and three power plants in and around the city.

Entergy Texas Compliance with MISO Control Order Nearly Complete

The PUC accepted staff's recommendation to close one docket (Project 40979) and focus on another (Project 46397) related to Entergy Texas' transfer of operational control of its transmission assets to MISO.

Staff told the commissioners Entergy Texas has met almost all of the commission's material requirements from a 2012 change-of-control order approving the company's MISO membership. Staff opened Project No. 40979 to track the utility's and MISO's compliance with the order.

Entergy Texas is working on the final requirement, a cost-benefit analysis of the first five years of MISO membership. The PUC's Margaret Pemberton said a draft study is expected in August, with the final version to be filed in November.

The utility will perform two types of analyses: backward-looking, to assess actual benefits from participation in MISO, and forward-looking, to assess the project benefits of remaining in MISO rather than leaving after the first five years.

Anderson said he hopes staff looks "very carefully" at the study's assumptions, which include comparisons with membership in SPP.

"We need to test the assumptions … in SPP and what requirements, if any, there are on load-serving entities to maintain a particular reserve margin … and how that's enforced," Anderson said.

PUC Approves ERS, RMR Rulemakings

The PUC approved two rulemakings related to emergency response service (Project 45927) and reliability-must-run contracts (Project 46369).

The ERS amendment will allow those resources to participate in must-run alternative (MRA) arrangements, replacing RMR generation resources.

The commission decided not to allow ERS resources to be used in local transmission emergencies. The commissioners asked staff in early March to revise the rulemaking, saying it did not favor expanding the program to prevent local load-shed events. (See *Texas PUC Wary of Using ERS to Avoid Local Blackouts*.)

The RMR rulemaking adjusts the notice requirements and complaint timeline applicable to suspending a resource's operation. It also gives ERCOT the discretion to decline to enter into an RMR agreement based on the economic value of lost load, requires ERCOT approval of RMR and MRA agreements and requires refunds in some instances for capital expenditures related to those agreements.

— Tom Kleckner

ISO-NE News

Millstone to Enter FCA 12; No Closure Likely Before 2022

By Michael Kuser

Millstone nuclear plant | *Nuclear Regulatory Commission*

The Millstone nuclear power plant will bid into ISO-NE's 12th Forward Capacity Auction next year, indicating owner Dominion Energy expects it to continue operations into at least 2022.

Despite questions about Millstone's profitability, Dominion did not inform ISO-NE by the March 24 deadline of its intent to retire the plant. Assuming Millstone clears the auction, it would be obligated to operate through May 2022, the end of the 2021/22 planning year.

Dominion's decision has implications both for New England's wholesale market — the plant's delisting would have created upward pressure on capacity prices — and the company's hope for support from Connecticut lawmakers.

In March, Connecticut legislators unveiled a bill that would allow Millstone, the state's only nuclear generator, to bid into the state procurement process now reserved for renewable energy resources. (See *Connecticut Moves Closer to Equating Nuclear with Renewables*.)

Matt Fossen, spokesman for the Stop the Millstone Payout coalition, said Dominion's failure to file a delist bid by the March 24 deadline undermines the claims of Dominion lobbyists who "make it sound like there is a dire, impending threat to the plant's existence." This could not be true, he said, if the plant can continue operating for the next five years.

"Dominion will always meet its obligations in the markets in which we operate, but we do have the ability, within the current market rules, to cease operations if a facility is no longer economically viable," responded Kevin Hennessy, Dominion's state policy director for New England. "The dirty fossil fuel generators who oppose CT Senate Bill 106 are threatened by the state smartly choosing to purchase power from clean, reliable, carbon-free sources of electricity like Millstone. Connecticut consumers pay the highest retail electric rates in the country. SB 106 would reduce those rates by cutting out the middle man and allowing the state to buy directly from Millstone."

Continued on page 12

ISO-NE News

Millstone to Enter FCA 12; No Closure Likely Before 2022

Continued from page 11

ISO-NE spokesman Matt Kakley wanted no part of the dispute. "As the administrator of the region's competitive markets, the ISO does not comment on the business decisions of individual market participants," he said.

Is Millstone Profitable or Not?

Hennessy said Dominion does not release profits or loss data on individual units. But in its earnings call for the fourth quarter of 2016, CFO Mark F. McGettrick indicated Millstone, which will have two refueling outages this year, would be a drag on earnings and that it will be "challenging" for the company to meet its historical earnings growth rate. "Now that we have hedged most of Millstone's 2017 expected output, we estimate a $10 to $12/MWh reduction in realized energy prices versus last year, impacting 2017 earnings by about 15 to 20 cents/share," he said, according to a transcript by Seeking Alpha.

The company, which had operating earnings of $3.80/share in 2016, is projecting $3.40 to $3.90/share for this year.

However, in projecting operating earnings for 2018, McGettrick said that the Connecticut nuclear power station would likely contribute to earnings, as only "one fuel refueling outage at Millstone should add another 10 cents/share to year-over-year results."

The company said the net capacity factor for its six units was 93% last year, the highest since 2013 and the second highest since Millstone was acquired in 2001 from Northeast Utilities for $1.28 billion.

Greg Gordon, head of power and utilities research at investment advisory firm Evercore ISI, asked officials on the call to confirm whether Dominion "did not contemplate any change in regulatory scheme in Connecticut or Massachusetts, as it pertains to clean energy credits for Millstone."

McGettrick responded that the "only thing we've factored into our growth rate and for 2018 is a very modest increase in power prices in the Northeast just because we think they're extraordinarily low right now. It was not a reflection of any legislative effort that would be out there, but just … a normal slow recovery in the Northeast on power."

Michael Weinstein, a broker at Credit Suisse Securities, asked about the possibility for Massachusetts legislation to support nuclear and what form it might take.

CEO Thomas F. Farrell said, "What we've heard is more through the regulatory process in Massachusetts, but yes … all of this is in development. … It would be a similar approach to what Connecticut is considering. … It is an opportunity for us to fit into their clean energy program and compete with other clean energy sources."

Angie Storozynski, an analyst for Macquarie Capital, asked how much the Connecticut legislation and other state efforts supporting nuclear would add to earnings. "Are we talking, I don't know, 5 cents, are we talking 20 cents? I mean, just a rough estimate."

"We have no estimate to give you," McGettrick responded. "The legislation is not even out of committee. And the exact structure is still evolving, I think, so we don't have any estimate or even a probability at this point whether there'll be success in Connecticut. We would hope there would be, but we don't have a number today at all."

At 2,111 MW, Millstone is New England's largest power plant, producing more than half of the electric power used in Connecticut and about one-seventh of New England's. Unit 2 (883 MW) is licensed to operate through 2035, while Unit 3 (1,228 MW) is licensed through 2040.

NYISO NEWS

Management Committee Briefs

NYISO to Revise Tx Constraint Pricing to Fix Error

RENSSELAER, N.Y. — The NYISO Management Committee voted Wednesday to recommend that the Board of Directors authorize a fix to address an inconsistency between the ISO's current Tariff provisions governing transmission constraint pricing and how its software applies the rules.

The change is in response to an error discovered last year, which led the ISO to declare a "Market Problem" in November and to seek a waiver from FERC, allowing it to continue using the current software until revisions to the Tariff and software are approved. The commission has not acted on the Jan. 6 request (ER17-758).

The graduated transmission shortage cost rules, which took effect in February 2016, establish limits on the shadow prices that the ISO's security-constrained unit commitment and dispatch algorithms use to resolve transmission constraints.

The ISO presented an analysis of its proposed changes to the transmission constraint pricing logic and a consumer impact analysis to the Market Issues Working Group in January and February.

The fix would remove the feasibility screen and apply the graduated transmission shortage cost method to all constraints with a non-zero constraint reliability margin (CRM). A single $4,000/MWh cap would continue to apply for all facilities and interfaces with a zero CRM.

In addition — because the ISO has determined that it was unnecessarily concerned about forgoing dispatch to secure transmission constraints when all eastern reserve locations and eastern reserve products are short — the second step of the method would be reduced to $1,175/MWh from $2,350/MWh.

"The $1,175/MWh value will continue to support moving resources that can effectively secure the transmission constraint before utilizing the 15 MW of relief available from the second step" of the shortage cost method, the ISO said. "The $4,000/MWh [cap] still acts as a backstop to ensure that resources are dispatched for constraints with larger overloads."

The board will be asked to approve a FERC filing outlining the software and Tariff changes required to implement the fix.

"We will not update the transmission software without FERC approval," said Jennifer Boyle, NYISO energy market design specialist.

The motion prompted no discussion from stakeholders at the meeting.

The ISO said it will begin a discussion with stakeholders about additional improvements to transmission constraint pricing in the third quarter.

Replacing Bernard Dan

CEO Brad Jones prefaced his monthly report with comments on how the grid operator may replace Director Bernard W. Dan, who resigned March 21 after less than one year on the board. Jones said the board already has issued a solicitation for an executive search firm to find a replacement for Director Robert Hiney, who will reach his term limit in April 2018.

"The process may take a few months, say late summer, and if that happens we may have a combinatorial [selection process]," Jones said. "But the board has not decided."

Hiney was appointed to a four-year term in 2006; under NYISO bylaws, a director may serve no more than three full terms. Dan's replacement will fulfill the remainder of his term, expiring in 2020. (See *NYISO Board Member Resigns After Less Than a Year*.)

Members OK Change to Emergency Energy Pact with ISO-NE

The Management Committee also voted Wednesday to recommend the board approve rewording the ISO's coordination agreement with ISO-NE on emergency energy transaction charges to reflect the RTO's move to five-minute settlements. ISO-NE made the change to comply with FERC Order 825, which required RTOs and ISOs to settle real-time energy, operating reserves and intertie transactions in the same time interval it dispatches, prices and schedules them.

NYISO said it wanted to clarify the emergency energy settlements formula in the agreement to better align with real-time intervals and ISO-NE's change. "For both RTOs, we are clarifying that the emergency energy charge is the sum of the charges for each real-time interval for the duration of the emergency energy transaction," NYISO said.

The locational-based marginal pricing (LBMP) in a settlement interval will be increased to $0 if it is negative.

Change OK'd for Start-Up Bid Rules

The committee also approved a recommendation that the board revise the Tariff to allow all generators to increase start-up bids in real time.

NYISO said generators committed for day-ahead energy or regulation service have been able to "inappropriately" increase their start-up bids in real time, while generators scheduled for reserve services in the day-ahead market have been improperly prevented from doing so.

Under ISO rules, generators can submit two types of start-up bids: a single point bid, which specifies the cost to start the generator as part of hourly offers, or a multi-point bid, which sets the start-up cost based on how long the generator has been offline and how long it takes to start. If both types are submitted, the single point bid takes priority.

The ISO's Tariff prohibits generators scheduled in the day-ahead market for energy or regulation from offering a higher start-up bid in real time for any hour in which the generator was scheduled.

The proposed amendment to Tariff Attachment J would specify that when a day-ahead-scheduled generator that is available for real-time commitment increases its real-time start-up bid, it becomes ineligible for a day-ahead margin assurance payment for the hour in which it increased its bid as well as the two hours before and afterward — an approach consistent with the current treatment of incremental energy bids.

The ISO says allowing generators to increase start-up bids in real time regardless of the day-ahead commitments would result in more efficient real-time scheduling decisions.

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NYISO News

2016 NYISO Reliability Plan IDs No Needs

By Michael Kuser

RENSSELAER, N.Y. — NYISO's Management Committee voted unanimously to recommend board approval of the grid operator's 2016 Comprehensive Reliability Plan despite concerns about locational planning requirements and the shutdown of the Indian Point nuclear plant.

The CRP is prepared every two years. Laura Popa, manager of reliability planning, told the committee that under the conditions studied in the 2016 Reliability Needs Assessment, the grid's bulk power transmission facilities meet all applicable reliability criteria from now through 2026.

Last October, officials identified two reliability needs: the Oakdale 345/115-kV substation in the NYSEG zone and the East Garden City-Valley Stream 138-kV line in PSEG-LIPA. In November, however, the transmission operators presented local transmission plans and operational procedures that eliminated the two needs.

Kevin Lang of law firm Couch White, representing New York City, said the grid operator should have considered in its CRP the closure of the Indian Point nuclear plant, whose two units are set to be shut down successively in 2020 and 2021. "I don't think it's appropriate to wait for a Notice to Retire, and it's certainly important to New York City," Lang said. He urged NYISO to go ahead with that analysis.

The grid operator contends, however, that it is pointless under the prevailing fast-changing market conditions to do a full reliability study before they receive a formal notice to retire the plant. (See *NYISO, PSC: No Worries on Replacing Indian Point Capacity*.)

David Patton, head of NYISO's Market Monitoring Unit, said the MMU had concerns about locational planning requirements under the current rules. Some wind farms, for example, might be located in places that aggravate transmission constraints. "In particular, we find that market incentives for investment in resources in certain areas of the 115-kV system in upstate New York are inadequate partly because these lower voltage constraints are not reflected in the NYISO's energy and ancillary services markets," he said. "This has contributed to the need for cost-of-service contracts to keep older capacity in service."

Patton recommended the ISO consider managing upstate 115-kV constraints in the day-ahead and real-time markets that currently require supplemental commitments, out-of-merit dispatch and other expensive operator actions.

Howard Fromer, director of market policy at PSEG Power New York, said that the CRP failed to mention any adjustments "to accommodate vast new changes in our intermittent energy supply. We don't yet have a good answer to the question of 'Will we have a reliable system?'"

Lang questioned the validity of the Monitor's approach. "Some of these resources are coal plants that are 50 years old or older, or nuclear plants," he said. "These resources are also being pushed out for policy reasons, not just market reasons. Low natural gas prices are competitive forces. … I don't see any real analysis in your comments. Where's your cost-benefit analysis?"

Management Committee Briefs

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Impact of Shorthanded FERC on Fate of Con Ed-PSEG 'Wheel'

Before adjourning the meeting, Management Committee Chair Scott Leuthauser, a consultant to Hydro-Quebec Energy Services, took a question from Howard Fromer of PSEG Power New York, who asked what would happen to NYISO's joint operating agreement with PJM to end the 1,000-MW Con Ed-PSEG wheel absent FERC action. (See *NYISO Members OK End to Con Ed-PSEG Wheel*.)

Jane Quin of Consolidated Edison followed Fromer's question by asking what would happen if the protocols of the agreement were delayed by inaction from FERC.

The commission lost its quorum when former Chairman Norman Bay resigned in February, leaving the remaining two commissioners short of a quorum to act on contested matters.

NYISO COO Rick Gonzales answered that the filing specifically states that the agreement "can go into effect within 60 days without action from FERC. … Unless we hear different, we will implement what we have filed jointly with PJM," he said.

— Michael Kuser

PJM NEWS

PJM: Increased Gas Won't Hurt Reliability, Too Much Solar Will

By Rory D. Sweeney

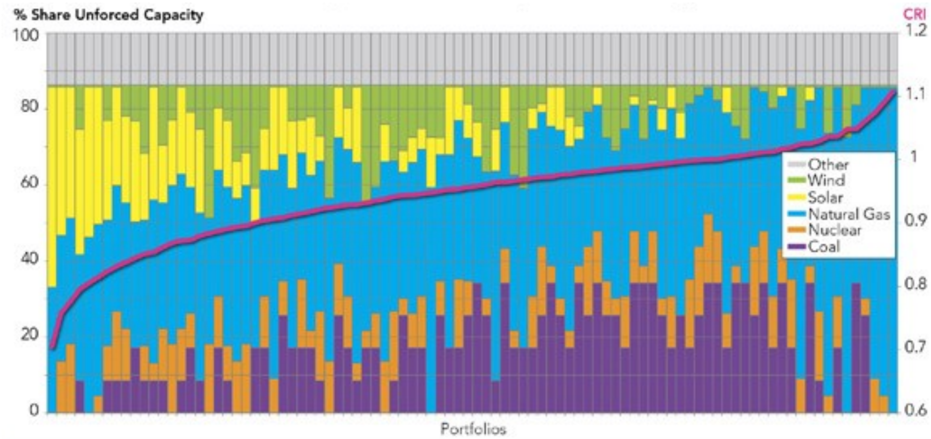
PJM can maintain adequate reliability with a generation fleet almost entirely composed of natural gas units, but a capacity mix of more than 20% of solar would unacceptably increase the risk of loss-of-load events, according to a study the RTO released Thursday.

The study, titled "PJM's Evolving Resource Mix and System Reliability," identified essential reliability and adequacy criteria and used them to compare a wide range of potential future fuel diversity scenarios. PJM focused on generator "reliability attributes" of frequency response, voltage control, ramping ability, fuel assurance and flexibility.

PJM created a "composite reliability index" to assess the operational reliability of various resources under four conditions: normal peak conditions, light load, extremely hot weather and extremely cold weather. Resources were grouped into 11 categories: coal, natural gas steam, natural gas combustion turbine, oil steam, oil combustion turbine, nuclear, solar, wind, hydro, battery/storage and demand response.

The RTO said the report is in response to stakeholder concerns that the system is losing too many traditional baseload resources as coal plants retire and nuclear assets struggle to remain profitable.

In 2016, PJM's installed capacity was 33% coal, 33% natural gas, 18% nuclear and 6% renewables, which include hydro. By comparison, coal and nuclear resources accounted for 91% of its generation fleet in 2005.



Portfolio composition and composite reliability index | *PJM*

"This analysis underscores our responsibility to continue to operate the system reliably, and explore the role of resilience, the ability to tolerate unforeseen shocks and continue to deliver electricity," PJM CEO Andy Ott said in a statement. "Different resources provide different reliability attributes, though new technology or regulations have the ability to improve those capabilities."

No Upper Bound on Gas

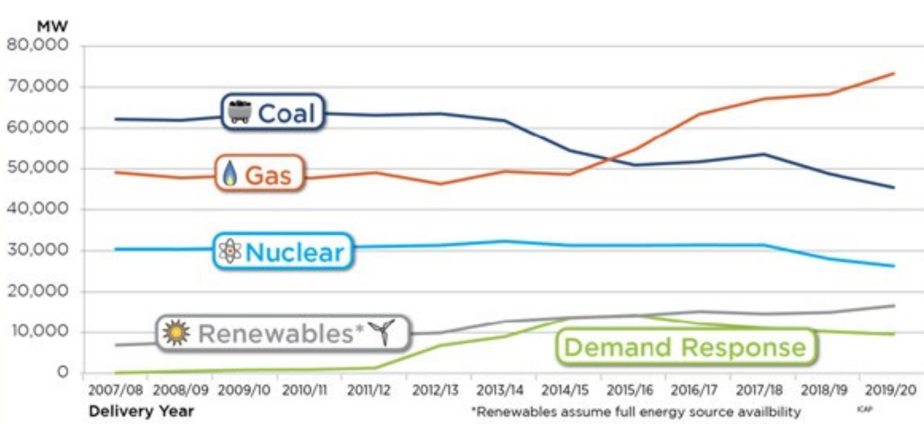
Of particular interest, given the rise in gas-fired units interconnecting to PJM's system, was the revelation that the there was no upper bound for the percentage of gas-fired units in the fleet before reliability is harmed.

The scenarios showed natural gas' share of the fuel mix could rise to as high as 86% without reliability problems. Mike Bryson, PJM's vice president of system operations, who spoke during a press briefing on the report, said staff stopped at 86% to account for demand response, hydropower and biomass currently on the system. "We figured it was a safe assumption to say they won't go away."

The report acknowledged, however, that it didn't assess the gas-deliverability issues that pinched supply during January 2014 or the continued sluggishness of gas pipeline development. PJM's previous natural gas studies generally concluded that the existing and planned pipeline infrastructure would be adequate for current and future anticipated electric system needs.

"We did not look at ability for infrastructure to support that, but we think it's probably worthy of following up with the natural gas industry," Bryson said. "There's a lot of work left to do."

The report also didn't address the economics of resource types, factors that might impact a fuel's deliverability or public policy issues such as environmental impacts or the use of subsidies. Bryson suggested coordination with the gas industry to begin addressing "more complicated issues" that cross over from the electricity sector, including data coordination.



Cleared installed capacity by delivery year | *PJM*

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PJM NEWS

PJM: Increased Gas Won't Hurt Reliability, Too Much Solar Will

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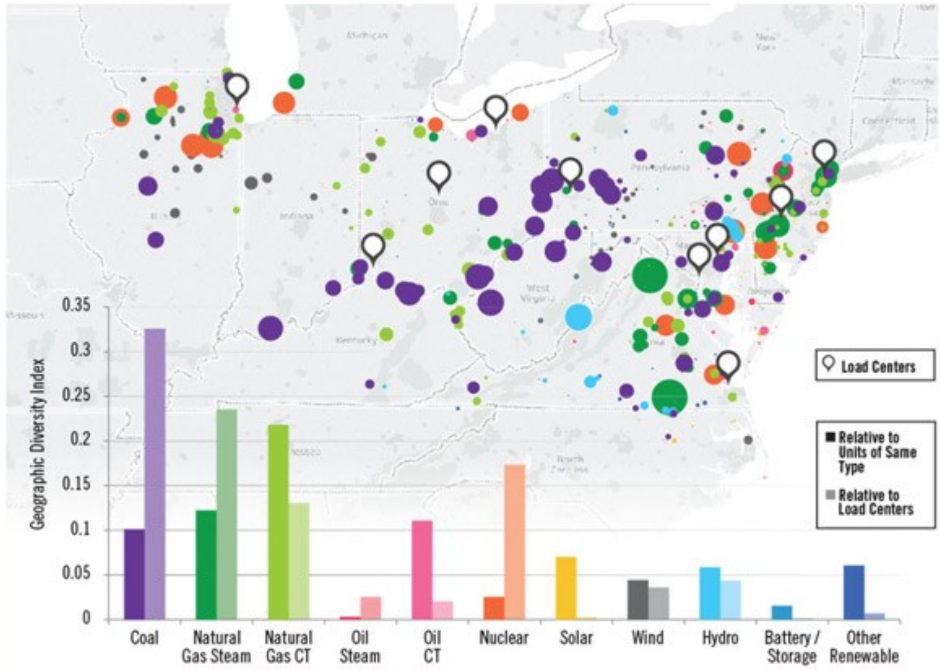
That said, the report found that PJM's current and near-term fuel mixes were near the top of the study's reliability analyses. Less coal and nuclear generation would decrease frequency response, reactive capability and fuel assurance, but increase flexibility and ramping capabilities.

Renewables Limits

Portfolios with solar representing 20% or more of unforced capacity (UCAP) failed because they resulted in loss-of-load-expectation (LOLE) violations at night. UCAP is calculated by multiplying name-plate capacity by the resource's capacity factor (38% for solar).

Bryson said increases in batteries and other storage would likely change the conclusions.

He added that certain fuel types were given credit for their abilities, if not their current usages. "We gave wind kind of high marks on flexibility, even though that's not how they operate today," he said. "The capability's clearly there, but they don't operate in that way."



Geographic diversity of PJM's resource mix | *PJM*

Fuel Diversity ≠ Reliability

The study also found that a more diverse fuel portfolio isn't necessarily more reliable. Certain resource blends that fall between the least and most diverse offer the greatest number of key generator reliability attributes.

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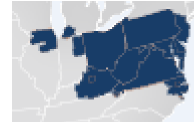
PJM News



PJM Stakeholders Explore Price Formation, Seek Transparency

By Rory D. Sweeney

VALLEY FORGE, Pa. — PJM should explain its daily operating decisions in more detail so market participants can better understand how markets are formed, stakeholders told staff at last week's special session of the Market Implementation Committee.

Bruce Bleiweis of DC Energy went so far as to request that PJM produce "an actual document" that enunciates all of its processes.

"If there are things that PJM doesn't publicly want to post, doing it under the [Critical Energy Infrastructure Information] protocol should be sufficient," he said.

Chantal Hendrzak, who chairs the MIC, said that her staff at PJM will "take that back and see what we can come up with."

Part of the concern for stakeholders is that PJM gives its system operators discretion to analyze data and make decisions on the fly. While this keeps the system flexible, stakeholders said it also makes understanding the RTO's thought processes more opaque.

"I think the first order of priority ought to be [finding out] what information [PJM can share] to understand what's going on on the system," one stakeholder said. He clarified that part of his interest was looking back to determine what caused uplift on the system.

PJM's Keyur Patel, who gave a presentation on the RTO's day-ahead market clearing process, pointed out that PJM will dispatch between 1,200 and 1,500 generation units on a typical day, and only 10 to 15 units will change throughout the day.

"There are times where we do want to make some commitment changes, but we run out of time and at those times, it's better to post results on time than to change one unit," he said.

Additionally, some decisions are made by the mathematic calculations of PJM's security constrained economic dispatch (SCED) system without human intervention, said PJM's Joe Ciabattoni, who gave a presentation on the RTO's dispatch process.

There are times when "the engine cannot solve the problem in the time parameters it's given. [It will] sacrifice one constraint to get power balance and retain control for the rest of the system," he said. "We need a solution every three to five minutes to maintain system control."

> ***"To unravel every one of those little variables ... would need a team to determine them all."***
>
> **Joe Ciabattoni, PJM**

In that case, the system relaxes its constraints to allow the system to solve.

Ciabattoni explained it as his "but-for logic," in that certain units wouldn't have been committed but for a specific constraint.

"To unravel every one of those little variables ... would need a team to determine them all," he said. "But we could use: 'but for that constraint, we wouldn't have committed these [theoretical] 500 MW.'"

PJM's perfect dispatch analysis evaluates all commitments, but only after the fact when the RTO knows what flow actually transpired, he said.

Ciabattoni said PJM doesn't have any ramping issues for wind or solar "like other RTOs do," except on extremely cold mornings.

An issue to consider, he said, is that once a unit is brought on, the constraint may go away because that unit overwhelms the constraint, but it may return if the unit is turned off.

"When SCED is looking at a solution ... it may be getting fractional megawatts from a bunch of units," Ciabattoni said, or a unit's economic minimum output may be so close to its economic maximum output that it can't cycle up or down efficiently. If such a unit is left running, there will be hours where it sets price and hours where it does not. When It doesn't, it will create uplift, he said.

Joel Luna of Monitoring Analytics, the firm that serves as PJM's Independent Market Monitor, said uplift comes down to three factors: megawatt-hours, LMP and the unit's offer price.

The session resulted from a problem statement approved by stakeholders in January. (See "Work on Uplift Moves Forward Despite NOPR," *PJM Markets and Reliability and Members Committees Briefs*.)

By the end of the meeting, the special session's facilitator, PJM's Rami Dirani, determined that stakeholders needed more education before a useful list of interests for the group could be determined. He decided to cancel the group's next meeting on April 5 and proceed with more education at its following meeting on April 25.

PJM: Increased Gas Won't Hurt Reliability, Too Much Solar Will

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"Having a certain amount of diversity — not too much, not too little — gives you optimal reliability," said PJM's Chantal Hendrzak, who also spoke at the briefing.

However, high reliance on one type, such as gas, would create concerns that the paper didn't attempt to analyze. PJM said it would continue to investigate ways to minimize its exposure to "low-probability, high-impact" events that could pose serious threats to the system.

"Our markets are designed to provide the incentives that the [13] states [within PJM's footprint] need to implement their policies. We think there is an opportunity for PJM to work with the states" to determine how to harmonize well-functioning markets and public-policy initiatives, Bryson said.

The topic of reliability will be the focus of PJM's upcoming Grid 20/20 conference scheduled for April 19.

SPP NEWS

Mountain West, SPP Tout RTO Membership to Colorado PUC

Continued from page 1

Mountain West participants the potential benefits, costs and risks of the options under consideration. More than 70 attendees registered to participate, a number Commissioner Frances Koncilja noted was larger than normal.

Mountain West is an informal collaboration of 10 electricity service providers serving 6.4 million customers in the Rocky Mountains. Its members' coincident peaks total just more than 12 GW, and it generated almost 70 million MWh of energy in 2015. Were it to join SPP, it would create a sprawling organization spread over 17 states.

Monroe told the commission that Mountain West would increase SPP's size (575,000 square miles of service territory encompassing about 18 million people) by about a third. The new RTO's Tariff would include seven of the eight DC ties between the Eastern and Western Interconnections, except for one in Canada. SPP also has two DC ties with the Texas Interconnection.

"We own the gateway facilities that go into" the ties, Monroe said. "We've spent a lot of time coordinating and understand those ties."

"This is a very complicated transaction," Koncilja told *RTO Insider*. "It will be up to the utilities to persuade us it's a good thing for the ratepayers. This is just the first of many meetings."

Former FERC Commissioner Suedeen Kelly (right) shares her thoughts on Mountain West's SPP membership with Colorado PUC Chairman Jeff Ackermann and Commissioner Wendy Moser. | *© RTO Insider*

Mountain West members said they were pursing RTO membership to improve efficiency by eliminating pancake transmission rates and taking advantage of modern market designs to maximize transmission capacity. A 2016 Brattle Group study found Mountain West could save $53 million to $71 million annually through 2024 by participating in a day-ahead market and replacing its nine tariffs with a single one.

"It's not that we have decided to go forward," said Steve Beuning, Xcel Energy's director of market operations. "We are in the process of evaluating what it means to go forward and [determining] the terms and conditions … that Mountain West considers essential before moving forward."

Familiarity

Beuning said he was impressed by the knowledge in the group's proposed RTO membership.

"This familiarity with the issues of our proposal, and an understanding of the particular needs of utility service providers in the western U.S., really helped lead to a deep and meaningful discussion," he said.

Former FERC Commissioner Suedeen Kelly, an attorney with Akin Gump, provided an overview of RTOs and ISOs, their functions and their regulatory relationship with FERC, while touting the virtues of regionalization and economic dispatch.

"The SPP transmission system is managed and operated for the same purpose as an individual system — to maintain reliability across the footprint and to dispatch generation," she said. "There are no pancaked rates. Energy that flows from the northern end to the southern end pays one rate, no matter how many systems it touches."

Jennifer Gardner, a staff attorney for Western Resource Advocates, praised SPP's security constrained economic dispatch and its ability to create more renewable energy.

"By automatically dispatching resources where they're needed, that allows us to deal with the variability of resources," she said.

Mary Ann Zehr (Tri-State), Dan Kline (Black Hills) and Steve Beuning (Xcel Energy) discuss Mountain West's potential SPP membership. | *© RTO Insider*

Continued on page 19

SPP News

Mountain West, SPP Tout RTO Membership to Colorado PUC

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"We see the immense potential for getting new renewable energy to the market" with SPP membership.

But Kelly also shared reasons for not joining an RTO.

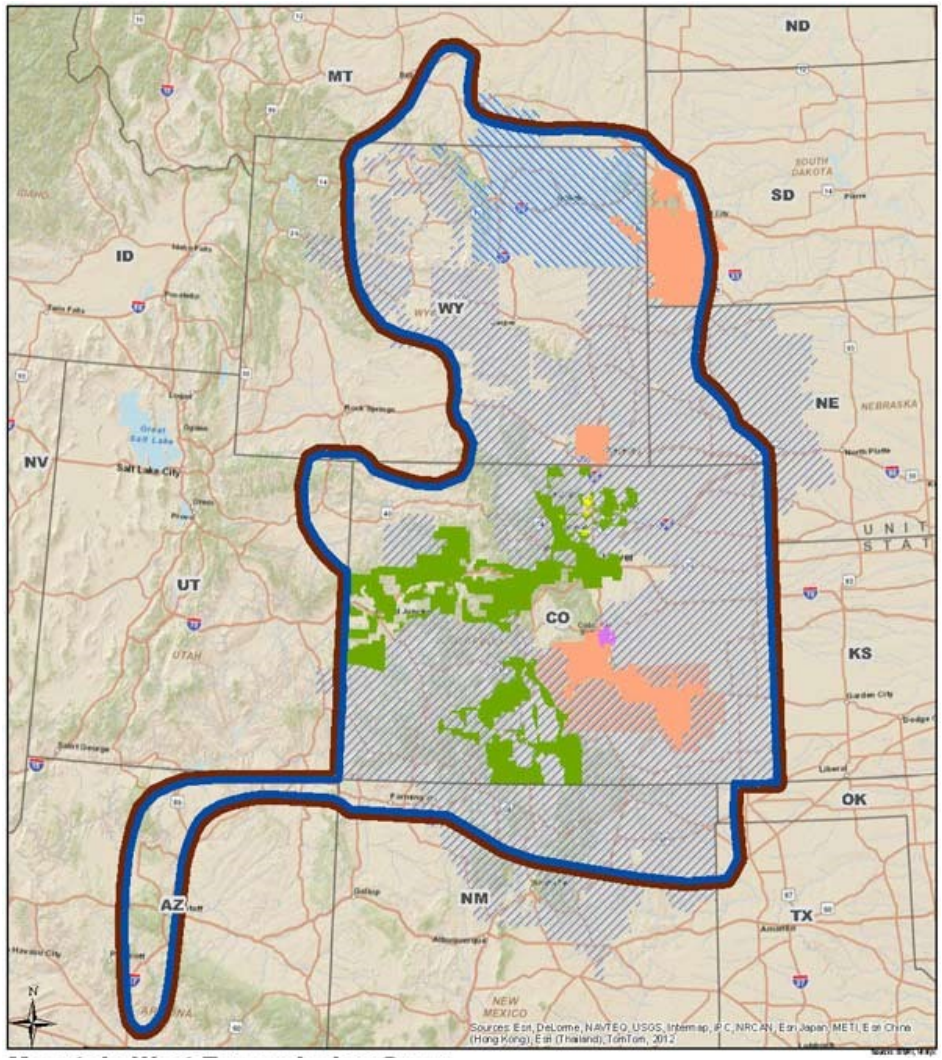
"Why don't we have one in the West?" she asked. "A lot of reasons, but to me, the most important, after being in California in 2000 when the California market imploded, is because the market imploded. We said, 'Wait a minute, whatever they did, we don't want to do.'"

Abby Briggerman, of counsel with Holland & Hart who generally speaks for large industrial ratepayers in the Rocky Mountains, said she was concerned about the risks of joining an RTO.

"We've come a long way since 2001, but we need to look no further than California. We remember the rolling blackouts," she said. "The ratepayer must have a seat at the table in the decision-making process over whether to join an RTO."

Briggerman also warned that SPP could be a "Hotel California," referring to the Eagles' song in which "you can check out any time you like, but you can never leave."

"We need to make sure there are no barriers to exit," she said.



Mountain West membership areas and territory | *Mountain West Transmission Group*

Consumers' Voice

Other attendees also questioned whether consumer interests would be lost in SPP.

SPP representatives, members and stakeholders countered by praising the RTO's stakeholder engagement, and Monroe emphasized the diversity of is 94-entity strong membership. "We provide a lot of transparency into SPP," he said. "Our meetings are open, even up to board level. We had 150 people at our last board meeting. Anybody that has ideas that will help SPP make good business decisions will be listened to."

SPP General Counsel Paul Suskie brought up Steve Gaw, a former Missouri commissioner and legislator who represents The Wind Coalition at meetings although the coalition is not a member.

"He's not a member, but he gets just as much input as members," Suskie said.

SPP and Mountain West have developed a steering committee and working groups focused on governance, rate design and cost allocation, transmission planning, reliability coordination and SPP's Regional State Committee. Composed of regulators from 10 different states, the RSC will be a key player in the membership negotiations.

Mountain West members said they expect to decide on whether to proceed with SPP membership in the second or third quarter of 2017. Rate cases would be filed shortly thereafter, with a final recommendation presented to SPP's board in January 2018.

"I would be bold to call [the timeline] aggressive, but it keeps us on track. It keeps us focused on what we're trying to accomplish," said Mary Ann Zehr, senior manager of transmission contracts, rates and policy for the Tri-State Generation and Transmission Association.

Zehr said she anticipates numerous meetings over the next few months devoted to writing a tariff, governance and membership agreements and bylaw changes.

"We're attempting to answer those questions at the front end," she said.

Kentucky Overturns Nuclear Moratorium: Now What?

Experts: Law Won't Result in New Reactors Any Time Soon

By Amanda Durish Cook

V.C. Summer plant construction in South Carolina. It's unclear if the plant will be finished after last week's bankruptcy filing by developer Westinghouse. | *SG&E*

Kentucky has dropped its decades-long nuclear moratorium, but experts on both sides of the nuclear debate say the move probably won't result in new reactors for now.

The law, signed by Kentucky Gov. Matt Bevin on March 27, eliminates the requirement that nuclear power facilities have "means of permanent disposal" of nuclear waste, allowing a less onerous Nuclear Regulatory Commission-approved waste plan.

Sen. Danny Carroll (R), the bill's sponsor, said it was important that Kentucky start looking to diversify its energy portfolio, pointing out that nearby states take advantage of nuclear energy. Carroll said the law will "keep Kentucky competitive with the energy portfolios of surrounding states."

"When you run a business, you look for varied funding streams. You don't put all your eggs in one basket. … That's what we're doing in our state. Out of fear of nuclear energy, out of efforts to protect the coal industry, whatever the case may be, we are putting all our eggs in one basket," Carroll said last year, when an earlier version of the bill languished after Senate approval. Kentucky does not house any nuclear generation.

The law eliminates the requirements that cost of waste disposal be known and that the facility have "adequate capacity to contain waste." It also grants the Kentucky Public Service Commission the authority to hire consultants "to perform duties relating to nuclear facility certification" and allows it to prohibit construction of low-level nuclear waste disposal sites in Kentucky. The PSC can also direct the Energy and Environment Cabinet to review the nuclear permitting process. Kentucky PSC Director of Communications Andrew Melnykovych declined to comment on the law.

14 States

According to the National Conference of State Legislatures, 14 states currently have restrictions on the construction of new nuclear power plants: California, Connecticut, Hawaii, Illinois, Maine, Massachusetts, Minnesota, Montana, New Jersey, New York, Oregon, Rhode Island, Vermont and West Virginia. Most of the state moratoriums were made because of an absence of a permanent repository for spent fuel in the U.S. Wisconsin's legislature ended its moratorium last spring.

President Obama ordered NRC in 2009 to stop work on a permit for licensing the nuclear waste depository at Yucca Mountain in Nevada. Obama acted at the behest of then-Sen. Harry Reid (D-Nev.) As a result, waste is being stored in spent-fuel pools and dry cask storage at operating and retired nuclear plants. (See *Panelists Weigh Nuclear Waste Solution Post-Obama*.)

The Trump administration's 2018 budget requests $120 million to relicense Yucca Mountain.

Christine Csizmadia, the Nuclear Energy Institute's director of state governmental affairs and advocacy, said she shared Carroll's idea that long-term energy planning should not exclude certain generation types.

"You want to have an open option on the table, and that's something that they couldn't even consider before," Csizmadia said. "It's going to open the door to healthier conversations because now lawmakers aren't confined and they can have long-term, open conversations."

Csizmadia said that although she does not envision new nuclear building permits in Kentucky in the near term, she hopes Wisconsin's and Kentucky's actions will spark a trend. "That's exactly what we're hoping for, and why not? The thing about states is that they can be very competitive with each other; there's a snowball effect. I don't see why there wouldn't be similar repeals. A lot of these moratoriums were made 20 years ago, and attitudes have changed."

Nuclear Power a Distraction

Not everyone's attitude toward nuclear energy has changed, however.

"Lifting the nuclear moratorium is not going to produce plants. Nuclear is such a politically charged question that it sucks all of the air out the room when planning," said Arjun Makhijani, president of the Institute for Energy and Environmental Research, who has testified against overturning Minnesota's nuclear moratorium. Minnesota's legislature came close in the 2015/16 legislative session.

Far from opening up planning to new resource types, Makhijani said the moratorium reversal could shut down other, more important energy planning conversations.

"The main result is it's going to divert the attention of Kentuckians away from the kind of energy policy that will be useful to create jobs in the state," Makhijani said. "In a state that is hurting from coal industry job losses [the idea that] there are plans to replace those jobs with the nuclear industry — the most polite thing that I can say is that it's very far-fetched. The idea is that we should have all options [but] the options have to make sense in economic terms and in planning terms. We're entering the era of

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Kentucky Overturns Nuclear Moratorium: Now What?

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distributed energy and smart grids."

Makhijani argues that the country's aging nuclear fleet is often in need of repairs, requiring new valves and pumps and expensive shutdowns. He noted that nuclear plants cannot economically ramp up and down, making them too inflexible to be paired with increased wind penetration.

"I think the suffering communities in Kentucky, the coal miners, should be economically protected. But I don't think they can be protected by promising a return of coal jobs or replacing it with nuclear industry. Nuclear is more expensive and less economic than coal. Nuclear is sort of in hospice care right now," he said.

"Nuclear is sort of in hospice care right now."

Arjun Makhijani, Institute for Energy and Environmental Research

Summer, Vogtle Plants

Csizmadia and NEI spokesman John Keely said they did not know of any sites in Kentucky that have been eyed for nuclear development. But Keely said nuclear power can help fill the need for clean energy as coal plants retire.

Nuclear power is being revived, he said, with two new reactors being built by South Carolina Electric & Gas at its Virgil C. Summer nuclear plant near Jenkinsville, S.C., and two by Georgia Power at its Vogtle site near Augusta.

However, Makhijani said these new reactors are being subsidized by ratepayers and plagued by cost overruns and delays. "It's even unclear whether those reactors will be finished," he said, alluding to U.S. nuclear giant Westinghouse Electric's bankruptcy filing Wednesday. Westinghouse is the lead contractor at both construction sites.

Makhijani also cautions against seeing small modular reactors as an option, saying they won't be cost effective unless large numbers of them are purchased, and even then, several of them will need to be installed to generate a significant amount of power.

Still, a permanent repository is needed no matter how many more states light up a welcome sign for nuclear energy, Makhijani said. But he maintains that Yucca Mountain is not the ideal site.

"It's much better than leaving it around in five dozen or odd sites in storage. There are terrorism risks, there are environmental risks, there are safety risks," he said. Each 1,000-MW nuclear reactor results in 30 Nagasaki-sized bombs worth of plutonium per year in spent fuel, Makhijani said. "Today there is more civilian-made nuclear waste around than all the plutonium of all of the nuclear weapons worldwide," he added.

Keely maintains that nuclear moratoriums "were a manifestation of the 60s' anti-nuclear attitude … and can't be defended anymore. It's that basic and that pragmatic."

He also said today nuclear has bipartisan support. "This used to be somewhat of a left-right issue and that's no longer the case."

MISO Names Duke Exec as South Region External Affairs Director


Fonvielle

Former Duke Energy executive Kent Fonvielle will lead MISO South's external affairs division, MISO announced Friday.

Fonvielle, who began his career as an engineer at Duke's Oconee Nuclear Station, served for the last 11 months as the company's director of regulatory affairs, overseeing its regulatory strategy, filings and rate cases in North Carolina and South Carolina.

MISO said Fonvielle will be the primary liaison for MISO South members and stakeholders. He began work yesterday from the RTO's Little Rock offices.

MISO South Vice President Todd Hillman said that Fonvielle's role is a newly created position that "reflects the importance of the South region as part of the MISO market."

At Duke, Fonvielle's prior duties included managing large industrial accounts and wholesale energy contracts and doing fuel and renewable planning.

"It is a privilege to continue my career with an organization dedicated to helping ensure reliable energy and increased value for the people of the South region," Fonvielle said.

Fonvielle's hiring comes less than a year after MISO named former Indiana Utility Regulatory Commissioner Kari Bennett as the RTO's executive director of external affairs. (See *MISO Names 3rd External Affairs Director in 5 Years*.)

— Amanda Durish Cook

COMPANY BRIEFS

Judge Rules Westinghouse Can Borrow Initial $350M

A U.S. bankruptcy judge has granted approval to Toshiba subsidiary Westinghouse Electric to borrow an initial $350 million to help it through Chapter 11 and will consider additional funding at a later hearing.

Westinghouse won tentative permission to take out an $800 million debtor-in-possession loan, but Judge Michael Wiles said he required more information about how the company plans to protect its U.S. creditors before approving the full amount.

The loan is not backed by collateral tied to Westinghouse's construction of four nuclear reactor projects in Georgia and South Carolina, for which the company is putting its involvement on hold, according to court records. Westinghouse declared bankruptcy Wednesday.

More: *Bloomberg*

Scott Balfour to Take Helm as Emera CEO


Balfour

The Emera Board of Directors announced Wednesday that CEO Chris Huskilson has provided notice that he will retire in 2018 and Scott Balfour, current COO and former CFO, will take over upon Huskilson's retirement.

Balfour has served as COO since November 2016. He joined Emera as executive vice president and CFO in 2012 and was appointed COO of the Northeast and Caribbean in March 2016.

Huskilson has served as president and CEO of Emera since 2004, having previously served as COO of Emera and Nova Scotia Power beginning in July 2003. He began his career with Nova Scotia Power in 1980.

More: *Emera*

PG&E Agrees to $86.5M Penalty for Back-Channel Talks

Pacific Gas and Electric has agreed to a $86.5 million penalty to settle allegations it engaged in back-channel talks with state regulators following the September 2010 San Bruno pipeline explosion.

If approved by California's Public Utilities Commission, the settlement would require PG&E to forego $63.5 million in revenue it otherwise would have collected from ratepayers in 2018 and 2019. The average PG&E customer would see a 22-cent drop in their monthly bill. PG&E would not be allowed to pass along to ratepayers any costs associated with the agreement.

The improper communications came to light when the city of San Bruno, in court, forced PG&E to disclose thousands of emails between its executives and regulators. Some of the emails showed a close relationship between the two.

More: *San Francisco Chronicle*

NTE to Build 2nd NC Merchant Power Plant

NTE Energy expects to begin construction by the end of this year on its second natural gas merchant plant in North Carolina — the $500 million, 500-MW Reidsville Energy Center.

The company is in negotiations with local cooperatives and municipal utilities for long-term power purchase agreements, said Michael Green, NTE's senior vice president for development in the Carolinas.

NTE's 475-MW Kings Mountain Energy Center is on track to begin operations by the fall of 2018 and will cost $440 million to build.

More: *Charlotte Business Journal*

Anheuser-Busch Commits to 100% Renewable Energy

Anheuser-Busch InBev announced it will transition to 100% renewable energy by 2025.

The move makes it the largest brewer in the world to commit to procuring all its electricity from renewable sources.

More: *Sierra Club*

Otter Tail Planning 250-MW Natural Gas Plant in SD

Otter Tail Power last week said it plans to build a $165 million, 250-MW natural gas plant near Astoria, S.D., which will help make up for the planned closure of its Hoot Lake coal-fired plant in Fergus Falls by 2021.

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COMPANY BRIEFS

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The new plant, expected to go online by 2021, will feature a simple cycle gas combustion turbine.

Otter Tail previously announced plans to build a $250 million, 150-MW wind farm in southeastern North Dakota, which will partially replace power generated at Hoot Lake. The farm will more than double the utility's wind capacity and is its largest capital project.

More: Star Tribune

Tesla's New Solar Roof Tiles Hit Marketplace in April

Tesla will begin selling solar roof tiles through its SolarCity division in April, according to CEO Elon Musk.

It isn't clear when production and deliveries will start. In October, the company projected it could eventually capture 5% of the nation's roofing business with the new tiles.

More: USA TODAY

Enbridge Appeals 5 Years of Minnesota Property Taxes

In a move that could cost several northern Minnesota counties millions of dollars, Enbridge Energy has appealed five years of property taxes, claiming the state's Department of Revenue unfairly valued its pipeline network.

Enbridge's pipelines run through 13 Minnesota counties. In 2015, the Revenue Department valued the pipeline system at $7.13 billion, while Enbridge valued it at $4.25 billion, Minnesota Tax Court filings show.

Enbridge says a November Minnesota Supreme Court ruling on a tax appeal by Minnesota Energy Resources Corp. buttresses its case. MERC had challenged the Revenue Department's valuation of its pipelines for 2008 through 2012.

More: Star Tribune

FEDERAL BRIEFS

Environmentalists Sue over Trump's Keystone Pipeline Approval

Several environmental groups filed two separate lawsuits in federal court in Montana on Thursday challenging President Trump's decision to approve construction of the Keystone XL pipeline.

Groups including the Center for Biological Diversity, Sierra Club and the Northern Plains Resource Council maintained in their legal filings that the Trump administration's approval of the pipeline without public input and an up-to-date environmental impact assessment violated the National Environmental Policy Act.

In a second suit for injunctive relief, the Indigenous Environmental Network and North Coast Rivers Alliance are seeking to restrain TransCanada from taking any action that would harm the "physical environment in connection with the project pending a full hearing on the merits."

More: Reuters

IRENA: Solar Leads Way in Global Renewable Energy Increase

In 2016, global renewable energy generation capacity increased by 161 GW, bringing the planet's total renewable energy capacity to an estimated 2,006 GW, according to the International Renewable Energy Agency.

IRENA said renewable energy capacity grew by 8.7%, with 71 GW of new solar energy making up the lion's share. Wind energy grew by 51 GW, hydropower by 30 GW and bioenergy by 9 GW.

More: CNBC

James McDonald Named Director of CFTC Enforcement Division

U.S. Commodity Futures Trading Commission Acting Chairman J. Christopher Giancarlo has announced the appointment of James McDonald to be the director of the agency's Enforcement Division, effective April 10.

McDonald comes to the commission from the U.S. Attorney's Office for the Southern District of New York, where he served as an assistant U.S. attorney and most recently in the Public Corruption Unit.

More: U.S. Commodity Futures Trading Commission

Senators Try Again: Hydropower, Nuclear, Energy Efficiency Bills

The Senate Energy and Natural Resources Committee on Thursday advanced bills on hydropower, nuclear power and energy efficiency after failing to pass the same measures into law last year.

The committee advanced bills aimed at expediting authorization of hydropower projects; implementing energy-efficiency standards for residential, commercial and industrial buildings; and promoting development of advanced nuclear technologies.

Last year's Senate energy bill, which included the three measures, passed the chamber 85-12, but lawmakers couldn't reconcile its differences with the less bipartisan House bill.

More: Morning Consult

75 US Mayors Tell Trump They Will Continue to Fight Climate Change

Seventy-five U.S. mayors have signed a letter to President Trump condemning his recent executive order on climate change and affirming their commitment to reduce emissions.

The signatories, who are members of the Mayors National Climate Action Agenda, include mayors of all major metropolitan areas as well as smaller cities. They represent 41 million Americans.

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Federal Briefs

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The letter cites climate action as an opportunity to invest in the economy and create jobs.

More: Curbed

China Poised to Take Lead over North America on CCS Projects

China accounts for about half of all carbon capture storage projects under serious consideration or planning worldwide and is expected to displace North America as the leader in the technology.

Presently, two-thirds of the 16 large-scale CCS projects operating around the world are in North America, according to the International Energy Agency. Four out of five of new CCS projects under construction are based in Canada or the U.S.

China is at various stages in the process of considering eight potential large-scale CCS projects, according to Tony Zhang, senior adviser at the Global CCS Institute. Its Yanchang Integrated Carbon Capture and Storage Project, which is beginning construction after a final investment decision, will be able to capture 410,000 metric tons of carbon a year when it is complete.

More: Bloomberg

Energy Projects on List of Priorities Given to Trump

Responding to a request from President Trump, North America's Building Trades Unions sent him a list of infrastructure priorities — and the 26-item list includes $80 billion worth of energy transmission lines, water and wind projects, and pipelines across the U.S.

Trump is searching for projects to greenlight that require little if any federal funding, and more than half on the list are privately financed. All but one would benefit from regulatory relief by the Trump administration.

One of the projects, the Chokeberry and Sierra Madre Wind Energy Project in Wyoming, aims to become one of the world's largest wind energy facilities. Although the project has received local, state and federal permits, it could face problems with new federal regulations and possibly weak White House support for wind power.

More: McClatchy

State Briefs

CALIFORNIA

NFL Mediator to Tackle $5B San Onofre Dispute

A mediator who oversaw a $765 million deal in 2013 between NFL owners and injured players will oversee the almost $5 billion dispute regarding who should pay for the premature shutdown of the San Onofre nuclear plant.

Layn Phillips will host an initial conference by telephone tomorrow, followed by three in-person mediation sessions in June. The sessions are confidential and non-binding. The 9th U.S. Circuit Court of Appeals and the California Public Utilities Commission would have to approve any settlement.

The mediation — agreed to by Southern California Edison, San Diego Gas & Electric and consumer groups — aims to resolve a federal court case filed by Citizens Oversight shortly after regulators approved a settlement deal allowing SoCalEd to recover 70% of the $4.7 billion in premature closure costs from ratepayers. The PUC ordered new settlement talks following revelations that SoCalEd executives and regulators laid out a framework for the deal during a private negotiation at a luxury hotel in Poland.

More: The San Diego Union-Tribune

Water Official Says Oroville Dam Spillway Will Be Rebuilt by Nov.

The acting director of the state's Department of Water Resources said a plan to rebuild the Oroville Dam's roughly 3,000-foot spillway will be unveiled either this week or early next, and he pledged to have either a permanent or temporary structure in place by Nov. 1.

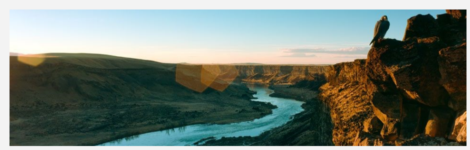
While Bill Croyle acknowledged that the timetable is tight, a panel of experts hired by the state said the work could require two years. The experts also warned that without substantial repairs by the next rainy season in November, the situation would pose a "very significant risk."

Last week, the department gave FERC a schedule for the independent review team investigating the spillway failure that began in February. The schedule calls for the team to provide a list of potential causes to be factored into the design of interim spillways in the first week of May.

More: San Francisco Chronicle; The Mercury News

IDAHO

Idaho Power, Conservation Group Strike Deal on Tx Line



Idaho Power and the Conservation Lands Foundation have struck a deal on two compromise routes to run the Gateway West Transmission Line through the Morley Nelson-Snake River Birds of Prey National Conservation Area.

The deal entails using routes next to existing power lines that already cross the conservation area south of Kuna. Land beneath the power lines would be removed from the conservation area and, in return, another 4,800 acres near Interstate 84 would be added to the national conservation area and get enhanced restoration work.

The deal, which was brokered by U.S. Rep. Mike Simpson (R), will take the form of legislation cosponsored by the state's entire congressional delegation.

More: Idaho Statesman

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State Briefs

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KENTUCKY

Elmer Smith Plant Will Stop Burning Coal by 2023

Owensboro Municipal Utilities will stop burning coal at its Elmer Smith Power Plant by 2023, citing the plant's age, environmental compliance and low natural gas prices as the driving factors.

The plant, which was called out by the Sierra Club in a 2007 report as being one of the top polluters in the U.S., was commissioned in 1964. A second larger unit was built in the mid-1970s.

The plant burns about 1.2 million tons of coal yearly.

More: *The Associated Press*

NEW YORK

State Will Give $2K Rebates for EV Purchase

Gov. Andrew Cuomo has announced a $70 million electric car rebate program that will give $2,000 to state residents who purchase eligible electric cars from participating new car dealerships. The rebate would supplement a federal tax credit of up to $7,500.

The Drive Clean Initiative covers 30 different types of electric cars that are plug-in hybrids, all-electric or hydrogen fuel cell.

A $15 million portion of the funding will be used to improve consumer education about electric cars, install more charging stations and develop new electric car-enabling technologies.

More: *The Daily Orange*

OKLAHOMA

Senate Panel Approves Bill for Early End to Wind Tax Credits

A Senate appropriations committee approved a bill Wednesday that would end the state's zero-emissions tax credit for wind generations on July 1, pushing forward its original sunset date of Jan. 21, 2021.

The committee voted 34-6 to send House Bill 2298 to the Senate floor despite concerns by some senators that it could jeopardize wind projects already in an advanced stage of development.

In 2015, the state paid out more than $54 million in refunds under the incentive, according to the Tax Commission.

More: *NewsOK*

PENNSYLVANIA

Court Throws out Verdict Against Marcellus Shale Driller

A federal judge on Friday set aside a $4.24 million jury award against Cabot Oil & Gas and ordered a new trial in a lawsuit alleging the Marcellus Shale gas driller contaminated the well water of two Dimock families with methane.

U.S. Magistrate Judge Martin C. Carlson found the evidence against Cabot "was spare, sometimes contradictory, frequently rebutted by other scientific expert testimony, and relied in some measure upon tenuous inferences."

More than 40 Dimock residents sued Cabot in 2009, claiming the gas producer polluted their water wells in a rush to drill Marcellus Shale. With the exception of the two families in the lawsuit, all settled in 2012 after tests showed the wells contained elevated levels of methane but did not contain any of the chemicals associated with gas drilling.

More: *The Philadelphia Inquirer*

TEXAS

CPS Will Close Coal Plant Despite Trump's Plans to Undo Regulations

CPS Energy will continue its plan to decommission its coal-fired Deely Power Plant by 2018, regardless of plans by the Trump administration to undo former President Barack Obama's Clean Power Plan.

Over the past five years, the San Antonio-owned utility has diversified its generation mix with wind, solar and other clean energy sources. CEO Paula Gold-Williams said the utility has monitored discussions surrounding the Clean Power Plan but is standing by its plan to create a greener and more diverse power portfolio. She noted the plan has been underway for almost a decade.

More: *San Antonio Business Journal*

Trump Order Begins Perilous Attempt to Undo Clean Power Plan

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Court of Appeals heard arguments in the case in September. (See Analysis: No Knock Out Blow for Clean Power Plan Foes in Court Arguments.)

Shortly after Trump signed the order, the Justice Department filed a motion with the D.C. Circuit to hold the state challenge in abeyance while EPA reconsiders the plan. "The Clean Power Plan is under close scrutiny by the EPA, and the prior positions taken by the agency with respect to the rule do not necessarily reflect its ultimate conclusions," the department said.

On Thursday, Pruitt sent a letter to state governors, telling them, "It is the policy of the Environmental Protection Agency that states have no obligation to spend resources to comply with a rule that has been stayed by the Supreme Court of the United States. To the extent any deadlines become relevant in the future, case law and past practice of the EPA supports the application of day-to-day tolling."

Legal experts differ on whether the D.C. Circuit will dismiss the states' challenge based on the Trump administration's withdrawal of support. Environmental groups immediately promised to fight the reversal of the plan.

The challenge for the Trump administration is to kill the CPP without providing some alternative for controlling greenhouse gases. Under the 1946 Administrative Procedure Act, the federal rulemaking process cannot be "arbitrary and capricious."

Thus, Trump's order will put EPA officials in the odd position of having to contradict the findings the agency cited when it issued the final rule in August 2015, which incorporated feedback from 4.3 million comments and months of meetings with state regulators, utilities and RTO officials. (See Revised Clean Power Plan Allows More Time, Sets Higher Targets.)

The administration also will have to overcome the Supreme Court's 2007 ruling in *Massachusetts v. EPA* that carbon dioxide is a pollutant that EPA must regulate under the Clean Air Act and the agency's 2009 finding that greenhouse gases endanger public health.

According to a report in Politico, Pruitt successfully argued against attempting to reverse the agency's endangerment finding, citing concerns it would be difficult to defend in a court challenge.

Myron Ebell of the Competitive Enterprise Institute and the former head of Trump's EPA transition team, told Politico that leaving the endangerment finding in place would require EPA to come up with an alternative to the CPP for regulating power plant emissions. "Before you know it, you end up having to do a Trump Clean Power Plan," he said.

Paris Agreement Threatened

Although the order does not indicate whether the U.S. will withdraw from the 2015 Paris Agreement on climate change, eliminating the CPP would make it far more difficult for the nation to meet its obligations to cut its carbon emissions to 26% below 2005 levels by 2025. The CPP requires a 32% reduction in power plant CO_2 emissions from 2005 levels by 2030.

Economic consultancy company Rhodium Group estimates the U.S. would reduce carbon emissions by 21% below 2005 levels in 2025 under the CPP but that the reduction would flatten at 14% under Trump's

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RTOs Unfazed by Trump Climate Order

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order last week was largely the same long-term view as they expressed when the CPP was stayed in February 2016. (See RTOs, States Respond to CPP Stay.)

MISO Tx Planning Unchanged

MISO, for example, has spent the past several months treating the CPP like Schrödinger's cat: alive and dead simultaneously.


Curran

"We planned for the absence of any kind of federal carbon policy and the addition of any kind of federal carbon policy. We're planning for both of these scenarios simultaneously," Vice President of System Planning Jennifer Curran said in an interview. To MISO, "there is no more uncertainty today about the Clean Power Plan than there was yesterday. We're having to execute transmission policy as if it would exist and as if it wouldn't exist."

MISO will soon reassess its futures weighting — or the likelihood that some futures will occur before others — but it has nothing to do with the CPP's downfall, Curran said. At March's board of directors meeting, Curran said MISO is currently testing for "gaps" in MISO's overall futures development.

"When we think about the futures scenarios, what we do is try to capture the uncertainty that exists in state policy, in federal policy and in energy economics," she continued. "We don't know exactly what the future looks like, so we're identifying … transmission projects that will perform well in a variety of scenarios and provide lower cost energy to consumers."

All but three states in MISO's footprint — Illinois, Iowa and Minnesota — joined the lawsuit to block the Clean Power Plan.

But despite state officials' antipathy to the EPA mandate, MISO's carbon emissions have dropped from just under 550 million tons/year in 2005 to 450 million tons/year in 2015. RTO officials say they expect coal plant retirements and increases in natural gas and renewable sources to continue reducing emissions regardless of federal regulations.

Other RTO officials agree that trends that are changing the generation mix will continue.

PJM: Regulatory Changes Less Important than Gas Prices

PJM unveiled a comprehensive analysis of the CPP in September and little has changed since then, the grid operator says, despite the recent instability of the federal rule.

"Our analysis indicated that regulatory [changes] didn't have as much impact as … the price of natural gas," PJM's Mike Bryson said last week during a media briefing introducing a whitepaper on system resiliency. "That effect [of natural gas pricing] would have more to do with getting to the tar-

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Trump Order Begins Perilous Attempt to Undo CPP

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rollback.

The Paris Agreement is intended to prevent the planet's temperature from increasing by more than 3.6 degrees Fahrenheit, which many experts say would lead to an irreversible future of rising oceans and extreme weather, leading to drought, flooding, and food and water shortages.

Social Cost of Carbon

Trump's order requires federal agencies to use "the best available science and economics" in their cost-benefit analyses of regulations. But it also disbands the Interagency Working Group on Social Cost of Greenhouse Gases, created by the Council of Economic Advisers and the Office of Management and Budget in 2009, and dismisses the group's work products as "no longer representative of governmental policy."

Instead, it orders that "when monetizing the value of changes in greenhouse gas emissions resulting from regulations," agencies rely on a 2003 Bush-era finding by OMB.

"In sum, to make a calculation based on 'the best available science,' they're reverting to 2003 data," wrote astrophysicist turned science writer Ramin Skibba in Slate.

The working group's current SCC price of $36/ton has been widely criticized as too low, with some scientists contending it should be as high as $220/ton.

The OMB circular that Trump's executive order cites suggests using a 7% discount rate for valuing future impacts of carbon emissions, more than twice the Obama administration's rate of 3%. The higher discount rate is likely to reduce the SCC further.

Trump's "plan would return the calculation to its 2003 level — a time when regulators could get away with ignoring climate costs and the benefits to avoiding them because of how uncertain they were," Skibba said. "The main effect will be on proposed policies; for example, the next time [Department of Transportation] or EPA officials evaluate the fuel economy standards of cars and trucks, they wouldn't have to set such strict limits. Eventually there will be more heavily polluting vehicles on the road, less efficient appliances in the marketplace, etc."

Trump Policies Likely Little Help to Coal; May Aid China

By Rich Heidorn Jr.

WASHINGTON — The executive order signed by President Trump on March 28 embraces the politically nuanced "all of the above" energy policy, declaring "it is ... in the national interest to ensure that the nation's electricity is affordable, reliable, safe, secure and clean, and that it can be produced from coal, natural gas, nuclear material, flowing water and other domestic sources, including renewable sources."

But make no mistake. Trump — like Barack Obama before him — likes some fuels more than others.

In addition to seeking to undo the Clean Power Plan, the order also ends a moratorium on federal coal leasing and eliminates the requirement that federal officials consider the impact of climate change when making decisions.

Trump signed the order following remarks in

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RTOs Unfazed by Trump Climate Order

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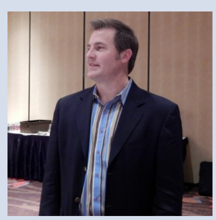
gets." (See related story, *PJM: Increased Gas Won't Hurt Reliability, Too Much Solar Will*, p.15.)

MISO and PJM recently completed a joint CPP study that built on their previous individual studies. While these analyses may be moot, the RTOs credited them with providing "a good stress test" for the systems' future. (See *MISO, PJM Find Value in CPP Study, Despite Rule's Likely Demise*.)

SPP: Renewables Growth to Continue, Though Pace in Question

SPP conducted three assessments of the CPP's various effects on its footprint, the last of which was released in July 2015. (See *SPP: State-by-State Compliance Would Hike Costs*.)

SPP's most recent Integrated Transmission Planning 10-Year Assessment included two scenarios in which the CPP was in place and predicted more output from renewables and natural gas.



Nickell

"Even after the plan was stayed at the Supreme Court — and most recently, the presidential order was issued — our members and stakeholders were still comfortable with the results of that study," Lanny Nickell, SPP vice president of engineering, said in an interview. "That was primarily because of the assumption of higher renewables and an energy shift from high carbon-emitting resources to lower carbon-emitting and renewable resources, which is actually what we are already seeing."

SPP has almost 17 GW of renewable generation and expects 22 GW by 2018, based on the resources in the generator interconnection queue.

"That growth hasn't been driven by the Clean Power Plan, it's been driven by market forces," Nickell said. "The production tax credit has something to do with that too. We will continue to plan based on the expectations renewables will continue to grow. What we don't know is — after the expiration of the PTC — will the growth rate we've seen be sustainable?

"What will happen in 2019, when we start the next 10-year assessment, is yet to be known. Will [renewables] be beyond 22 GW? We have another 30 GW of wind under study."

Nickell said the pace of coal plant retirements may slow as a result of Trump's action. "While we've seen a lot and we expect a few more retirements, I do expect that will stabilize somewhat," he said.

California, New York Going it Alone

The RTOs' planning has been based not only on the CPP but also on state and municipal carbon-reduction measures. Minnesota, for example, is on track to reduce emissions 40% by 2030 with or without the CPP. Late last year, Michigan passed a new energy

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the wood-paneled Map Room at EPA headquarters, surrounded by his top energy lieutenants and a group of coal miners and executives. "You know what this says?" Trump asked the miners, pen in hand. "You're going back to work."

Trump's remarks followed those of Energy Secretary Rick Perry, Interior Secretary Ryan Zinke, EPA Administrator Scott Pruitt and Vice President Mike Pence, who also pledged to reverse the decline in coal mining jobs. "Those days are over," Pence promised, "because the war on coal is over."

Coal Jobs

While industry interest groups and coal-state lawmakers praised the action, most reaction to promises of a rebound in coal mining jobs ranged from skepticism to derision. Natural gas and renewable generation have become cheaper than coal-fired power in many regions, and the most productive mines are increasingly automated.

Trump and Pence "cannot bring the coal industry back," Robert E. Murray, CEO of Murray Energy, one of the nation's largest coal mining companies, told Fox Business. "But they can stop the destruction."

Trump's order also requires EPA to review its emission standards for new generators, which effectively banned new coal plants without carbon sequestration. The levelized cost of a new coal generator with sequestration is about double the cost of new solar PV and wind, according to the Energy Information Administration.

But even current plants without sequestration are having difficulty competing against renewables and cheap natural gas.

EIA's annual coal report last November found that U.S. coal production dropped 10.3% in 2015 to less than 900 million short tons, the lowest annual production level since 1986. Employment at U.S. coal mines dropped 12% in the year to less than 66,000, the lowest since the agency began collecting data in 1978.

More than 21 GW of coal generation retired in 2015 and 2016, largely as result of the Mercury and Air Toxics Standards, and EIA says another 14 GW is at risk of retirement by the end of 2028.

Energy economist Robert W. Godby, of the University of Wyoming, told *The New York Times* that Trump's order could delay the closing of some endangered coal mines for as long as a decade. But because of increasing mechanization, "they're not hiring people," he said. "So even if we saw an increase in coal production, we could see a decrease in coal jobs."

Economic Impact

At the signing ceremony, Trump's cabinet members portrayed the Obama administration's environmental policies as a drag on the economy, with Perry decrying "poorly designed government policies [and] distorted markets."

"The executive order will begin the process to unravel the red tape that's been keeping investment on the sidelines and innovation stymied," Perry said.

"We're no longer going to have regulatory assault on any given sector of our economy," Pruitt said. "We're not going to allow regulations here at the EPA to pick winners and losers."

"Our nation can't run on pixie dust and hope," Zinke said.

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policy that contains a nonbinding goal of meeting 35% of the state's energy needs through renewables and energy efficiency by 2025.

Even Republican stronghold Carmel, Ind. — home of MISO's headquarters — has pledged to continue energy efficiency and carbon-limiting measures. As *The Washington Post* reported, the city has shifted its vehicle fleet to hybrids and biofuel, installed low-energy LED streetlights, planted trees to absorb carbon dioxide and provide shade, and converted dozens of intersections into roundabouts — which help to conserve gasoline, reduce air pollution and eliminate the electricity demand of traffic lights.

New York and California, which account for about 10% of U.S. greenhouse gas emissions, vowed last week to continue working toward their aggressive climate goals, whose targets far exceed what would have been required under the CPP: 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The states policies have largely driven planning by CAISO and NYISO.

In a joint statement, California Gov. Jerry Brown and New York Gov. Andrew Cuomo vowed to "help fill the void left by the federal government."

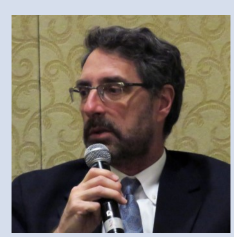
The states are also part of the Under2 Coalition, a pact of 167 jurisdictions around the world that have committed to limiting the increase in the global temperature to 2 degrees Celsius.

And both states' attorneys general are among a coalition that said it is considering legal action to uphold the CPP.

"Addressing our country's largest source of carbon pollution — existing fossil fuel-burning power plants — is both required under the Clean Air Act and essential to mitigating climate change's growing harm to our public health, environments and economies," said the attorneys general. "We won't hesitate to protect those we serve — including by aggressively opposing in court President Trump's actions that ignore both the law and the critical importance of confronting the very real threat of climate change."

ISO-NE

Among the attorneys general in the coalition are Connecticut, Maine, Massachusetts, Rhode Island and Vermont, four of the five states within ISO-NE. Far from considering a rollback in carbon-cutting efforts, New England stakeholders are deliberating over ways to incorporate state GHG policies into the wholesale markets. (See *IMAPP Pondering 4 Options for Incorporating Clean Energy in NE*.)


Doot

David T. Doot, counsel and secretary to the New England Power Pool, said that under Obama, FERC was "begging" New England to propose market rules that incorporate carbon policy. The commission has scheduled a technical conference

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EPA's Regulatory Impact Analysis of the CPP, which predicts the rule would produce economic and health benefits far exceeding its costs, is not given credence by the agency's critics.

But many others say Trump's policies will hurt American leadership in clean energy technologies.

Trump's budget would cut the $2 billion budget for the Department of Energy's Office of Energy Efficiency and Renewable Energy by at least 25%. EERE's research has been credited with helping produce the 74% drop in the cost of utility-scale solar since 2010.

Although it is the world's largest coal consumer, China reached an agreement with the Obama administration in 2014 to cut both nations' emissions, a pact that set the stage for the 2015 Paris Agreement.

Bloomberg New Energy Finance reported that China had $87.8 billion in clean energy investments in 2016, versus $58.6 billion in the U.S. And China recently announced it will invest $360 billion in renewable energy by 2020, which the government predicts will create 13 million new jobs.

China's goal is to increase its use of non-fossil fuels to 20% of total energy consumption by 2030, with 200 GW of wind capacity and 100 GW of solar. The U.S. had 81.3 GW of wind capacity and 42.4 GW of solar PV as of the end of 2016.

Already, Chinese manufacturers lead the world in production of wind turbines, solar panels and batteries.

"The Trump administration is turning the nation's back on the historic opportunity to build a clean energy future — a future that will modernize our energy system, offer consumers better value for their energy dollars and invest in state and local economies while taking the right steps to reduce climate pollution," said Daniel Sosland, president of Acadia Center, which supports clean energy policies.

EIA predicts renewable electricity generation will grow 3.9% annually through 2030 without the CPP and 4.7% a year with it.

Regardless of what happens with the CPP, utilities, major corporations and many states are likely to continue their efforts at decarbonizing the generation mix.

New York Gov. Andrew Cuomo and California Gov. Jerry Brown issued a joint statement reaffirming their commitment to exceed the CPP's targets.

"Climate change is real and will not be wished away by rhetoric or denial," they said. "Together, California and New York represent approximately 60 million people — nearly one-in-five Americans — and 20% of the nation's gross domestic product. With or without Washington, we will work with our partners throughout the world to aggressively fight climate change and protect our future."

Reaction

Other reaction to Trump's order was, unsurprisingly, mixed.

Environmentalists said the order could damage climate change efforts while producing no benefits for the coal industry. On Wednesday, a coalition of environmental groups filed suit over lifting the coal leasing moratorium, contending Trump's action is illegal because it was done without an environmental impact study.

"The fact that major utilities in Ohio are planning to shut down a number of dirty coal-fired power plants throughout the state should be an indication that the market is moving on to less costly and cleaner resources," said Shannon Fisk, managing attorney for the Earthjustice coal litigation program. "We will be advocating to maximize energy efficiency and renewable energy as the best options for replacing coal plants, and for providing a just economic transition for coal workers and communities."

David Doniger, director of the Natural Resources Defense Council's Climate and Clean Air Program, tweeted: "Coal country needs a path to the economy of the future, not false hopes Trump won't deliver."

Paul Bailey, CEO of The American Coalition for Clean Coal Electricity, called the CPP "the poster child for regulations that are unnecessarily expensive and have no meaningful environmental benefit."

The American Public Power Association also supported the president's action. "Public power has previously voiced its legal objection to the rule for requiring utilities to fundamentally alter the way they generate electricity. In some cases, utilities would have been forced to abandon functional power plants while continuing to pay them off," the group said.

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for May 1-2 on the energy and capacity markets in PJM, NYISO and ISO-NE.

"Now, that was FERC before President Trump," Doot told the Northeast Energy and Commerce Association's 2017 Renewable Energy Conference on March 6. After Trump? "There's just no way of predicting," Doot said.

ERCOT

Similarly, ERCOT's planning cannot ignore Texas' anti-CPP stance.

"We're heartened by the president's latest action, which shows he's serious about returning common sense and the rule of law to the EPA," Texas Attorney General Ken Paxton said in a statement.

But the economics of renewables may be a bigger factor than state policy in Texas, which boasts the largest wind generation fleet of any state and is also increasing its solar capacity.

ERCOT's Long-Term System Assessment, which is updated every other year, includes a range of regulatory scenarios that could occur. "As the assessment is developed for the next update in 2018, ERCOT staff and stakeholders will evaluate what likely scenarios would affect transmission planning within the next planning horizon," spokeswoman Robbie Searcy said.

Searcy said it was unclear whether the Trump order will affect the pace of new renewable generation.

About 29 GW of new wind and utility-scale solar generation resources are under study in ERCOT, and more than 12 GW have interconnection agreements. "Our last Long-Term System Assessment indicated these resources likely would continue to grow under all scenarios studied," Searcy said.

Michael Kuser and Rory D. Sweeney contributed to this report.