RTO Insider
Your Eyes and Ears on the Organized Electric Markets
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FERC Rule Would Boost Energy Storage, DER

RTOs Must Remove Barriers to Entry

By Rich Heidorn Jr.

In a big boost to the energy storage industry, FERC on Thursday proposed a sweeping order aimed at knocking down market barriers to storage and distributed energy resources.

The Notice of Proposed Rulemaking would require RTOs to allow aggregated distributed energy resources and storage resources of 100 kW and above to participate in capacity, energy and ancillary services markets. It also would allow storage to provide services not procured through markets, such as black start, primary frequency response and reactive power (RM16-23, AD16-20).

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Clockwise from top left: AES Laurel Mountain in Elkins, W.Va.; AES battery facility in Moraine, Ohio; Community Energy Storage in Ontario; and Invenergy Energy Storage in Grand Ridge, Ill.

NARUC Panel: CPP Poised to Fall Under Trump, New Congress

By Robert Mullin

LA QUINTA, Calif. — While the election of Donald Trump as president of the United States has clouded the future of federal energy policy, one thing is clear: President Obama's Clean Power Plan won't figure into it.

Such was the consensus view of a panel convened last week at the National Association of Regulatory Utility Commissioners

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NARUC Annual Meeting 2016 Coverage

New FERC Rule Will Double RTO Offer Caps

By Robert Mullin

With winter looming, FERC last week adopted a rule that would double the "hard" offer cap for day-ahead and real-time markets to $2,000/MWh in every RTO and ISO.

The rule change was a response to the 2013-2014 polar vortex, which caused natural gas price spikes that left some generators in the Northeast complaining they were unable to recover their costs (RM16-5).

The commission also noted that the $1,000/MWh offer caps effective in most RTOs could suppress LMPs below the marginal cost of production "given that recent history demonstrates that resource short-run marginal costs can exceed" that cap.

"We find that the currently effective offer caps may prevent a resource from recovering its short-run marginal costs, which could result in that resource operating at a loss," the commission said in its decision to adopt the rule.

FERC last year approved a PJM measure to increase its offer cap to $2,000/MWh after RTO stakeholders voted overwhelmingly to approve the move. (See *PJM Members OK 2,000/MWh Energy Market Offer Cap*.)

The commission's revised offer cap rule sets out three requirements:

- Incremental energy offers must be

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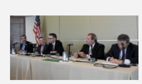

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FERC Rule Would Boost Energy Storage, DER

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"As the costs of electric storage resources continue to decline and their technical potential expands, the ability of these resources to provide operational and economic benefits to the organized wholesale electric markets will increase," the commission said. "We preliminarily find that it is important to remove barriers to participation now so that the competitive benefits are realized without delay."

In a separate order, the commission also issued a NOPR proposing to require all newly interconnecting large and small generating facilities to install and enable primary frequency response — a requirement new to renewable generators (RM16-6). (See related story, *FERC Proposes Frequency Response Requirements for Renewables*, p.29.)

FERC Heard Enough

In the rhythm of FERC rulemaking, staff-led technical conferences are part of a process that is followed by post-conference comments and months of deliberation before the issuance of a NOPR.

Not so with the commission's deliberations on RTOs' rules on energy storage and DERs.

Thursday's NOPR came only eight days after a daylong technical conference at which representatives of RTOs, utilities and technology companies debated the breadth of storage's potential uses and ways to avoid overcompensating resources performing multiple functions (AD16-25). (See *FERC Panelists Debate Storage Uses, Compensation*.)

It also followed an Oct. 21 complaint by AES' Indianapolis Power and Light seeking to goose rule changes in MISO. (See related story, *MISO Asks FERC to Dismiss IPL Storage Complaint*, p.14.)

It's now apparent that FERC had already heard enough even before convening the conference. The 139-page NOPR was likely the result of months of internal debate and negotiations.

In April, the commission issued data requests to the six jurisdictional RTOs and ISOs seeking information on their rules on storage and DER participation. The RTOs' responses were followed by dozens of comments from other stakeholders.

"As numerous commenters state, existing RTO/ISO rules that govern participation of electric storage resources in some organized wholesale electric markets fail to ensure that electric storage resources that are technically capable of providing specific services are permitted to do so," the commission said Thursday.

FERC said outdated and inflexible market rules have hampered innovation. "For instance, some electric storage resources have chosen to participate as demand response resources simply because, absent other participation models, that is the participation model that more closely resembles the manner in which electric storage resources might participate in the organized wholesale electric markets."

'Participatory Model'

The NOPR would require RTOs to revise their rules to create a "participation model" that accommodates "the physical and operational characteristics" of storage to allow them to provide any services they are physically capable of.

"Where compensation for these services exists, electric storage resources should also receive such compensation commensurate with the service provided," the commission added.

One key change would be the requirement that RTOs' bidding parameters reflect storage's unique characteristics, including allowing storage to de-rate its capacity to meet minimum run-time requirements to provide capacity or other services.

In addition, RTO criteria for qualifying storage resources "must not limit participation to any particular type of electric storage resource or other technology," FERC said.

"For example, resources such as thermal storage that can both increase and decrease their energy consumption could aggregate with other distributed energy resources with common physical or operational characteristics and qualify as a market participant using the participation model proposed here."

In addition to batteries, the commission said the rules also must accommodate "flywheels, compressed air [and] pumped hydro … whether located on the interstate grid or on a distribution system."

State-of-Charge

The commission said bidding parameters must take into account storage's state-of-charge to ensure resources are dispatched

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NARUC Annual Meeting 2016

NARUC Panelists Discuss Impact of Rate Design on EV Adoption

By Robert Mullin

LA QUINTA, Calif. — California has about 230,000 electric vehicles on the road, representing almost half of the EVs in the U.S.

Mississippi has about 260.

California Public Utilities Commissioner **Carla Peterman** sees zero difference between the two numbers.

"Now, granted, [there are] three zeros of difference," she said, eliciting laughter during a panel discussion on EV rate design at the National Association of Regulatory Utility Commissioners' annual conference last week. "But I really see zero difference."

Despite the current disparity between the two states, Peterman explained, every state commission in the country will eventually face the same challenges related to greater adoption of EVs.

Although California leads the nation in EVs, their penetration still represents less than 1% of the state's passenger fleet. But that is expected to change. Bloomberg New Energy Finance forecasts that the total unsubsidized cost of owning an EV will likely fall below that of a gas-powered car by the mid-2020s.

"You need to be thinking about how these vehicles interconnect" with the grid, Peterman said.

Key Questions

Peterman said there are several key questions commissions must ask themselves: How do EVs impact my system? What type of load do they add? Are the vehicles charging at times that make sense?

California's thinking about EVs has evolved over time, from focusing on how to reduce the negative impact of EVs on the grid to exploring ways in which the vehicles can actually support the state's objectives, Peterman said.

The state's investor-owned utilities (IOUs) were once prohibited from becoming too deeply involved in EV charging based on concerns about anti-competitiveness, Peterman explained. But with this summer's passage of Senate Bill 32, which requires the state to reduce its emissions to 40% below 1990 levels by 2030, vehicle electrification is now a "principal goal" for utilities.

To facilitate this new role for the IOUs, the CPUC has been accepting applications to create pilot programs for developing an EV charging infrastructure. The proposals have resulted in a variety of models.

One proposal would have San Diego Gas & Electric owning the charging infrastructure and rolling it into the company's rate base as a capital expenditure. Another would have Southern California Edison investing in the "make-ready" — the infrastructure from the meter to the charger, which would be treated as an operating expense and also rolled into rates.

In approving an EV infrastructure model, state commissions need to consider the benefits for all ratepayers, not just EV drivers, Peterman said. California set out the benefits in statute, including some not easy to quantify, such as a more reliable grid, improved air quality, greenhouse gas reductions and the creation of better-paying jobs.

She added that commissions should also guard against anti-competitive behavior, allowing EV flexibility to choose charging equipment.

EV-Specific Tariffs

Peterman also suggested adopting specific tariffs for EV drivers.

"You want to encourage charging at times when power is plentiful," she said, adding that California sees EVs as a way to absorb excess electricity produced by solar installations during the day.

"That electricity is so low cost, especially compared with oil, why not have an opportunity for your vehicles to run on that?" Peterman said.

With a contested proceeding on EV infrastructure currently before his agency, Michigan Public Service Commissioner **Norm Saari** had to remain tightlipped on his views about how to allocate those costs. But he also laid out a not-too-distant future in which all commissioners would confront the EV issue.

EVs "are now driving in the fast lane," he said, citing the performance figures for the latest Tesla Motors models.

He added that in some states, EVs are also eligible to travel in the high-occupancy vehicle lane.

"EVs are not just the noble [experiment] they were a decade ago," Saari said.

Saari pointed to the multitude of federal programs promoting the adoption of EVs, which includes the Corporate Average Fuel Economy (CAFE) mileage standards for auto manufacturers, tax incentives and the Obama administration's recently announced effort to create 48 EV charging corridors throughout the country. (See *White House Announces Nationwide EV Charging Network*.)

"Regulators, the private sector and utilities have some critical decisions to make on where the EV world is going to be taking us," Saari said.

California, Oregon Cited

He lauded the work that regulators in states such as California and Oregon have already done to anticipate the adoption of EVs and said EV forums among state regulators are a critical way to share best practices.

"I would encourage other state regulators, if you haven't put together the subject matter experts to plan out the programs, now's the time to really look at doing that," Saari said.

Bob Jenks, executive director of the Citizens' Utility Board of Oregon, expressed surprise that policymakers are looking at his state's cost recovery provisions for EV infrastructure as a model for the rest of the country.

Those provisions require the state commission to condition a utility's recovery on whether an EV-related project is within the utility's service territory; is prudent as determined by the commission; is reasonably expected to be used; is expected to stimulate innovation, competition and customer choice; and is expected to support the utility's system.

"As somebody who was in the room when we negotiated that piece of legislation, I can tell you that the last thing we thought we

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NARUC Panel: CPP Poised to Fall Under Trump, New Congress

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annual conference to discuss the election's potential impact on energy sector regulation.

"The Clean Power Plan is done — for the time being," said Ray Gifford, past chairman of the Colorado Public Utilities Commission and formerly president of the Progress and Freedom Foundation, a now-defunct conservative think tank that advocated for reduced federal oversight of the telecommunications industry.

Gifford said the unwinding of the CPP could be part of a broader effort by Congress "to undertake broad-based regulatory reform," which would also include eliminating the doctrine of "net neutrality" in telecommunications regulation.

Former Colorado Gov. Bill Ritter, now director of the liberal Center for a New Energy Economy, agreed with Gifford's assessment, though he didn't share his enthusiasm that the change would be positive.

"Ray's right, [the CPP] is likely to be undone," Ritter said, adding that "it's connected back to Congress reasserting itself."

Not So Bleak

Still, the prospects for reducing greenhouse gas emissions aren't so bleak, speakers said.

"The interesting thing about state work is you realize that, apart from the Clean Power Plan — markets are already driving us to a variety of different methods of decarbonization," Ritter said, acknowledging that state public policies are driving markets "to some extent."

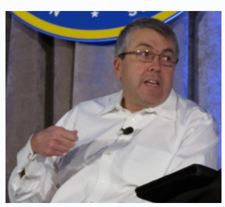

Ritter

But markets have their limitations and cannot "dictate the timing" of dealing with issues such as climate change in a serious way, Ritter contended.

"So, what you're going to see is a variety of states that are going to say, 'We're not going to let the markets control this because we think climate change is this important thing and we need to act,'" Ritter said, referring to the ambitious renewable energy standards enacted by states such as California, Hawaii, New York, Oregon and Vermont.

"It feels to me like there's some momentum there that's not going to be necessarily impacted by a course direction at the federal level," Ritter said.

Moderating the panel was Montana Public Service Commissioner and outgoing NARUC President Travis Kavulla, who asked Gifford whether newly empowered Republicans would allow states to continue to pursue policies favoring renewable resources or intervene on behalf of traditional resource industries.


Gifford

"I think that's the big question, Travis," Gifford replied. "I think Republican orthodoxy is to let the states be laboratories of democracy. You send power back to the states; you let those decisions be made closer to point of contact with the voters and the citizens."

States' Impacts on RTOs

But Gifford asserted that RTOs and ISOs are "being roiled by state action underneath them," citing New Jersey and Maryland legislators' attempt to fund new generators for their states and efforts by New York, Ohio and Illinois to subsidize existing in-state fossil and nuclear plants. (See related story, *Bill to Save Coal, Nuclear Plants Introduced in Illinois*, p.20.)

"That's a big issue for the next FERC, and how they deal with it is anybody's guess because you've got a lot of strains going on in markets and you've got a lot of states very unhappy with what markets are yielding," Gifford said. "By watching New York, Ohio and Illinois the next six months to a year, and watching how FERC reacts and how the administration reacts, I think says a lot about the future of these wholesale energy markets."

Devin Hartman, electricity policy manager at R Street Institute, a think tank that promotes competitive electricity markets and "limited, effective government," said his organization "doesn't see a clear need to reform any of the core aspects" of the

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NARUC Panelists Discuss Impact of Rate Design on EV Adoption

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were doing was setting some sort of national standard for ratemaking associated with EVs," Jenks said. "All we were trying to do, quite frankly, was get a deal — with the legislative clock ticking during a short legislative session — that we had to have [done] that afternoon."

Jenks said the EV section of the deal was almost eliminated at the last minute.

The cost recovery provisions, Jenks explained, are not specific to EV infrastructure but apply to any investment made by the state's utilities.

That last consideration — supporting the utility's system — could be key for Oregon utilities seeking to gain approval for EV infrastructure projects. Jenks cited a Pacific Northwest National Laboratory study that concluded widespread adoption of EVs could help the region integrate all of its wind.

Time-of-Use Rates

For that reason, Jenks cautioned against imposing time-of-use rates for EV drivers.

"I don't know that time-of-use rates are the best way to deal with wind variability," he said.

Jenks also said states should avoid using rate design to lead their EV policies.

"I think where we need to go is direct load control by the utility," Jenks said. "There has to be a program to compensate customers for it, but I don't know what that is."

"We will design these [programs] down the road and these will evolve," he said.

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Federal Power Act, although clarity is needed on what forms of state intervention in the energy sector would be viewed as acceptable under the act.

A specific area of concern: the need for a clearer line between federal and state authority over policies concerning distributed energy resources.

"It's important to keep the core principles of the Federal Power Act intact, which has been correctly interpreted by FERC to uphold competitive markets," Hartman said.

Conservative lawmakers might turn their attention to "tackling" the Public Utility Regulatory Policies Act, according to Gifford, who referred to the act as "strange, outdated law" with "a very bad track record."

False Price Signals

"You can maybe give it credit for juicing the independent power production world," Gifford said, but PURPA also created "false price signals."

"It doesn't fit with Devin's competitive wholesale market model at all, and it has brought many states to their knees," Gifford said. "So I'd start with, 'Let's erase it and start the bidding from there.'"

Ritter said the potential for grid modernization represented the "biggest difference" between a Hillary Clinton and a Trump administration on issues related to electricity.

"It's something that you as commissioners should care a great deal about," Ritter told the audience, referring to the deployment of microgrids, "smart grid" technologies and transmission network improvements.

Ritter said he hopes grid modernization will end up as part of a broader infrastructure package under the new administration.

"But there are a lot of people that hear infrastructure and they don't think the grid," Ritter said.

Panelists were asked to conclude the session with a bit of advice for the incoming president and Congressional leadership.

"Pay attention to science," Ritter said. "I really respect the attention that we need to pay to markets, but markets can't always dictate timing." He added that the U.S. needs to understand its "role and obligation in trying to address the very serious global problem" of climate change.

Hartman said it's important that the country take a "long-term view" on the efficacy of environmental policies that he thinks could cause economic harm without making much of a dent in overall global emissions.

"When we see international environmental progress work well, it's when the emissions abatement technology was cheap," Hartman said. "That's where a long-term innovation agenda is so important."

Gifford wrapped up with a humorous solution.

"Appoint state commissioners to federal agencies and regulatory commissions," he said to laughter. "Pandering to the audience, you can never go wrong."

Clark: Trump Election to Have Limited Impact on FERC

In a separate question-and-answer session with Kavulla, former FERC Commissioner Tony Clark said it was too early to tell exactly what impact Trump's election would have on the CPP.

"We know that the new administration has indicated that they're going to look to pull it back in some way," he said, adding that states will likely have "more time and flexibility" to deal with the changes that would come with the plan.

Clark doesn't see significant post-election implications for FERC as an agency.

"You tend to not see huge swings out of FERC" after elections, he said. "You'll have a little more of a bully pulpit, maybe, on some of the reliability issues where reliability and environmental regulations come up.

"But any new group of commissioners brings a [bit of a] different perspective," Clark said.

'Unraveling Consensus'

Clark said he thinks there's been "an unraveling of the regulatory consensus" during the 16 years he's worked as a utility regulator. He said regulators at one time focused on answering the question of what are the most safe, reliable and affordable forms of energy to serve ratepayers.

Now the questions are myriad.

"In some cases it's things like, 'How do I preserve these generation jobs in my state?'" said Clark, who agreed to join law firm Wilkinson Barker Knauer after four years on FERC and 12 years on the North Dakota Public Service Commission.

"How do I preserve my tax base? How do my utilities plan for a carbon-constrained future? How do they reduce their carbon footprint?"

Clark hedged on a question about whether electricity regulation has become more partisan.

"Maybe in some way," Clark said. "I think so much of environmental politics has come into the job that utility commissioners do."

Still, Clark said that utility commissions are relatively insulated from politics compared with other federal and state agencies.

Speaking of his time at FERC, Clark noted, "We often said there is no Democrat or Republican way to keep the lights on, and I think that consciously trying to keep politics at bay and out of the regulatory commission was something that was very important for the long-term integrity of the agency."

Former FERC Commissioner Tony Clark (left) and NARUC President Travis Kavulla | © *RTO Insider*

NARUC Annual Meeting 2016

States Should Play Key Role in RTO Governance, NARUC Panelists Say

By Robert Mullin

PUCO Chairman Asim Haque (left) and Vermont PSB Member Sarah Hoffman | *© RTO Insider*

LA QUINTA, Calif. — State commissions have a significant part to play in shaping RTO rules, but they must actively seek a place at the table when key decisions are being made, regulators and RTO representatives said during a panel discussion at the National Association of Regulatory Utility Commissioners annual conference last week.

Another takeaway: States will exercise more influence in the process when they cooperate with each other and strive to speak with a common voice.

Vermont Public Service Board Member Sarah Hoffman, the panel moderator, kicked off the discussion with a close-to-home example of the often-complicated relationship between states and RTOs.

New England's IMAPP

Hoffman cited the challenges facing New England's Integrating Markets and Public Policy (IMAPP) stakeholder process, which seeks to identify changes needed to align the region's wholesale market with individual state energy policies, particularly those related to renewable energy. The goal of the process is to translate state policies into market rules that ISO-NE can adopt.

"It is a process that is ongoing and that has really put the states into the center of the discussion about how we are going to integrate these public policies" into the market, Hoffman said.

But it hasn't been seamless.

"Generators and suppliers want to tear their hair out because the six states don't all want the same thing," Hoffman said. "Where Massachusetts wants 1,600 MW of offshore wind, Vermont has different requirements. Market participants would prefer that all the states share the same requirements.

"Based on the fact that we all have legislators, that's never going to happen," she added.

State Discord in PJM

"If all of the PJM states can be on the same page, that is very effective advocacy," said Asim Haque, chairman of the Public Utilities Commission of Ohio.

That kind of unity is desirable whether the states are dealing with a "ground-up" state-initiated policy or a "top-down" PJM initiative, he said.

"The intrigue lies in when states do not agree," Haque said.

Haque noted that the Organization of PJM States Inc. requires a 51% vote to take a policy position.

"If you're not able to get that 51% and the states start going it alone on an issue, I think it creates a little friction between the states," Haque said.

MISO: Not a Distraction

Indiana Utility Regulatory Commissioner Angela Weber emphasized the need for regulators to be engaged with their RTOs.

"There are a lot of commissioners who just aren't engaged, and I think the idea is that [state commissions] don't have jurisdiction over the RTO, so it doesn't matter," she said.

Weber said her work on the Organization for MISO States can seem like a distraction from state-related work, but she considers her involvement to be vital for her state's residents.

She pointed out that MISO has approved more than $25 billion in transmission spending since 2003.

"All these costs flow through to our ratepayers," Weber said. "If regulators in MISO want to have influence on these costs, they are better off doing so at the MISO level before the costs get passed on."

Weber also pointed to an essential connection between state commissions and RTOs.

"There's an intersection between the RTO's responsibility to maintain reliability and the state regulator's responsibility for ensuring resource adequacy," Weber said. Through their resource planning processes, "the states effectively determine the tools that MISO has at its disposal to maintain reliability," she said.

SPP Model

SPP General Counsel **Paul Suskie** said states wield significant influence within his RTO through the Regional State Committee. The committee has governing authority over transmission access charges, financial transmission rights, planning for remote resources and resource adequacy, while also providing input into market developments, strategy and transmission planning.

"Our CEO will tell you that when he said we were going to give state regulators this authority, some of his counterparts thought he was crazy, that it's not going to work," Suskie said.

The SPP model works because of the time and effort state commissions dedicate to working through market issues, Suskie said.

"Other states ask me about our governance model and I tell them, 'From the state

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NARUC Annual Meeting 2016

Environmentalists Debate the 'Nuclear Option'

By Robert Mullin

LA QUINTA, Calif. — The future of U.S. nuclear energy policy was the subject of a spirited Oxford-style debate at the National Association of Regulatory Utility Commissioners conference last week.

The resolution under debate: Retaining all U.S. nuclear capacity is essential to maintaining reliable, cost-effective, environmentally responsible service.

The event kicked off with an audience poll showing 48 respondents in favor of the resolution, six opposed and three neutral.

"Perfectly mirroring the population at large," joked Ralph Cavanagh, co-director of the energy program at the Natural Resources Defense Council, which opposes construction of new nuclear plants.

Cavanagh then addressed the audience, largely consisting of state utility commissioners.

"I'm going to point out to you that you've been rejecting that resolution with your feet for the last 40 years," he said. "You've been right to do it, and you should continue to do it."

Retaining all nuclear capacity is just one of many options available for ensuring a low-emission, cost-effective, reliable supply of power, Cavanagh contended.

"The nuclear option should compete with other low-carbon options and not be declared the winner in advance," he said.

Cavanagh's opponent was Michael Shellenberger, president of the pro-nuclear, climate change advocacy group Environmental

Cavanagh

Shellenberger

Progress, who said the loss of nuclear power impedes decarbonization by increasing the role of coal and gas-fired generation.

Checkered History

Cavanagh reviewed the history of nuclear power development in the Pacific Northwest — specifically the Washington Public Power Supply System debacle in the early 1980s. WPPSS defaulted on $2.25 billion in bonds after more than $20 billion was spent to construct plants eventually deemed unnecessary for the region.

Since U.S. nuclear output peaked in 1990, the inflation-adjusted price of electricity has only fallen — as have emissions and consumption, Cavanagh said. There are 99 reactors online today, versus 112 then.

And the reactors still in service are getting old — averaging 36 years.

"Life extension past 40 is certainly possible, but it often requires significant investment and refurbishment," Cavanagh said. "Energy efficiency projects are meanwhile continuing, and wind and solar are putting pressure on giant baseload units as they gain market share."

While Cavanagh didn't advocate for full-scale nuclear retirements, he said the financial viability of U.S. nuclear plants should be examined on a case-by-case basis.

One example of a plant requiring retirement, he said, is California's Diablo Canyon, whose relicensing would have required Pacific Gas and Electric to invest 10 cents/kWh in refurbishments.

"That almost certainly puts the plant out of the money in the zero-carbon inventory we're trying to build," Cavanagh said. "A plant of that cost, that size, that inflexibility … becomes a liability, not an asset, in the continuing energy transition."

'Pre-Emptive' Retirements

Shellenberger countered that the "pre-emptive" retirement of nuclear plants has resulted in a decline in clean energy's share of total global output, despite the increase in renewable resources.

In California, power plant emissions have declined less than the national average since 2000, with that effect being especially pronounced since the passage of state climate legislation in 2006, Shellenberger said.

"People don't like nuclear very much — they're afraid of it," Shellenberger said. "It's a little bit more popular than coal, but I don't think people fear coal in the same way as nuclear. They don't think that they're going to have to evacuate or that they're going to get cancer" from a coal plant.

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States Should Play Key Role in RTO Governance, NARUC Panelists Say

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commissioner perspective, the good thing is you have the authority. The bad thing is you have the authority,'" Suskie said.

CAISO Seeks to Evolve

Stacey Crowley, vice president of regional and federal affairs at CAISO, said that a change in governance is key for enabling the ISO to expand into other parts of the West. The ISO was created in 1998 as a single-state body under California statute, with board members appointed by the governor.

That structure "will not satisfy a regional ISO," Crowley said.

Crowley noted that regional discussions about a Western RTO have focused on the fact that each state has different policy structures, goals and procurement strategies.

"Those are all important and need to be respected in a regional ISO," Crowley said.

While California represents a large population in the West, "its policies need to be seen as equal amongst all the states" in an RTO, she added.

CAISO has developed a model for state involvement with its Energy Imbalance Market, which features a regionally representative governing body and an advisory body of regulators that provides states with a forum to discuss market issues.

"It's been a good way to develop a relationship and a way to communicate amongst the states," Crowley said.

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Environmentalists Debate the 'Nuclear Option'

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This belief persists despite the fact that a study published by the British medical journal *The Lancet* showed that nuclear is the safest way to generate power, Shellenberger said. "There's really no debate about nuclear safety among people who study public health," he said.

Shellenberger said that nuclear's unpopularity translates into solar getting 140 times more in subsidies than nuclear generation, according to a 2013 U.S. Energy Information Administration report. Wind gets 17 times as much.

"I used to think that maybe environmentalists were naive in thinking that you can power the world on solar or wind," Shellenberger said. "They're not. When you actually read the documents, every time, they are pushing fossil fuel plants instead of nuclear because [Cavanagh] and the NRDC and Sierra Club know full well that you can't power hospitals and cities and societies on intermittent sources of power that generate electricity just 20 or 30% of the time."

Energy Efficiency not a Resource?

Shellenberger also derided claims that energy efficiency programs can be considered a resource and that they are responsible for flat electricity consumption in California in recent decades.

"Why didn't it go up like the rest of the country?" Shellenberger asked. "Because we lost all of our manufacturing jobs due to high electricity prices and because we don't need as much heating and cooling."

Shellenberger "is painting a pretty dour picture of the global power sector, and in some ways he's right," Cavanagh responded. "And I'm here to cheer him up."

Cavanagh said two things can change dramatically for the sector.

"One is just how fast these small-scale, fast-acquisition resources [such as solar and wind] can grow, and how quickly they can change a picture — national and international — that looks relatively dour right now," Cavanagh said. "And the other is the contribution of energy efficiency, which [Shellenberger] says is not a resource."

On the subject of subsidies, Cavanagh said, "When a nuclear power proponent complains about renewable energy subsidies, I have to say I feel like I'm being lectured on temperance from a barstool."

Shellenberger countered that nuclear power received about 10 years of subsidies. On the question of speed of scalability, he pointed to a recent report appearing in the journal *Science* that showed that the fastest increases in the growth of carbon-free electricity have occurred during the scale-up of national nuclear programs.

"When you take [a nuclear power plant] offline, you're giving a lease on life, not just to natural gas, but to coal," Shellenberger said.

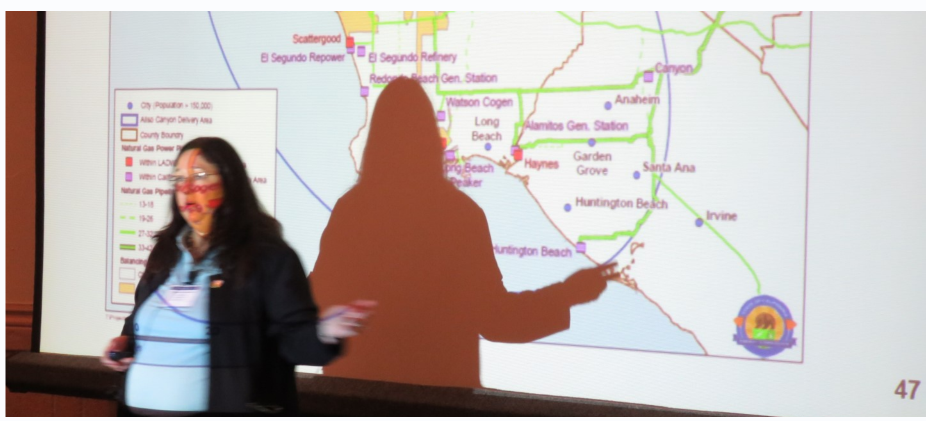
The debate concluded with a second audience poll on the original resolution. The result this time: 66 in favor and 22 against — a 75% majority for the pro-nuclear side, down from 84% at the beginning of the session.

Based on Oxford rules, Cavanagh could claim a debate win. But the argument over nuclear energy's role will undoubtedly persist.

Sandoval: Nuke Shutdown, Auto-DR Aided Aliso Canyon Response

By Robert Mullin

LA QUINTA, Calif. — While the loss of the San Onofre nuclear plant complicated California's response to the closure of the Aliso Canyon natural gas storage facility last year, planners did benefit from actions taken in the wake of the plant's 2013 shuttering, according to California Public Utilities Commissioner Catherine Sandoval.



Sandoval in front of a map of Aliso Canyon | © *RTO Insider*

"All of that work helped us to better withstand Aliso Canyon when the number one source of natural gas was no longer available," Sandoval told an audience at the National Association of Regulatory Utility Commissioners' 128th Annual Meeting.

In response to the shutdown of San Onofre — the largest generator in the state's most populous area — officials ordered transmission upgrades, installation of synchronous condensers to facilitate the flow of electricity into the Los Angeles area and "a variety of things to help keep the system up and running electrically," Sandoval said.

The loss of Aliso Canyon prompted the CPUC to authorize additional measures to shore up the region's grid, including accelerated deployment of energy storage and expedited interconnection procedures. The state also stepped up implementation of demand response to shave summer electricity — and, by extension, natural gas — demand.

"This isn't your father's demand response; this is auto-DR," Sandoval said. Among the most successful auto-DR programs: air-conditioner cycling, which allowed utility customers to select from a range of potential curtailments of their cooling units during periods of high electricity demand.

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NARUC Annual Meeting 2016

Overheard at NARUC Annual Meeting 2016

LA QUINTA, Calif. — Hundreds of state regulators, utility officials and other stakeholders traveled to the California desert last week for the 128th Annual Meeting of the National Association of Regulatory Utility Commissioners.

Among the topics were new generation technologies, the impact of the 2016 elections and the priorities for incoming NARUC President Robert Powelson. NARUC also approved its first manual on ratemaking for distributed energy resources and resolutions defending its authority against federal intrusion.

Here's some of what we heard.

Rooftop vs. Utility-Scale Solar Battles not a Concern for Industry

Sean Gallagher, the Solar Energy Industry Association's vice president of state affairs (left), moderates a panel with California Public Utilities Commissioner Mike Florio; Anne Hoskins, chief policy officer for Sunrun; and former Hawaii Public Utilities Commissioner Mike Champley. | © *RTO Insider*

At a breakfast presentation sponsored by the Solar Energy Industries Association, Georgia Public Service Commissioner Tim Echols asked about what he called "infighting" between the utility-scale and rooftop solar proponents. "They're splintering organizations and it's almost like if your state can't do distributed generation, you're not doing true solar," Echols said. "Is this splintering within the solar community … helpful to the cause?"

"I think it's a sign of a maturing industry. Everybody's in competition with everyone else," responded California Public Utilities Commissioner Mike Florio, who said he had seen the price of grid-scale solar drop from 15 cents/kWh to as low 4 cents since he joined the commission in 2011.

Former Maryland Public Service Commissioner Anne Hoskins, now chief policy officer for rooftop installer Sunrun, saw the two as meeting different needs rather than being in direct competition.

Rooftop solar is "taking advantage of the built infrastructure," she said. "You're not having to take up other land. You're not having to deal with wetlands or any of those other kinds of challenges."

Rooftop solar also is attractive to those wanting to power electric vehicles or to have a backup power source other than a gas generator.

Community solar, on the other hand, provides an option for renters and others for whom rooftop solar isn't an option.

"I don't see it as a competitor to [rooftop] solar at all. I see it as a way to expand access to solar," she said. "There's really room for all of it. We have a tremendous climate challenge."

Former Hawaii Public Utilities Commissioner Mike Champley said it is "a huge debate" in his island state, where he said DERs collectively represent the biggest source of generation.

"The way it's pitched is utility-scale is solar of the 19th century and rooftop is the solar of the 21st century. There's some people who believe the future is a distributed-centric world," he said. "My opinion [based on] my 40 years in this business is that portfolios [of various resource types] will be the appropriate thing."

M&A: Is Bigger Better?

A session on utility mergers touched on recent trends and looked into the future.

Dan Ford, managing director of Barclays, said the impact of the 2016 presidential election was unclear. Changes in tax policy, he said, "could change the economics of combinations pretty dramatically."

"We don't know how much of the campaign rhetoric turns into actual policy," he said, adding that the biggest change for utilities thus far has been the rising cost of capital. "The yield curve has noticeably steepened since the election," signaling expectations of higher inflation.

"I think that in all likelihood the election will have the effect of migrating us back from what we've seen the last several years — which is acquisitions for cash, for growth by large companies and small companies — to more of a merger of equals regime."

Those mergers are designed to reduce costs to "create headroom" for more money to invest.

"I think there is a great deal of efficiency that can still be wrung out of this industry, as capital intensive as they are."

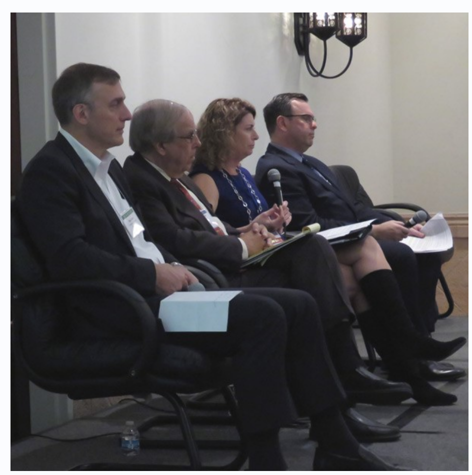
Connecticut Consumer Counsel Elin Katz said she didn't expect mergers slowing down absent a "dramatic change in tax policy or major shift in the market."

Richard McMahon Jr., vice president of energy supply and finance for the Edison Electric Institute, agreed. "There's still 44 investor-owned utilities … and hundreds and hundreds of munis and co-ops. The concentration isn't an issue like it might be in some other industries."

As for whether mergers are good for consumers, Katz said it depends.

"It really depends where you start and it depends where you end up. The devil you know is your own local utility. … If you start with a company that's financially weak or in a disadvantageous position and perhaps remote management has not gotten along so great with the regulators or with the legislators or you've had some a checkered history with respect to storm response and

Continued on page 10



Participating in a panel discussion on utility mergers were from left: Dan Ford, managing director, Barclays; Hawaii Public Utilities Commissioner Thomas Gorak; Connecticut Consumer Counsel Elin Katz; and Richard McMahon Jr., vice president of energy supply and finance, Edison Electric Institute. D.C. Public Service Commissioner Willie Phillips moderated. | © *RTO Insider*

Overheard at NARUC Annual Meeting 2016

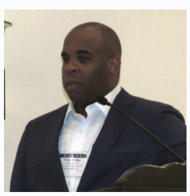
Continued from page 9

people are fed up with that then, yeah, I think there's potential for benefits. But on the flip side we always worry about the loss of local control."

Ford said the typical utility merger in the last two decades has outperformed expectations "both in terms of actual achieved efficiencies on behalf of customers — and because of regulation that gets recaptured in the future."

"So you shouldn't think a merger as the last time you get a bite at the apple from a regulatory standpoint. You always get a bite at the apple."

"You may get another bite at the apple, but it's still the same apple," responded Katz. "You can't unwind a merger. Obviously you're going to have to live with it for a long time."



D.C. Public Service Commissioner **Willie Phillips** asked questions as moderator. But he was reticent when asked about the on-again, off-again Exelon-Pepco merger, which consumed D.C. regulators for months. Phillips said he couldn't say much because there are still challenges pending to the deal. (See *Exelon Closes Pepco Merger Following OK from DC PSC*.)

"There was lots of zigs and zags," he said. "And I'm not going to go farther than that."

Powelson Replaces Kavulla as President

Powelson, a Pennsylvania Public Utility Commissioner, was elected to replace Montana's Travis Kavulla as NARUC president.

Connecticut Public Utility Regulatory Authority Commissioner John Betkoski III moved up to first vice president and Commissioner Ellen Nowak, chair of the Wisconsin Public Service Commission, was elected second vice president. Confirmed to the board of directors were Margaret E. Curran of Rhode Island, Mark Vannoy of Maine and Nick

Incoming NARUC President Robert Powelson (left) and outgoing President Travis Kavilla. | *© RTO Insider*

Wagner of Iowa.

In his remarks to the conference, Powelson said his one-year term would focus on "infrastructure, innovation and investment."

He lamented that the U.S. spends less than 2% of GDP on the electric grid and other "modern day infrastructure investment," far below the spending of India and China.

"We're not going to cut it spending less than 2%," he said. "And I think that we as an association have a key role to play in driving that agenda."

On the subject of innovation, he noted that one of the resolutions approved at the meeting was one encouraging state regulators to consider whether utilities should be able to earn a rate of return on cloud computing services and pay for them out of their capital budgets.

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The resolution says that although commercial cloud computing services can provide increased reliability, flexibility and security, utilities may be unwilling to use them because they don't earn a rate of return on software-as-a-service expenses. In contrast, they can capitalize spending on hardware and "on-premise" software.

Members also approved resolutions asserting state authority over DERs and calling for an extension of the nuclear production tax credit and changes in the Public Utility Regulatory Policies Act's mandatory purchase rules.

Nuclear Production Tax Credit

NARUC called for an extension of the federal income tax credit of 1.8 cents/kWh for power produced by advanced nuclear reactors. The credit, included in the Energy Policy Act of 2005, is limited to the first 6,000 MW of capacity placed in service on or before Dec. 31, 2020. Only four advanced nuclear reactors totaling 4,400 MW currently under construction — Georgia Power's Vogtle Units 3 and 4 and South Carolina Electric & Gas' V.C. Summer Plant Units 2 and 3 — are expected to be completed in time to qualify.

The resolution urges Congress to pass legislation extending the in-service date for the credits and to expand the eligibility to public power entities and consumer-owned electric cooperatives that own shares of advanced nuclear units but do not pay federal income taxes.

PURPA

NARUC approved a resolution asserting that state commissions should have control over decisions on mandatory purchases and avoided cost determinations under PURPA and that the law's goal of promoting qualifying facility development "must be balanced with the states' interest in just and reasonable rates."

Because of the growth in renewable generation, NARUC said the mandatory purchase obligation has created unintended consequences, including generation not needed to serve loads, high-cost long-term fixed-price contracts and planning challenges because of the "unexpected and unpredictable addition" of PURPA

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NARUC Annual Meeting 2016

Overheard at NARUC Annual Meeting 2016

Continued from page 10

projects.

NARUC also criticized QF developers for circumventing FERC's small renewable criteria by disaggregating their projects into multiple smaller projects. (See related story, *FERC Rejects Entergy Attempt to End PPA with Goodyear Plant*, p.16.)

"A number of state regulatory commissions have recently been devoting an inordinate amount of time attempting to discern the intent and assess the impact of PURPA, the meaning of FERC regulations and the parameters of state discretion," the resolution says.

At Congress' urging, FERC held a technical conference in June on issues that included the mandatory purchase obligation and determination of avoided costs. (See *FERC Conference Debates PURPA Costs, Purchase Obligations*.)

FTC 'Intrusion' into State Jurisdiction

NARUC also defended its jurisdiction over DERs, saying it was concerned over the U.S. Federal Trade Commission's June 21 workshop concerning electric utilities and anti-consumer and anti-competitive activities.

NARUC said it "opposes any attempt by the FTC, or any other federal agencies, to infringe on areas that are exclusively under state regulatory authority, because this could produce unintended consequences and would disrupt a carefully balanced set of technologies, markets and interests."

Although FTC "acknowledged explicitly" state jurisdiction, NARUC said the commission also was critical of state rate designs, saying rate reform "may be a disguised effort by utilities to make solar [distributed generation] less desirable relative to the status quo, thereby minimizing solar DG as a competitive threat."

NARUC called for a "partnership and dialogue" with the commission, saying the agency "can contribute meaningfully in enforcement against the business practices of non-regulated power providers, DER marketers and utilities that do not protect the interests of customers."

DER Manual

Completing a yearlong project that attracted some controversy, NARUC released a manual intended to help state commissions in designing rates and compensation policies for DERs: "Distributed Energy Resources Rate Design and Compensation."

NARUC's effort led to a dust-up with SEIA, which sent the organization a letter in August raising questions about the transparency of NARUC's effort. In response, NARUC assured the solar group that it would publish all of the comments it received. It reviewed more than 70 comments from stakeholder groups.

Sean Gallagher, vice president of state affairs for SEIA, pronounced the group happy with the final result, saying the manual "was significantly improved due to their willingness to be open to input from stakeholders."

"I would have loved to have had this manual" when the Nevada Public Utilities Commission was updating its rules, said Anne-Marie Cuneo, the PUC's director of regulatory operations, who participated in a briefing on it.

"Everyone can find something in it to dislike," Kavulla joked. "Which means we must have done our job."

— Rich Heidorn Jr.

Anne-Marie Cuneo, director of regulatory operations for the Nevada Public Utilities Commission (left), discussed NARUC's manual on ratemaking for distributed energy resources with Jeff Orcutt (center), a policy analyst to Illinois Commerce Commissioner Miguel del Valle; and Christopher Villareal, director of policy for the Minnesota Public Utilities Commission. | © *RTO Insider*

Arkansas Public Service Commissioner Lamar Davis (left) moderated a discussion on the Freedom of Information Act and state public records laws with NARUC Assistant General Counsel Jennifer Murphy (center), and *RTO Insider* Editor-in-Chief Rich Heidorn Jr. | © *RTO Insider*

ERCOT NEWS

Appeals Court Ruling for Bondholders Clouds EFH Reorganization

By Tom Kleckner

A U.S. appeals court last week ruled Energy Future Holdings must pay hundreds of millions of dollars to certain bondholders, adding a cloud of uncertainty to the bankrupt company's attempts to emerge from Chapter 11 protection.

On Thursday, the 3rd U.S. Circuit Court of Appeals in Philadelphia reversed lower court decisions and directed EFH to pay holders of the company's first-lien and second-lien notes. The bondholders had argued that by repaying its debt early in the bankruptcy proceeding, EFH owed them prepayment premiums — or make-whole payments — of $431 million and $351 million, respectively. The payments don't include several years of interest.

The decision affects $6.2 billion in debts that were refinanced after EFH declared bankruptcy in 2014. The company has said that disallowing the make-whole claims is a condition of its reorganization and that the added litigation would reduce the funds available to other creditors.

The U.S. Bankruptcy Court in Delaware, which has jurisdiction over the case, is to begin hearings to consider confirming the Texas company's reorganization Dec. 1.

EFH's reorganization plan hinges partly on the sale of its Oncor wires business to Florida-based NextEra Energy for $18.4 billion. NextEra and Oncor filed for approval of the sale with the Public Utility Commission of Texas on Oct. 31. (See *NextEra Energy Talks Up its Oncor Acquisition*.)

It's unclear whether the additional debt would affect NextEra's acquisition of Oncor, which relies on eliminating debt and replacing it with equity.

EFH has already spun off its Luminant and TXU Energy businesses into a standalone company, since rebranded as Vistra Energy. (See *Luminant, TXU Energy Emerge from Bankruptcy*.)

Vistra Energy and NextEra both declined requests for comment by *RTO Insider* on the court's ruling and its potential effect on the Oncor acquisition.

Meanwhile, NextEra and Oncor are plunging ahead with their merger application in Texas.

Friday, the state's Public Utility Commission filed an order finding their application to be sufficient (Docket 46238) and an administrative law judge affirmed hearings before the PUC will begin Feb. 21.

The ALJ also granted all motions to intervene in the case. Those intervening include the Texas Office of Public Utility Counsel, NRG Texas, TXU Energy, Local 69 of the International Brotherhood of Electrical Workers, Texas Industrial Energy Consumers and a group of cities currently served by Oncor.

PUC staff has requested Oncor address a set of questions focused on the utility's rating agency reports, its five-year capital plan and the tax status of the EFH spin-off.

ERCOT, SPP Set New Wind Records

ERCOT established a record for all grid operators last week when it registered a new peak for wind generation with 14,122 MW.

Thursday's mark broke its previous high of 14,023 MW, set in February, and gave ERCOT another mark in its good-natured battle with SPP to see which grid operator produces the most wind generation.

For the time being, SPP still holds the wind-penetration mark of 49.17%, but ERCOT in October surpassed 17,000 MW of installed wind-generation capacity. Texas has another 11,273 MW of wind energy in its interconnection queue.

"Texas has done an incredible job integrating renewables," native Texan and NYISO CEO Brad Jones said during the Texas Renewable Energy Industries Alliance's recent GridNEXT conference. "No matter SPP's brag, Texas still owns the record for the most renewables in the country."

ERCOT also set a new peak load record for October when total demand hit 59,848 MW on October 5. Wind accounted for 17% of the ISO's energy needs in October.

Natural gas accounted for 36.7% of ERCOT's energy production during the month, coal 35.7% and nuclear 10.3%, according to the ISO's latest demand and energy report.

The Texas grid operator's Seasonal Assessment of Resource Adequacy for October and November had projected a peak demand of 54,400 MW this fall.

SPP Surpasses 11,000 MW of Wind Generation

For its part, SPP exceeded 11,000 MW of wind generation for the first time Thursday, setting a new record of 11,305 MW and tying its wind-penetration mark of 49.17%. The new record came at 6:13 p.m.

The mark broke the previous wind peak of 10,989 MW, set in April, and was the fifth such record set in 2016.

The RTO's generation interconnection queue includes about 22,000 MW of additional wind.

— Tom Kleckner

MISO NEWS

MISO, PJM Move Forward on TMEPs; 6 Projects Planned

By Amanda Durish Cook

Letter	Flowgate
A	Burnham – Muster 345 kV
B	Bayshore – Monroe 345 kV
C	Michigan City – Bosserman 138 kV
D	Reynolds – Magnetation 138 kV
E	Roxana – Praxair 138 kV
F	Klondike – Purdue 138 kV
G	Braidwood – East Frankfort 345 kV
H	Marysville – Tangy 345 kV
I	Michigan City – Trail Creek 138 kV
J	Munster 345/138 kV
K	Tippecanoe – Lafayette South 138 kV
L	Batesville – Hubble 138 kV

TMEP locations | *MISO*

CARMEL, Ind. — MISO and PJM are close to implementing a targeted market efficiency project (TMEP) type and poised to approve six such projects with cross-regional benefits.

During the Nov. 15 MISO and PJM Joint and Common Market meeting, Jesse Moser, MISO manager of infrastructure studies, said the RTOs must make a FERC filing to change their joint operating agreement in addition to individual filings on how they plan to handle cost allocation.

Moser said the RTOs prefer making the necessary three filings simultaneously, but they would file standalone JOA changes before the end of the year if certain regional cost allocation details are not finalized in time.

"We're happy to see this move forward," Moser said.

PJM and MISO staff say the final six projects are expected to cost about $17.25 million and deliver $111.6 million in reduced congestion on market-to-market flowgates, an average 6.5:1 benefit-to-cost ratio.

The RTOs examined 50 market-to-market flowgates and produced the final six from a pool of 13 potential upgrades. The final six exclude the previously recommended Klondike-Purdue 138-kV project in north-central Indiana, which did not advance because of the discovery that the congestion the project was designed to relieve was outage-driven. (See *7 Sites Eyed for MISO-PJM Targeted Market Efficiency Projects*.) "These are meant to be lower cost projects ... that have near-term economic benefits," Moser explained.

MISO to Seek Bifurcated Cost Allocation

At a Nov. 17 conference call of MISO's Regional Expansion Criteria and Benefits Working Group, transmission engineer Adam Solomon said the RTO will pursue a bifurcated cost allocation for the TMEPs. MISO proposes to assign cost to a local transmission pricing zone when the constraint is on the transmission of one or more transmission owners. For constraints wholly within PJM, MISO is seeking a postage stamp allocation for all of the MISO North region.

Solomon said MISO decided on a postage stamp for projects within PJM because all local transmission pricing zones would gain from lowered congestion.

PJM officials did not discuss their cost allocation plans at the meeting. Spokeswoman Paula DuPont said the regional cost allocation is being developed by PJM's Transmission Owners Agreement-Administrative Committee.

The two-option proposal would apply to MISO and PJM's current batch of TMEPs. "We're certainly open to looking at it in the future if we can get a better cost allocation," Solomon said.

Shelly-Ann Maye, representing Midwest Power Transmission Arkansas, said she didn't understand why a postage stamp allocation could be justified when local beneficiaries in MISO could be identified.

"These projects are avoiding future congestion in MISO, and that congestion gets pretty well spread out in the footprint," Solomon explained.

Of the six TMEPs currently being considered, the Marysville-Tangy 345-kV project in central Ohio is the only project that would qualify for the postage stamp allocation, as it is located wholly within PJM, Solomon said.

Solomon also said the cost allocation rules will only apply to the PJM-MISO seam. MISO staff said they plan to collect more SPP day-ahead market-to-market information and expect to begin discussions with SPP on a similar project type.

"Having this cost allocation spelled out in the JOA and Tariff, I think, will help these projects go through and we can get the benefit of those projects we're forecasting," Solomon said.

Wisconsin Public Service's Chris Plante said his utility was hoping for 50% local pricing zone allocation and 50% postage stamp allocation for all TMEPs.

"We think this is the best proposal that we have at this point with stakeholder feedback considered," Solomon said.

Retirement Coordination

Neil Shah, MISO adviser of seams administration, also said MISO and PJM are planning to file a generator retirement coordination process with FERC by Dec. 15. Shah said the final language was largely unchanged from what was proposed last month. (See *MISO Outlines Retirement Coordination with PJM*.)

MISO NEWS

MISO Asks FERC to Dismiss IPL Storage Complaint

By Amanda Durish Cook and Rich Heidorn Jr.

Indianapolis Power and Light's request for an order compelling MISO to update its energy storage rules would be disruptive to stakeholder proceedings and FERC's broad rulemaking on the issue, the RTO said.

MISO asked the commission to dismiss IPL's Oct. 21 complaint and let it continue using its stakeholder proceedings and Market Roadmap process as the venues for storage market design. MISO also said it would honor "deliberate commission policy" (EL17-8).

MISO's response was one of a flurry of comments filed Nov. 10, before the commission issued its Nov. 15 Notice of Proposed Rulemaking outlining requirements that RTOs and ISOs remove barriers to storage and aggregated distributed energy resources. (See related story, *FERC Rule Would Boost Energy Storage, DER*, p.1.)

The RTO said IPL's request could "distract and detract" from its efforts to work out storage issues with stakeholders and from FERC's effort to address the issue industry-wide, "rather than within the narrow confines of a single market participant's complaint in this limited proceeding."

IPL told FERC that it had no way to receive compensation for the 20-MW battery at its Harding Street Station although the facility has been providing MISO with primary frequency response since May. (See *IPL Asks FERC to Force Update to MISO Storage Rules*.)

MISO responded that IPL's request "improperly circumvents" FERC's rulemaking on storage compensation and grid integration, a process that continued with a technical conference Nov. 9. (See *FERC Panelists Debate Storage Uses, Compensation*.)

The RTO also argues that IPL "neither shows any immediate damage to itself from waiting for the outcome of such commission processes" and claims that there is no pressing need for primary frequency response service in the MISO footprint.

AES Energy Storage

MISO also accused IPL of exaggerating and mischaracterizing alleged Tariff shortcomings and said IPL provided no proof of how MISO's current storage energy resource dispatch protocols would harm the life of the Harding Street battery.

"A number of issues raised in the IPL complaint are already being addressed as part of MISO's Market Roadmap process and through separate ongoing public stakeholder discussions," MISO spokesman Jay Hermacinski said. "Stakeholder discussions and the Market Roadmap process are intended to comprehensively evaluate possible changes to MISO's Tariff necessary to further accommodate various energy storage technologies."

Others Weigh in

IPL's complaint won support from the Energy Storage Association, Advanced Energy Economy and a coalition of environmental organizations, including the Sustainable FERC Project and the Natural Resources Defense Council.

The groups said FERC should order MISO to create a separate market product for primary frequency response and to revise its dispatch protocol to one "appropriate for all energy storage technologies."

Duke Energy Indiana said the commission should order MISO only to conduct a study of — and initiate a stakeholder process on — frequency response. It said the commission should "be cautious about approving that a new product (along with that product's value suggested by IPL) be added to the MISO [Tariff] without first requiring a thorough vetting by MISO, the MISO transmission owners and other stakeholders."

Battery maker Alevo USA also urged caution, saying IPL's statements about the limitations of lithium ion batteries are "not necessarily correct." It said it supports IPL's intent to remove barriers to entry for storage. But it said FERC should order MISO to develop a "technology-neutral" market design rather than "pick[ing] winners and losers based on what IPL proposes."

Also weighing in on the matter was NextEra Energy Resources, which asked the commission to coordinate its response to IPL with its actions in other proceedings, including the commission's Notice of Inquiry on primary frequency response, on which the commission also took action last week (RM16-6). (See related story, *FERC Proposes Frequency Response Requirements for Renewables*, p.29.)

"NextEra Resources agrees with IPL that MISO's current energy and ancillary services products are unduly discriminatory with respect to storage resources attempting to provide service. However, the deficiencies with respect to MISO's regulating service product are not unique to MISO or its regulation product," NextEra said, adding that it and others had raised such concerns in AD16-20 regarding "a range of products in a number of RTOs/ISOs."

NextEra also said it was concerned that IPL's proposed compensation structure for primary frequency response lacks a capacity payment.

"Even when an RTO/ISO imposes particular dead band and droop settings to ensure that resources automatically provide primary frequency response, the resource must maintain sufficient headroom in order to be able to increase output in response to deviations when frequency is low. Yet holding back this capacity to be available to respond to under-frequency conditions comes at a cost. A capacity payment for primary frequency response would compensate resources for this opportunity cost and thereby ensure the resource will be available to respond, and should be a part of any RTO/ISO compensation mechanism for primary frequency response."

"Stakeholder discussions and the Market Roadmap process are intended to comprehensively evaluate possible changes to MISO's Tariff necessary to further accommodate various energy storage technologies."

Jay Hermacinski, MISO

MISO NEWS

Planning Advisory Committee Briefs

MISO Sees 'Merit' in Making Retirement Notices Public

At FERC's urging, MISO is considering removing confidentiality around generators that notify it of their intent to suspend or retire.


Shah

"FERC recommended MISO should explore and work with stakeholders to see if we need to change the confidentially provisions," explained Neil Shah, MISO adviser of seams administration, during the Nov. 16 meeting of the Planning Advisory Committee.

FERC made the suggestion in an August order (ER16-1758) that largely accepted changes to MISO's system support resource procedure. (See "MISO Planning Confidentiality, Notification Changes to Attachment Y Procedure," *MISO Planning Advisory Committee Briefs*.) The commission recommended that MISO might follow PJM's lead in notifying the public of future suspensions and deactivations as the notices are received.

"We recognize that PJM provides for even greater transparency by subjecting all official future generator deactivation requests to public notice," FERC said. "We also encourage MISO independently to explore the possibility of allowing for greater transparency due to changing market conditions, further experience with the SSR and transmission planning processes, or other factors."

If confidentiality is lifted, MISO would be able to publicly identify all generators that submit Attachment Y notices. Currently, the RTO keeps Attachment Y information confidential until the effective date of retirement unless its reliability study uncovers a reason to keep the unit online as an SSR or the resource owner has already disclosed the upcoming retirement.

"We definitely see merit in removing confidentiality," Shah said. "It does help other resource owners understand the changing resource mix in MISO on a proactive basis rather than reactively."

Shah said some generation owners submit Attachment Y notices as much as two years in advance. MISO requires six months' notice.

MISO also said making the information public would help owners make new investments and site new projects more quickly and would facilitate more transparent discussions about reliability needs and the most useful transmission projects. Shah said having retirement notices from the start would be useful to the RTO's Subregional Planning Meetings and its Economic Planning User Group.

Hwikwon Ham of the Minnesota Public Utilities Commission said state regulators should be involved at the beginning of retirement and suspension notices. "I think it's now more relevant to release this data ahead of time so everyone can make a fair evaluation" for state resource planning processes, Ham said.

Shah asked for written feedback by Dec 2.

Storage Projects to be Included in Queue Rules — For Now

MISO is amending its generation interconnection Business Practices Manual to include interconnecting energy storage devices.

Shah said storage projects wishing to enter the interconnection queue will be treated like other resources and language will be added to Business Practices Manual 015 to expressly include such devices.

Energy storage projects seeking a new interconnection can follow the documented standard process to interconnect a new facility. Customers that already have an interconnection and wish to connect storage projects must request either a material modification study if their project will not exceed the megawatt estimate on their generation interconnection agreement or request an increase in generation capacity study if the megawatt amount will exceed what was estimated in the agreement.

Finally, customers wanting to connect a storage project to a pre-existing point of interconnection that they do not own must either make sure their connection will not exceed the megawatt value from the original agreement or be an affiliated company with a separate generation interconnection agreement.

Shah said the point of the BPM change is to cut a clear path for energy storage wishing to provide generation or capacity. He asked for stakeholder input by Dec. 2 and said MISO would return with updated language at the December or January PAC meeting.

Sam Gomberg, an energy analyst in the Midwest office of the Union of Concerned Scientists, asked if the rules would be open to future changes that accommodate the unique abilities of storage. He said he was seeking reassurance that MISO isn't "foreclosing" on a more flexible process in the future.

MISO PAC liaison Jeff Webb said a larger discussion on storage integration will continue. "We do need to be prepared with basic procedures to handle immediate requests, and I think that's what this language sets out to do," Webb said.

Shah said the clarifying language does not require a Tariff change.

Quarterly Operating Limit Studies Charge Moved to Separate Filing

Because FERC has rejected MISO's queue reform filing, the RTO plans make a separate filing to begin charging interconnection customers for Quarterly Operating Limit (QOL) studies, MISO's Paul Muncy said.

Muncy said MISO has decided to pull the QOL cost responsibility language out of the larger queue reform filing in the hopes of quicker FERC approval. QOL studies determine a generating facility's maximum permissible output.

The revised QOL language would require customers to make a $10,000 study deposit 60 days before a binding quarter begins. Differences between the actual study cost and deposit will be refunded or billed to the interconnection customer.

Because MISO plans to charge for the studies, interconnection customers will be able to opt out of the study, Muncy said.

"The QOL study may give you additional capacity for each quarter, but we do have some customers who may decide that 'eh, it's only one or two additional megawatts,'" Muncy said.

Muncy asked for stakeholder feedback on the proposed filing by Dec. 7.

— Amanda Durish Cook

MISO NEWS

MISO Allowed to End White Pine SSR

By Amanda Durish Cook

MISO has FERC's permission to end a system support resource agreement in Michigan's Upper Peninsula effective Nov. 26 (ER16-2528).

The order allows a transmission reconfiguration plan from American Transmission Co. to take the place of the White Pine Electric Power SSR agreement, which has cost local ratepayers about $6 million per year.

FERC's decision cuts off revenue to the utility's 20-MW coal-fired unit, which had been operating under the SSR designation since mid-2014. Under ATC's plan, the transmission network in the western Upper Peninsula will be split into two separate load pockets. (See *MISO Will Use ATC Plan to End Upper Peninsula SSR*.) The dual, radial-fed configuration would only be used during planned maintenance on the area's two 138-kV transmission lines.

Some MISO stakeholders argue that the plan introduces an increased risk of consequential load loss following a subsequent contingency, but the RTO maintains the risk is within NERC standards.

The Michigan Public Service Commission noted that while White Pine Unit 1 was called on only a "handful" times during its SSR agreement, it was entitled to receive about $4.7 million in 2014-2015, $7.3 million in 2015-2016 and $6.6 million in 2016-2017. The PSC also asked FERC to take the high poverty rates of Upper Peninsula ratepayers into consideration.

In a protest, White Pine accused MISO of a "hurried" reliability analysis that did not adequately study the possible "adverse reliability impacts" of severing the SSR agreement. The utility argued that Unit 1's retirement would lead to more load curtailment, overloads in summer peak conditions and risk of voltage collapse. White Pine also said the SSR termination was not properly discussed in stakeholder meetings.

FERC rejected White Pine's protest. It said it found "MISO appropriately studied and determined that the ATC transmission reconfiguration plan is a feasible alternative to the second revised White Pine SSR agreement and adequately involved stakeholders in that determination."

Map shows ATC's transmission system in the western Upper Peninsula. The gold circles indicate how the load pocket will be split into two radially fed areas. Location of White Pine Unit 1 circled in blue on upper left of map. | *MISO*

FERC Rejects Entergy Attempt to End PPA with Goodyear Plant

By Tom Kleckner

FERC last week rejected Entergy Texas' attempt to terminate a power purchase agreement with qualifying facilities at Goodyear Tire & Rubber's Beaumont chemical plant (EL16-105).

Goodyear filed a complaint with the commission in August, alleging that Entergy Texas' plan to terminate its PPA with the tire company's QFs in Southeast Texas violated the utility's obligation to purchase energy and capacity in accordance with the Public Utility Regulatory Policies Act of 1978.

Entergy contended it had the right to cancel the PPA based on FERC's January order that terminated the utility's obligation to purchase from QFs larger than 20 MW in MISO. (See *FERC: Entergy not Required to Buy from Large QFs*.)

Goodyear's Beaumont/West QF was self-certified in 1987 with a net capacity of 13 MW. Its Beaumont/East QF was self-certified in 1999 with a net capacity of 18.8 MW.

Entergy argued that the two QFs should be considered as one. It noted that the QFs are located less than a half-mile apart on the same site and that their energy "is commingled behind the meter."

Goodyear contended that because it had self-certified two cogeneration plants each smaller than 20 MW, the January order did not affect Entergy's obligation.

The commission agreed. It said its January order concluded that "a QF's size for purposes of being relieved of the mandatory purchase obligation is determined by its certified size."

The commission's January order was based on a 2006 ruling, which said that QFs with net capacity above 20 MW were presumed to have "nondiscriminatory access" to wholesale markets in RTOs such as MISO.

MISO NEWS

Minnesota City Granted FERC Standards of Conduct Waiver

FERC last week granted Rochester, Minn., a waiver of its Standards of Conduct, finding that the city qualifies as a small public utility.

The commission's Nov. 17 ruling said the waiver will remain in effect "unless and until the commission takes action on a complaint by an entity that Rochester has unfairly used its access to information to unfairly benefit itself or its affiliates" (TS15-3).

The southeastern Minnesota city sought the waiver in September 2015, claiming it met the definition of a non-jurisdictional utility.

Rochester Public Utilities

Jurisdictional transmission providers are subject to the Standards of Conduct, which require transmission function and marketing function employees to operate independently of each other and prohibit sharing nonpublic transmission information with marketing employees.

Without a waiver, Rochester said it would indirectly be subjected to the standards based on the commission's reciprocity rules, which ensure nonpublic utilities' access to transmission service from public utilities. The city pointed out it transferred operational control of its transmission to MISO in late 2014; the waiver requires that utilities own, operate or control "only limited and discrete transmission facilities."

Rochester's municipal utility serves about 50,000 customers, mostly with power purchased from the Southern Minnesota Municipal Power Agency. It owns and operates about 86 MW of generation, 42 miles of transmission and 793 miles of distribution. Early this year, Rochester officials announced that the public utility would begin building a new 47-MW natural gas plant in 2017. The utility has proposed a 3.7% rate increase in 2017.

Zumbro Hydro Dam | *Rochester Public Utilities*

— Amanda Durish Cook

BGE Reaches Settlement with MISO Members in Congestion Dispute

Baltimore Gas and Electric will pay $170,530 to MISO members to end a dispute over cross-system congestion costs under a settlement approved by FERC last week.

FERC's Nov. 17 order settles a dispute between BGE and almost 30 MISO utilities relating to the cross-system congestion costs known as Seams Elimination Charge/Cost Adjustments/Assignments (SECA). FERC said the uncontested agreement represents "a final settlement of all SECA obligations."

The settlement directs BGE to pay MISO members $344,665 and MISO to collect $174,135 from its members for BGE, for a net payment by BGE of $170,530. The approval closes out dockets ER05-6-124, EL04-135-126, EL02-111-145 and EL03-212-140.

The SECA cases originated from a 2002 FERC decision allowing American Electric Power, Commonwealth Edison and Dayton Power and Light to move from MISO to PJM. The move created MISO areas that were cut off from the rest of the footprint and led to rate pancaking and the eventual elimination of regional through-and-out rates.

FERC approved the 16-month SECA transitional payment mechanism for 2004-2006 and upheld SECA use in 2010, but it said SECA rates recovered from MISO and PJM transmission customers were subject to refund by MISO and PJM transmission owners. The 2010 decision imposed additional SECA liabilities on BGE. MISO laid out SECA amounts in 2013, charging BGE and about 15 other PJM load-serving entities a combined $4 million in SECA charges.

— Amanda Durish Cook

NYISO News

NY Regulators Approve FitzPatrick Sale

By William Opalka

ALBANY, N.Y. — The New York Public Service Commission on Thursday approved Entergy's sale of the James A. FitzPatrick nuclear plant to Exelon, a transaction needed to prevent the plant's imminent closure (16-E-0472).

A year ago, Entergy announced it would close the money-losing plant in early 2017. Exelon began negotiations in the summer to purchase the plant for $110 million, contingent on the state's approval of a subsidy to keep the plant operating and regulators' approval of the transaction by Nov. 18. (See *FitzPatrick Sale Filed with New York Regulators*.)

"It's the next step forward on the Clean Energy Standard," PSC Chair Audrey Zibelman said at a news conference after the meeting. "We understood this transaction would have to happen" to keep the plant running.

Having pledged to acquire 50% of the state's electricity from renewable sources by 2030, New York officials see nuclear power as an interim carbon-free source until renewables are deployed at scale. (See *New York Adopts Clean Energy Standard, Nuclear Subsidy*.)

The commission found the sale in the public interest, saying there were no adverse environmental consequences, Exelon has the financial wherewithal to maintain safe operations and the acquisition would not give it undue market power.

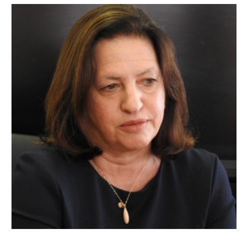
PSC economist Warren Meyers said the transaction means Entergy and Exelon swap places as the fourth- and fifth-largest owners of generation in the state. Before the transaction, Entergy controlled 7% of New York's fleet and Exelon had 6%. After the sale, those numbers change to 5% and 8%, respectively. Entergy owns the Indian Point nuclear plant north of New York City.

Critics of the zero-emission credit (ZEC) say the 12-year subsidy could cost ratepayers up to $7.6 billion to keep FitzPatrick and two other upstate nuclear plants open. "This is part of a larger picture and that picture is that the Public Service Commission has moved in favor of a mandatory bailout from ratepayers in the entire state," Manna Jo Greene, Hudson River Sloop Clearwater's environmental director, said after the meeting. "Had they not agreed on the bailout, this transaction would not have occurred."

Zibelman acknowledged the likelihood of the plant's closure without PSC approval, but she emphasized the environmental benefits. The state can't afford to step back from its low-emission commitments, she said. When nuclear plants have closed in Germany and New England, carbon emissions have risen as the lost energy was replaced by fossil fuel plants, Zibelman said. (See *CO2 Emissions Increase in ISO-NE*.)

The ZECs have been opposed by other environmentalists and they also say the companies' petition for FERC approval of the FitzPatrick sale needed to include information about the subsidy. (See *Public Citizen Challenges NY Nuclear Subsidy, FitzPatrick Sale*.) Fossil-fuel generators have also challenged it in court, saying it interferes with wholesale power markets under FERC jurisdiction. (See *Federal Suit Challenges NY Nuclear Subsidies*.)

Exelon spokesman Marshall Murphy declined to comment on whether the company would seek to cancel the sale if the ZECs are voided by the courts. "The company is not going to speculate on any legal outcome with respect to the Clean Energy Standard," he said.



Zibelman

Besides FitzPatrick, the ZECs would be paid to Exelon's neighboring Nine Mile Point 1 and 2 plants, and its R.E. Ginna facility to the west.

"With a number of nuclear energy plants across the country at-risk for premature closure — or having closed already — New York is a bright spot on the map when it comes to recognizing and preserving the many benefits that these plants provide," the advocacy group Nuclear Matters said in a statement. "While we will need to review the final order in order to fully evaluate the PSC's decision, the approval of the FitzPatrick transfer preserves a host of benefits for all New Yorkers, allowing the continued operation of a reliable producer of carbon-free energy that is also a key driver of jobs and economic growth in the state."

The Nuclear Energy Institute also praised the vote. "By its own cost-benefit analysis, the Public Service Commission recognized that the gross benefits of keeping FitzPatrick and the other upstate plants operating in the first two years of the Clean Energy Standard program are approximately $5 billion. This is weighted against a cost of less than $1 billion and thus hugely beneficial," NEI said in a statement.

The 882-MW plant began operating in 1975 and is licensed through 2034.

The transaction must also be approved by the U.S. Department of Justice, the Nuclear Regulatory Commission and FERC. It is expected to close in the second quarter of 2017.

NYISO Board Denies Generators' Appeal on Capacity Cap

The NYISO Board of Directors last week upheld the Management Committee's vote to cap capacity payments in the constrained Lower Hudson Valley and New York City zones.

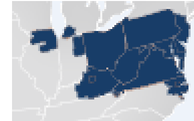
The board's Nov. 15 order rejected an appeal by the Independent Power Producers of New York. The association sought to overturn the Management Committee's Oct. 25 vote, which the ISO said was needed to protect consumers from higher prices. (See *Generators Appeal Lower NY Capacity Cap*.)

The rule change was in response to FERC's Oct. 17 order allowing Castleton Commodities International's 1,242-MW Roseton 1 generator to supply 511 MW of its capacity to ISO-NE beginning next June for the 2017/18 delivery year.

The board's written decision rejecting IPPNY's appeal has not yet been posted on NYISO's website.

— William Opalka

PJM NEWS



PJM Stakeholders Reject CP Rule Changes, OK Additional Study

By Rory D. Sweeney

VALLEY FORGE, Pa. — PJM's Markets and Reliability Committee on Thursday rejected two proposals members said threatened the Capacity Performance construct, but it approved two others that would investigate potential changes in the rules.

A proposal to change rules on penalties for underperformance failed in a sector-weighted vote with 47.6% support, well below the two-thirds threshold. Nearly three-quarters of the Generation Owners sector supported the proposal, but other sectors were split or strongly opposed.

The proposal would have changed the nonperformance assessment charge rate and ownership requirements for making retroactive replacement transactions. It also would have introduced a way to offset underperformance with overperformance and a new monthly stop-loss provision while changing the annual stop-loss rule.

Reduced Incentives

Opponents said the changes reduced incentives for generators to meet their commitments.

"Every one of these proposals is designed to undermine those incentives," said Howard Haas of Monitoring Analytics, PJM's Independent Market Monitor.

PJM's Stu Bresler also voiced concerns with the proposal and said the RTO couldn't support it.

A proposal to extend Base Capacity another year through the 2020/21 Base Residual Auction in May fared better but also fell short in a sector-weighted vote, receiving 58.6% in favor.

Direct Energy's Jeff Whitehead presented the proposal as a stop-gap to allow seasonal resources to continue participating in the market pending a FERC ruling on PJM's plan to make it easier for them to qualify as CP.

The proposal had near-unanimous support from the Electric Distributor and End Use Customer sectors but was opposed by most Generation Owners and Transmission Owners.

PJM Filing

PJM filed its plan with FERC on Wednesday, requesting a Jan. 19 implementation date to ensure the new rules are in effect for the BRA on May 10 (ER17-367). It would make it easier for summer- and winter-only resources to aggregate for the year-round deliverability required under CP. (See *No End in Sight for PJM Capacity Market Changes*.)

Stakeholders said extending Base Capacity would impede the full implementation of CP. Both PJM and the Monitor rejected Whitehead's proposal, but they said they were open to further discussion on how to incorporate seasonal resources.

Brock Ondayko of American Electric Power said those who supported the Base Capacity proposal but not the proposal to relax underperformance penalties were being "disingenuous" and called the extension "poor irony" because it creates competition to CP offers.

"There's no such thing as Base Capacity in the year 2021, so this is essentially a new product that will take away from the existing products," he said.

Exelon's Jason Barker opposed the proposal, saying his company is "eager" to see if CP reforms are effective.

Talking Past Each Other

Dan Griffiths of the Consumer Advocates of the PJM States immediately responded, saying stakeholders "continue to talk past each other" based on differing perspectives on CP. He portrayed his ongoing back-and-forth with Barker on the topic as one holding a sign that read "A" and the other holding one that says "Not A."

"I don't see how this reduces the incentives for performance," he said.

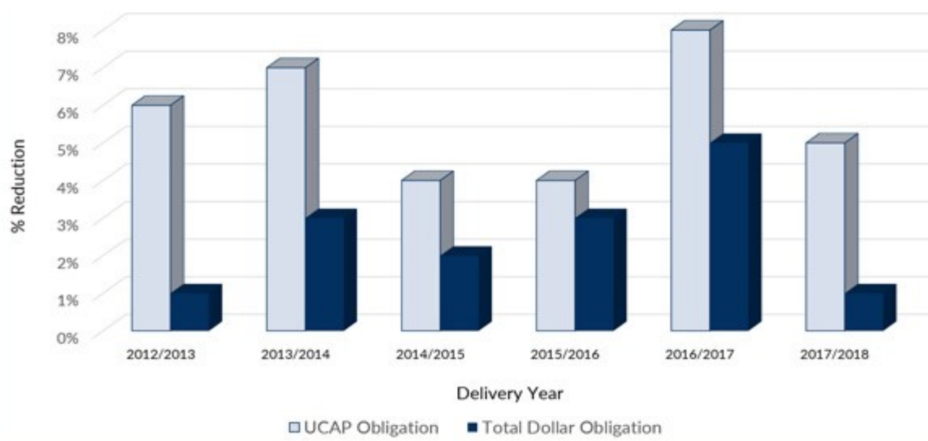
Following his proposal's failure, Whitehead retained the floor to propose a problem statement and issue charge on how PJM should offer back excess capacity purchases in the incremental auctions that balance out supply and demand in the run up to a delivery year.

"If you didn't like that last one, maybe you'll like this one," he said.

He was right: Stakeholders eventually approved them by acclimation with objection only from Calpine's David "Scarp" Scarpignato.

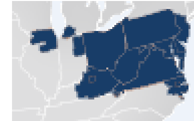
Scarp initially appeared supportive, but he backed off when stakeholders demanded additional language in the issue charge that limited its scope to the auction's structure and PJM's actions only when it is a capacity seller.

Later in the meeting, stakeholders also approved by acclimation a problem statement and issue charge on investigating adequacy and capacity requirements for winter-season resources. The proposal passed despite 10 objections and four abstentions. It was presented by economist James Wilson on behalf of the Maryland Office of People's Counsel, the New Jersey Division of Rate Counsel and the Delaware Division of the Public Advocate.



Because prices in PJM's Base Residual Auction are much higher than those for Incremental Auctions in which the RTO sells excess capacity, load has recognized little savings for the reliability benefits it has forgone. | *PJM*

PJM NEWS



Bill to Save Coal, Nuclear Plants Introduced in Illinois

By Rory D. Sweeney

Illinois lawmakers last week introduced a wide-ranging energy bill that would provide ratepayer-financed support for nuclear, coal, renewables and energy efficiency (SB 2814).

Dubbed the Future Energy Jobs Bill, it has one sponsor in each house of the General Assembly: Sen. Don Harmon and Rep. Robert Rita, both Democrats from the Chicago area. The legislation touches on almost every aspect of the electric industry:

- Zero Emission Credits (ZECs) that utilities must buy from qualifying generating units.
- A fixed resource adequacy plan (FRAP) that would put the state in charge of procuring capacity for its MISO region in Southern Illinois.
- A tariff to recover costs for increasing the implementation of energy efficiency and demand response projects.
- Revisions to the state's renewable portfolio standard to fix an issue that advocates say hampers renewable investment.
- Revisions to the retail rate structure, including implementing a "grid impact rate."
- Installation of up to six microgrids, restricted to specific utilities.

A version of the bill has been pushed by Exelon since it threatened in May to shut down its Clinton and Quad Cities nuclear plants if the state didn't provide subsidies, such as the emissions credits proposed in the new bill. (See *Absent Legislation, Exelon to Close Clinton, Quad Cities Nukes*.)

The bill had been opposed by Dynegy, which plans to shutter three 40-year-old coal-fired plants in central and southern Illinois, but the Houston-based power provider got on board once the FRAP was added. Dynegy says MISO's market design allows power plants receiving regulated rates in states outside Illinois to suppress capacity and energy prices. The company and state legislators have expressed preference for PJM's market over MISO's. (See *Dynegy Introduces Bill to Move All of Ill. Into PJM*.)

"In the last six months alone, the flawed market design has resulted in Dynegy shutting down more than 15% of generation in Southern Illinois and additional plants could be at risk in the future," Dynegy's David Onufer said. "The legislation deals with gaps in the downstate market by providing a competitive process to secure generation for the future. It's non-discriminatory and open to all fuel resource types that meet the required high standards of performance."

When neither Exelon nor Dynegy could push their initiatives through the legislature earlier this year, they decided to coalesce around one piece of legislation. (See *Ill. Lawmakers Fail to Address Exelon, Dynegy Legislation*.)

"The legislation reflects the work of a broad group of stakeholders to achieve comprehensive energy legislation that is urgently needed to strengthen our economy and save and create tens of thousands of jobs," Exelon's Paul Adams said. "As with any piece of major legislation, it will continue to evolve as stakeholders weigh in. But at its core, we know the bill will bring significant benefits to consumers and the environment in Illinois. … There is broad agreement regarding the need to urgently address energy challenges in Illinois."

The ZECs would start at $16.50/MWh, which is based on the U.S. Interagency Working Group on Social Cost of Carbon, and increase by $1/MWh per year, starting in 2023.

The number of credits that eligible facilities would receive is less easy to calculate. The amount is based on a complicated formula that limits the increase in retail customers' bills to no more than 2.015% of the price per kilowatt-hour that consumers paid in 2009.

The bill is opposed by the BEST Coalition, which includes a wide variety of commercial and industrial ratepayers. Organizer Dave Lundy says that because Illinois is a substantial exporter of energy, saddling in-state customers with additional costs would subsidize out-of-state consumers. He pointed to grid operator studies showing that none of the plants threatened to be closed would impact reliability to the extent that transmission would need to be built or that they would need to receive reliability must run contracts.

He called the emissions credits and FRAP "bailouts" for nuclear and coal interests and said they would cause volatility in retail rates.

Consumers, particularly those on a budget, "can't absorb wild swings from month to month," he said. "You may be a winner three or four months out of the year, but if you're a loser and you're not in a position to pay that bill, you're in trouble."

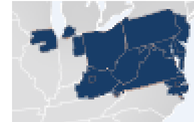
Lundy said the microgrids could be useful in theory, but he criticized the fact that they were granted to utilities to build and not open to competitive bidding. He feared the utilities will "gold-plate" and overcharge for them.

He also applauded the long-awaited fix to the RPS policy, but he said packaging it with the rest of the bill's initiatives made it come at too high a cost. "I can't even call that a positive because [the RPS fix] requires the destruction of the entire market, and you'll never be able to build anything else," he said. "It's a hollow victory."

Despite the bill's name, "it is undeniable that a massive rate hike will make Illinois less competitive. … You will kill jobs," he said.

"Nobody's advocating [closing] all the baseload units in the state. … You don't need to shut down the coal plants if they're economic to run," he said. "We are not anti-nuclear; we are anti-bailout."

PJM NEWS



MRC/MC Briefs

Markets and Reliability Committee

Fuel-Cost Policy Revisions Face Another Hurdle

	Load Forecast Error Component 80th Percentile Absolute Error				Forced Outage Rate Component All Forced Outage Tickets				DA Sched.
Season	2014	2015	2016	Rollup	2014	2015	2016	Rollup	Req.
Winter	2.36%	1.87%	2.19%	2.14%	4.24%	3.45%	3.04%	3.58%	5.72%
Spring	3.22%	1.68%	1.70%	2.20%	3.36%	3.72%	2.63%	3.24%	5.44%
Summer	2.00%	2.14%	2.64%	2.26%	3.12%	3.63%	3.17%	3.30%	5.56%
Fall	1.56%	1.40%	1.27%	1.41%	3.35%	2.70%	2.63%	2.89%	4.30%
Annual				2.13%				3.35%	5.48%

DASR requirement components | *PJM*

VALLEY FORGE, Pa. — PJM's efforts to hammer through manual revisions ahead of FERC action on fuel-cost policies were stymied at last week's Markets and Reliability Committee meeting.

Despite PJM's desire to implement the changes as soon as FERC approves them so they can be in place in time for the 2020/21 Base Residual Auction in May, stakeholders shrugged off the urgency and insisted on perfecting the language.

The revisions to Manual 15 were approved by the Market Implementation Committee on Nov. 2 following months of debate. At the MRC meeting, stakeholders said there are still unresolved issues with how the changes are worded. Of particular concern at last week's meeting was the requirement that generators "immediately" replace a revoked policy.

"It makes it sound like we need to be at the ready every day" with a new policy, said Steve Lieberman of Old Dominion Electric Cooperative. "I think everyone here would agree it's a bit of a challenge to get one approved initially."

PJM's Jeff Schmidt responded that the intent is that generators should already have a policy approved, but stakeholders were not swayed.

"We do need to make some change to address that 'immediately' business," American Municipal Power's Ed Tatum said. "When things get going, people refer to the governing language."

Catherine Tyler Mooney of Monitoring Analytics, PJM's Independent Market Monitor, reiterated concerns that "confusing language" is creating "a problematic process."

"The proposed M15 language creates a PJM fuel-cost policy review that overlaps the timing and scope of the Market Monitor's independent review. There's a potential where we have a PJM-approved version of a fuel policy that can't be accepted by the Market Monitor, she said.

Schmidt said the RTO continues to bring the revisions forward because it will have 45 days after FERC's approval to implement the rules, which might not be enough time to secure all the committee endorsements. Several stakeholders acknowledged this concern, including Bob O'Connell of PPGI Fund A/B Development, who said continuing to put off the vote might put stakeholders in the position of having to make changes by an unattainable deadline.

PJM's Suzanne Daugherty, who chairs the MRC, said the committee can convene over the phone for a single-issue conference call if it becomes necessary to send an advisory vote to the Board of Managers prior to the January MRC. The revisions will be returned to the MIC at its December meeting to address the wording issues.

Citigroup Wins Change on Capacity Resales

Citigroup Energy's Barry Trayers sparred with PJM's Stu Bresler over Trayers' proposed revisions to Manual 18, but Trayers' changes were endorsed without PJM's additions.

Trayers' manual change eliminates PJM rules for how "early replacement" of capacity obligations can be made. He said that the rules' deadline of Nov. 30 for performing replacement transactions isn't supported by language in the Tariff.

Bresler, PJM's senior vice president of operations and markets, had proposed language changes that Trayers had originally accepted as a "friendly amendment." However, he rescinded that approval at the MRC, saying he had received advice that the amendment strayed from his intent. That meant Bresler's amendment would only be considered if Trayers' original proposal failed.

At issue is whether how quickly capacity sold during the Base Residual Auction can be replaced through the Incremental Auctions. Trayers said the change allows him to reconcile his books much sooner. Bresler said it widens a loophole that allows participants to arbitrage price differences between the BRA and IAs by reselling the replaced capacity.

Both Bresler and the Independent Market Monitor said they preferred the status quo over Trayers' motion. Because Trayers' proposal was approved, PJM's amendment was never considered.

DASR Approved Despite Slight Change

The proposed day-ahead scheduling reserve for 2017 was approved despite being "slightly different" than what PJM outlined to the Operating Committee earlier this month, said PJM's Tom Hauske. The change came because not all performance information had been collected at the time. The approved figure was 0.04 percentage points less than originally proposed, from 5.52% to 5.48%.

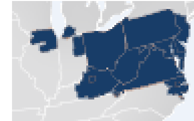
Manual 35 Retired; PJM Promises Further Consolidation of Definitions

Members endorsed retiring Manual 35: Definitions and Acronyms but only after confirming that a document consolidating all definitions will be developed.

PJM said Manual 35 hasn't been properly maintained in years, raising the risk of legal disputes over members using incorrect and outdated definitions. Going forward, the legal definitions will be maintained in a single section within the Tariff, Operating Agreement and Reliability Assurance Agreement.

Only informal definitions — "layman's terms," as PJM's Janell Fabiano called them — will be included in the glossary on PJM's website. Staff deleted more than 400 outdated terms from the glossary and added an expanded disclaimer noting that it

Continued on page 22



MRC/MC Briefs

Continued from page 21

is for reference, and that the formal definitions in the governing documents are legally binding.

Fabiano said RTO officials will discuss creating a consolidated legal definitions document at a Dec. 2 meeting of the Governing Document Enhancement & Clarification Subcommittee.

Venue for DER Discussions to Change

PJM's Dave Anders said the special MRC meetings on distributed energy resources have gone into stasis while two key issues get hashed out elsewhere.

The Planning Committee is continuing work begun in August on an alternate queue process and the allocation of upgrade costs less than $5 million while discussions on potential market rule changes will be conducted in special sessions of the MIC.

The venue of future discussions will be determined by how resources plan to connect. "You have to make a choice: You have to be in front of the meter or behind it," Anders said.

Resources that plan to be in front of the meter will follow the process being developed by the PC to secure capacity injection rights. Behind-the-meter resources, which can both reduce load and inject power, will be governed by the process developed through the MIC. The special MRC sessions will reconvene as necessary once those routes are finalized.

MRC Endorses Manual Changes

Members also unanimously approved the following manual changes:

- Manual 3: Transmission Operations. Revisions, the result of a periodic review, include updating voltage control at nuclear stations, certain special protection scheme references and the BC/PEPCO operating procedure.
- Manual 14A: Generation & Transmission Interconnection Process. Revisions, resulting from special PC sessions, set new service request cost allocation and study methods.
- Manual 14B: PJM Region Transmission Planning Process. Revisions will update the capacity import limit calculation procedure.
- Manual 18B: Energy Efficiency Measurement & Verification. Revisions, the result of a periodic review, include updates to incorporate the implementation of Capacity Performance.
- Manual 21: Rules and Procedures for Determination of Generating Capability. Revisions, the result of a periodic review, include clarifications to testing rules and terms.
- Manual 28: Operating Agreement Accounting. Revisions made to align with recent Manual 1 revisions. It clarifies metering language and defines a "fully metered EDC."

Members Committee

Guerry Applauded at Final MC

In her final act as the chair of the Members Committee, EnerNOC's Katie Guerry gave an emotional farewell, saying the two-year position "has been a wonderful thing that happened in my life."

PJM CEO Andy Ott sat between her and Susan Bruce of the PJM Industrial Customer Coalition, who will transition from vice chair to chair in January. "I'm flanked by two very accomplished women," Ott said, before reviewing the major issues Guerry presided over during her time in office. "Through all of that, I think you've done a fantastic job," he said.

Ott presented her with a ceremonial gavel, and they shared a laugh about the inscription. He explained that it hadn't been updated yet and still read "chairman's gavel" as it did when she first took the position.

Guerry wasn't fazed. "I only wanted the girls' version if it was encrusted with diamonds," she explained.

Elections

The Members Committee elected the designated slate of candidates to fill expired and vacated positions. O'Connell quickly cut off any potential for additional nominations by making a motion, which was seconded by Dan Griffiths of the Consumer Advocates of PJM States. The candidates were approved by acclimation.

Elected were:

- American Municipal Power's Chris Norton, Dynegy's Jason Cox and Calpine's David "Scarp" Scarpignato to the Finance Committee.
- Lieberman, Bruce, Guerry, Gabel Associates' Michael Borgatti and Public Service Enterprise Group's Jodi Moskowitz as sector whips.
- Borgatti as the Members Committee's new vice chair.

Preview of Security Committee Receives Tepid Response

PJM Chief Information Officer Tom O'Brien introduced plans for a new, non-decisional Security and Resiliency Committee. O'Brien said members of the public and the media will be barred from the sessions so that members can openly discuss sensitive security issues and potential solutions. External government and private sector attendees will be allowed by invitation only.

"It's cutting across more than control systems," O'Brien said. "It's cutting into the Internet of Things."

Jason Barker of Exelon said it's an initiative his company sees as "a duplicative effort" it "struggles to support" because it "taxes limited resources that could be addressing concerns instead of attending another meeting."

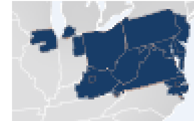
"The objectives are very broad. We struggle with how they'd be roped into something that is administratively efficient for us to staff and attend," he said. "We don't see where the topics you've just described are PJM-specific. … We see this as another place where we have to drag the same people who are having the same discussions elsewhere."

To be truly non-decisional, he said, the charter's key work activities would need to be modified to eliminate creating subcommittees or delegating assignments.

O'Brien said the point is "very well taken" about staffing. "That's kind of how we got to where we are. The key is to have discipline around who staffs what," he said.

— Rory D. Sweeney

PJM NEWS



PJM, MISO Go Quiet on Pseudo-Ties; Reach Interface Pricing Accord

By Amanda Durish Cook

CARMEL, Ind. — Tim Horger, manager of interregional coordination at PJM, said last week that MISO and PJM have agreed not to publicly talk about the issue of pseudo-tie congestion double-counting until a FERC complaint on the issue is resolved.

Some stakeholders were frustrated with the gag order curbing work on fixing the double-counting, reasoning that if the RTOs used ongoing litigation as a silencing factor, then it could be argued that even capacity could not be discussed.

Tilton Energy, the owner of a 180-MW natural gas generator in Eastern Illinois, filed the complaint in August, arguing that MISO is violating its Tariff by assessing congestion and scheduling fees on Tilton's pseudo-tie transactions that have already been assessed by PJM (EL16-108).

"At least as early as February 2016, MISO and PJM have been aware of, and discussed at JCM [Joint and Common Market] meetings, the potential that generation pseudo-tied from MISO to PJM may be assessed duplicative congestion costs when market-to-market constraints bind simultaneously in both markets," Tilton said. "While the JCM stakeholder process grinds on, generators pseudo-tied from MISO to PJM — such as Tilton — are suffering charges for congestion and scheduling fees by both RTOs."

MISO asked FERC to dismiss the complaint on Sept. 26, insisting the charges are consistent with its Tariff and that Tilton has failed to show the Tariff is unjust and unreasonable. Horger said the "proceeding potentially could affect how the pseudo-ties are treated."

Interface Pricing

While mum on the double-counting issue, the two RTOs said they plan to pursue what they call a collaborative approach for interface pricing in time for the beginning of the 2017 financial transmission rights planning year beginning June 1. The approach relies on PJM's existing 10-bus definition for the common interface definition. It also allows the RTOs' market entitlement-based limits — calculated using firm flow entitlement estimates in the day-

Tim Horger | © *RTO Insider*

ahead and FTR markets — to be modified as needed to reflect a transaction's impact on a constraint. MISO had been backing a centroid-to-centroid approach. (See "No Consensus on Interface Pricing," *MISO/PJM Joint and Common Market Meeting Briefs*.)

Beibei Li of MISO's market evaluation and design team said MISO and PJM officials have been holding regular conferences to discuss how the RTOs should handle post-implementation standards, monitoring and metrics.

Horger said MISO and PJM's efforts to revise pseudo-tie processes are being done in "parallel," even though PJM recently failed to elevate any pseudo-tie rule changes for stakeholder consideration. PJM staff had developed one improvement package, while three PJM stakeholders each submitted their own; all were rejected. (See "Underperformance Changes Would Weaken CP, Says PJM, Monitor," *No End in Sight for PJM Capacity Market Changes*.)

MISO, meanwhile, is readying a filing to amend its Tariff and Business Practices Manual and create a new agreement requirement between all parties involved in the creation of a new pseudo-tie. The updated requirements will tighten transmission service obligations and subject new pseudo-ties to system impact studies. (See *MISO Readies Updated Pseudo-Tie Rules*.) MISO and PJM currently have 31 pseudo-ties totaling 2,100 MW.

> **"There's going to be winners and losers in any change, but we're trying to minimize those impacts."**
>
> **Tim Horger, PJM**

Freeze Date Future in Buckets?

PJM and MISO are contemplating a three-step "bucket" approach to replace the current 2004 freeze date reference point used to determine firm rights on flowgates in the allocation process based on flows before current markets were instituted.

Horger said MISO and PJM are looking at dividing flowgate allocations into separate tranches. The first would be for active designated network resources predating the current April 1, 2004, freeze date and historic transmission service requests. A second tranche would be for active designated network resources and transmission service requests after 2004. The first bucket would get first consideration for flowgate needs; excess allocations will be returned to the owner of the flowgate. Horger said the proposal showed consistency from the old approach to the new one, with new designated network resources joining the post-2004 bucket.

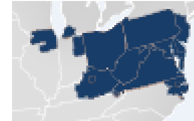
ITC Holdings' Ray Kershaw observed that the three-step allocation method would result in "winners and losers."

"There's going to be winners and losers in any change, but we're trying to minimize those impacts," Horger replied. "I think we all agree that this needs to be updated. The system is planned a lot different than it was in 2004."

The two RTOs will develop a straw proposal that will be unveiled at the next JCM meeting on Feb. 28 at PJM's Conference and Training Center. MISO's Ron Arness admitted that the RTOs have yet to develop many of the proposal's particulars. "We don't have the details ... the purpose was to start thinking about these complicated topics," Arness told stakeholders. Arness said freeze date concerns could be voiced through MISO's Seams Management Working Group.

Horger also said it's unlikely that an alternative will be implemented by the targeted June deadline.

PJM NEWS



PJM, NYISO Still Seeking Spot-in Tx Solution

By Rory D. Sweeney

NYISO and PJM are finding that coordinating transmission across their border is not simple.

After an effort to make it easier for traders to schedule imports from New York failed at the Nov. 2 Market Implementation Committee meeting, stakeholders will resume efforts at a special MIC meeting Dec. 21.

Vitol's Joe Wadsworth, who has championed efforts to streamline the process for several years, won stakeholder approval in April for a problem statement seeking ways to improve the method of reserving PJM spot-in (non-firm) transmission for energy imports scheduled day-ahead from NYISO. Spot-in service is free but limited and allocated on a first-come, first-served basis.

Additionally, the deadlines for requesting the service from PJM and learning the results of NYISO's day-ahead energy auction are staggered such that participants looking to import power must reserve spot-in capacity from PJM before knowing how much they'll need. PJM requests must be made at 9 a.m. to have any hope of success, yet the results of NYISO's day-ahead market usually aren't available until after 9:30 a.m.

This creates the risk that "there may not be enough spot-in service available for participants who received a cleared day-ahead schedule to import power into PJM," the problem statement reads, which leaves them "scrambling" to find service. Failure to obtain transmission results in the import being curtailed, which "can create imbalances that must be settled against real-time prices."

Armed with the problem statement, Wadsworth, PJM and NYISO began discussing potential solutions. NYISO, concerned about those potential imbalances creating costs for its members, proposed a market-based solution that would allocate the costs to PJM's members.

Wadsworth also favored a market-based solution, but PJM decided, after researching potential solutions, that it would be a much more difficult implementation than the RTO preferred. As a compromise, Wadsworth and PJM developed a proposal that they thought addressed the problem without being overly complex: delay the earliest request for spot-in service from 9 a.m. to 10 a.m. so participants will know how much they need before they request it.

Wadsworth and PJM's Chris Pacella presented the idea at the Nov. 2 MIC meeting.

"Maybe this is the simple change that eliminates all those risks," Wadsworth said. (See "NYISO to be Consulted on Changing Spot-in Service Allocation Methods," *PJM Market Implementation Committee Briefs*.)

Problem solved!

Software Changes

Except there was one catch: Pacella explained that PJM can make a deadline change for all imports, but that limiting the change to just NYISO would require time-consuming software changes.

PJM Independent Market Monitor Joe Bowring took issue with making a global change, saying it's not consistent with the problem statement. When the issue first came up, he said, he attempted to argue that it should apply to all RTO interfaces, not just NYISO, but was "told explicitly" that was out of the problem statement's scope. He said the correct procedural step would be to amend the problem statement to include all RTO seams.

Continued on page 25

FERC Approves Rate Settlement in Halted Artificial Island Project

By Rory D. Sweeney

FERC on Thursday approved a rate settlement for a transmission project that may never happen.

The agreement settled a dispute over how much profit LS Power's Northeast Transmission Development should receive for building transmission infrastructure across the Delaware River to address stability issues at New Jersey's Artificial Island (ER16-453).

It was brokered between Northeast Transmission and several objectors in the case: Delaware Public Service Commission, American Municipal Power, Old Dominion Electric Cooperative and Delaware Municipal Electric Corporation.

However, the decision may be moot. Following complaints over cost allocation and a near doubling of the estimated cost, PJM suspended the project — PJM's first Order 1000 competitive solicitation — pending a "comprehensive" staff analysis to be completed by February. (See *PJM Board Halts Artificial Island Project, Orders Staff Analysis*.)

The settlement includes a base return on equity, an equity cap and a three-year moratorium on any involved party petitioning for modifications to the deal:

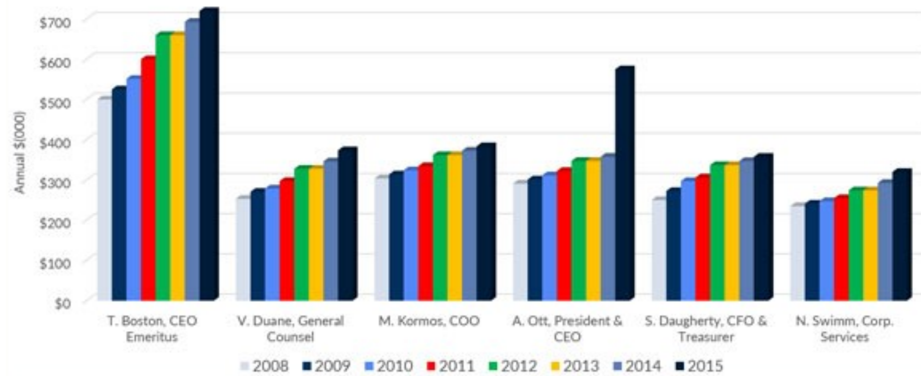
- Northeast Transmission's base ROE will be 9.85%, retroactive to February 1.
- A hypothetical capital structure of 50% equity/50% debt approved in an order issued by FERC in April will remain effective until PJM assumes control of the project.
- The equity component used by Northeast Transmission to calculate its weighted average cost of capital will be the lesser of 54.75% and the actual ratio of equity as a percentage of total capital.
- The moratorium is in effect until three years after PJM takes control of the project. It includes prohibitions on making Federal Power Act Section 205 or 206 filings or supporting others' filings. Northeast Transmission also is barred from petitioning to include construction work in progress in its rate base.

Artificial Island is the site of three nuclear power plants owned by Public Service Enterprise Group. The proposed project would address stability issues that prevent PSEG's Hope Creek and Salem 1 and 2 units from maximum generation. It would include a 230-kV line from the existing Salem substation in Lower Alloways Creek on the New Jersey side to a newly constructed Silver Run 230-kV substation in Delaware. The Delaware substation would connect the project with the existing Red Lion–Cartanza and Red Lion–Cedar Creek 230-kV transmission lines.

PJM NEWS

Public Advocacy Group Files FERC Complaint over PJM Rate Increase

By Rory D. Sweeney



PJM executive salaries | *PJM*

A consumer advocacy group filed a complaint with FERC on Monday saying PJM's recent rate increase request is "unprecedented" and failed to consider mitigating costs by limiting employees' pay increases (ER17-249).

Public Citizen's Energy Program, based in D.C., filed the complaint in response to a member fee increase that PJM stakeholders approved in October. (See "Members Committee Endorses Revised Fee Hike," *PJM Markets and Reliability and Members Committees Briefs*.)

It asks FERC to deny the rate filing "until PJM offers options on controlling certain expenses."

The complaint argues that the largest factor necessitating the increase is accommodating PJM's projected 4.8% average annual growth rate in the financial compensation paid to PJM employees over the next eight years.

"PJM already commands premium salaries paid to its employees, particularly to its top executives," the complaint contends. "For many of Public Citizen's members, it remains a tough economy. There aren't many industries or companies within PJM's service territory that are projecting a 4.8% annual growth rate for employee financial compensation over the next eight years."

"The impact on consumers of PJM's proposed administrative rate revisions is 7 cents a month, phased in over eight years," PJM spokesperson Paula DuPont said in an emailed statement. "Consumer advocates representing the PJM region support our proposal and were involved throughout its development. The proposal was unanimously approved by members."

Public Citizen argues that neither PJM nor its stakeholders — which include state consumer advocates — "ever formally considered dampening growth in employee compensation as a measure to mitigate the rate hike."

While it said PJM employees "deserve praise and respect for administrating duties on behalf of FERC under the Federal Power Act," the complaint also notes that PJM's audited financial reports indicate employee financial compensation grew from more than $98 million in 2011 to more than $124 million in 2015, for an average annual growth rate of 6.1%. Over this five-year period, employee compensation grew from 35.6% of total PJM expenses in 2011 to 37.4% in 2015.

PJM's request doesn't detail other "concerning" expenses, the complaint says, such as payments to outside political lobbying organizations and "expensive social events available to select PJM members."

Public Citizen says it has tried to become a voting PJM stakeholder, but it can't afford the RTO's $2,500 annual membership fee.

"It's certainly easier to balance budgets if you can tap into a pile of someone else's money to close the gap," Tyson Slocum, Public Citizen's Energy Program director, said in an emailed statement.

"The right thing to do would be for PJM to shrink its out-of-control growth in executive pay," he said. "FERC should not allow PJM to pay for excessive executive compensation through an unprecedented hike in electric rates paid by household consumers. PJM must learn fiscal discipline and recognize that its salary structure is bloated."

PJM, NYISO Still Seeking Spot-in Tx Solution

Continued from page 24

Dan Griffiths, of the Consumer Advocates of the PJM States, agreed. "I'm kind of indifferent to the outcome, but I'd like to see this addressed properly," he said.

PJM's Mike Bryson cautioned against the global approach, saying it would create operational problems. "The all-borders issue causes me great concern," he said.

Wadsworth agreed, saying he preferred to limit the scope of the deadline change to just the NYISO seam. "I think we need to think through all the consequences," he said.

Other stakeholders, however, wanted to get to the bottom of NYISO's concerns. "I'd like a better explanation of the mechanics of what it is that NYISO thinks is increasing the costs," said Roy Shanker of H.Q. Energy Services. "This summary just doesn't make sense to me. … You may or may not want to pick a fight, but I feel like everybody on both sides should know what's going on."

"In these preliminary stages, we're beholden to New York's stance," Pacella said. He later acknowledged, however, that there is precedent for a market-based solution with the cross-seam transmission agreement in place between NYISO and ISO-NE.

An MIC vote on amending the problem statement, which was motioned by Bob O'Connell of PPGI Fund A/B Development and seconded by Jung Suh of Noble Americas, was tabled until the committee's next meeting on Dec. 14. However, it likely won't receive much discussion there because of the MIC special session on Dec. 21. It is scheduled from 1 to 3 p.m. at PJM's Conference & Training Center in Valley Forge.

SPP News

SPP Gathers Technology Vendors to Share Wares

By Tom Kleckner

LITTLE ROCK, Ark. — SPP gathered a half-dozen vendors to show off some of the latest transmission technologies before an audience of stakeholders and staff last week. A first for SPP, the Technology Expo was following a trend set by other RTOs.

"Doing these things is necessary because technology is evolving," said Todd Ryan, director of regulatory affairs for Smart Wires. "It's good for us because it helps us understand where our product fits in."

Ryan was on hand to push his company's PowerLine Guardian, a modular transmission power-flow control that the company says "will change how power grids are designed and operated." Combined with the company's Power Router, the Guardian addresses congestion through local control or central dispatch through devices hung on conductors and towers or deployed in substations.

Smart Wires' Todd Ryan | *© RTO Insider*

"You ever hear of the Whac-a-Mole problem?" Ryan asked. "When you solve a problem in one place, it just to moves to another. Every grid has this problem, but [with Smart Wires], you have a tool to more finely tune your investment to your needs and whack more moles."

Other speakers shared the latest on advanced conductors, topology optimization, dynamic line rating, energy storage and HVDC transmission lines. Almost three dozen members of SPP's staff and stakeholders attended the expo, with others listening on the phone.

"All technologies are about two things: bringing new capacity to the market and integrating renewables," said Joe Coffey of General Cable. He motioned to the screen behind him, where a slide showed higher-capacity conductors. "Hey look, a new technology!"

Jay Caspary, SPP's director of research, development and Tariff studies, said the expo was designed to educate staff and stakeholders "of opportunities that exist today to improve grid operations and planning."

"We look forward to continued dialogue with interested stakeholders, and we will work with members on efforts which could lead to pilot programs in the near future," Caspary said.

FERC NEWS

Market Manipulation Cases Dominate FERC Enforcement Efforts

Commission Releases Papers on 10 Years Under EPACT 2005

By Rich Heidorn Jr.

Market manipulation cases dominated FERC's enforcement efforts in fiscal year 2016, responsible for more than two-thirds of the probes launched during the year, according to the Office of Enforcement's 10th annual Report on Enforcement, released Thursday.

The report said the office's Division of Investigations opened 17 probes in FY 2016, some of which involved multiple subjects: 12 involved potential market manipulation, 11 included potential tariff violations and one each involved potential violations of a commission certificate order, the Standards of Conduct and a commission filing requirement.

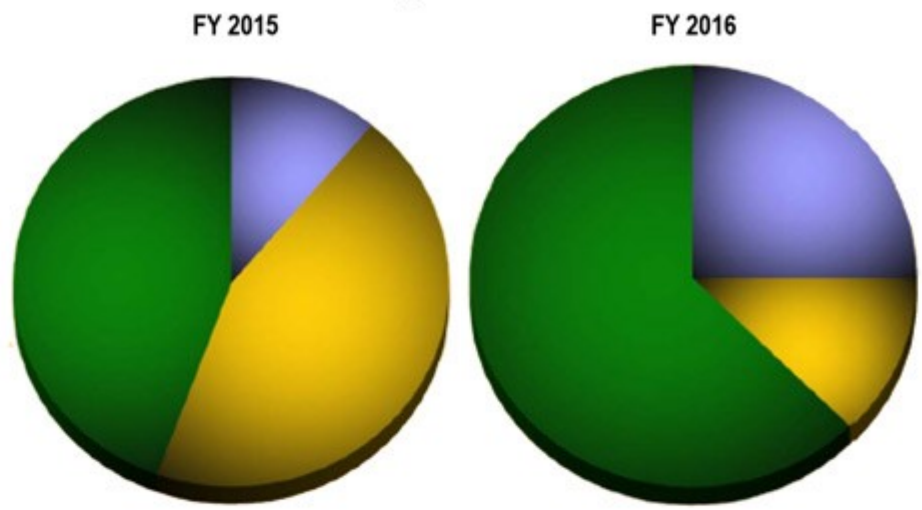
Enforcement closed 11 investigations during the year, about half of them because of insufficient evidence and the other half resulting in settlements. One of the companies involved in settlements, Berkshire Power, also pleaded guilty to a criminal violation of the Federal Power Act — the first conviction ever in the 81 years since the law's enactment, according to FERC.

Among the settlements, about two-thirds involved market manipulation, one-quarter involved tariff violations and the remainder involved reliability standards.

In FY 2015, by contrast, reliability standards settlements and those involving market manipulation were about even at more than 40% each, with the remainder attributed to tariff violations.

The annual report includes several other highlights:

- The commission said it spent more time in federal court last year because of two challenges to FERC orders assessing penalties, continuing litigation on four cases from prior years and a commission proceeding on an administrative law judge's initial decision finding violations of the Natural Gas Act. In all, staff sought to recover $567 million in civil penalties and $45 million in disgorgement through litigation.
- Staff received 110 new self-reports from electric utilities, generators and other market participants, including almost 60 from RTO or ISOs. Including those reports submitted in prior years, staff closed 126 self-reports.
- The Division of Audits and Accounting conducted 14 audits of oil pipeline, utility and natural gas companies, issuing 214 recommendations and ordering refunds and recoveries of $5.3 million. The report highlighted an audit of SPP that found problems with the independence of the RTO's Internal Market Monitoring unit (PA15-6). (See *FERC Calls for Changes to Protect SPP Market Monitoring Unit Independence*.) It also singled out its audit of Duke Energy's compliance with conditions the commission set in approving the company's acquisition of Progress Energy (PA14-2). The audit found that Duke and its subsidiaries overstated their wholesale power and transmission customers' revenue requirements by $17.5 million by improperly including merger transaction expenses without making a Section 205 filing showing that the costs were offset by merger-related savings. Auditors also found the company improperly included $2.4 million of lobbying costs in operating accounts.



Market manipulation cases (green) dominated FERC's enforcement efforts in fiscal 2016, according to the Office of Enforcement's 10th annual report. (Blue: OATT/Tariff; Yellow: reliability standards) | *FERC*

White Papers

Enforcement also issued two staff white papers based on its 10 years of experience since Congress gave the agency stronger enforcement powers under the Energy Policy Act of 2005.

One, Anti-Market Manipulation Enforcement Efforts Ten Years After EPAct 2005, includes lessons learned in four areas: factors the commission and courts have found to be indicative of fraudulent conduct under the Anti-Manipulation Rule, adopted under Order 670; types of conduct that the commission has found to constitute market manipulation (including cross-market manipulation schemes, gaming and misrepresentations); mitigating and aggravating factors the commission considers in assessing penalties; and examples of market manipulation investigations that staff closed without action and the reasons why.

Staff said it was impossible to provide an exhaustive list of all types of manipulation, "because determining whether certain conduct constitutes manipulation is a fact-specific inquiry."

"Market participants are increasingly sophisticated," the report said, quoting from a ruling by the 8th U.S. Circuit Court of Appeals: The "methods and techniques of manipulation are limited only by the ingenuity of man."

The second white paper, Effective Energy

Continued on page 28

FERC NEWS

FERC Considers Change to Hydro License Rules

By Rich Heidorn Jr.

FERC said last week it is considering changing the way it establishes license terms at nonfederal hydropower projects.

The Federal Power Act allows the commission to issue original licenses for up to 50 years and renewals for between 30 and 50 years.

The commission's current policy on renewals is to set a 30-year term when there is little or no new construction, or environmental mitigation required; a 40-year term for projects with a "moderate" amount of such activities; and a 50-year term for projects requiring "an extensive" amount of such activity.

"The purpose of this policy is to ease the economic impact of new costs and promote balanced and comprehensive development," FERC staffer Carolyn Clarkin said in a presentation at Thursday's open meeting. "Determining whether the measures required under a license are minimal, moderate or extensive is highly case-sensitive and largely based on a qualitative analysis of the record before the commission."

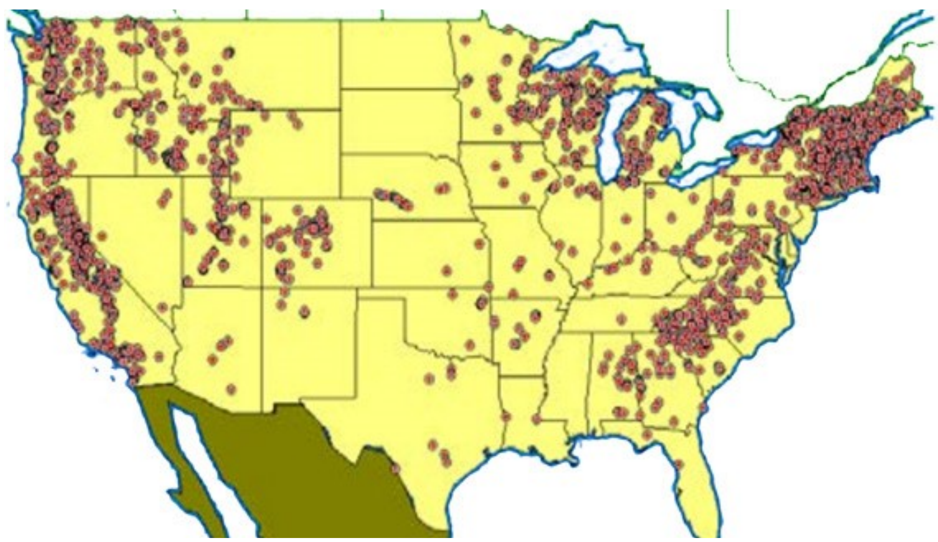
The commission's policy is a forward-looking approach, "such that measures adopted under a previous license term are not considered," Clarkin added.

In a draft Notice of Inquiry (RM17-4), FERC sought comment on five potential options:

- Retaining the existing license-term policy;
- Considering measures implemented during a prior license term;
- Establishing a 50-year default license term;
- Including a "more quantitative cost-based analysis"; and
- Establishing the license term based on negotiated settlement agreements when appropriate.

The open meeting also featured a staff presentation on the commission's dam safety program and a description of the recently opened Meldahl Project, four sets of hydropower turbines at locks and dams on the Ohio River. A joint venture between American Municipal Power and the City of Hamilton, Ohio, the 300-MW project was the first major h hydropower project constructed in several decades in the U.S.

FERC regulates more than 2,500 dams with 55,800 MW of capacity, more than half of all hydroelectric capacity in the U.S. Almost 1,000 of the dams are classified as posing high or significant hazards and subject to annual inspections. The remaining, low-hazard, dams are inspected every three years.



Hydroelectric dams under FERC jurisdiction | *FERC*

Market Manipulation Cases Dominate FERC Enforcement Efforts

Continued from page 27

Trading Compliance Practices, is an effort to respond to market participants' requests for more guidance on creating effective compliance programs to prevent and detect market manipulation. It includes examples of compliance practices that staff found effective and those that it found lacking.

Among the best practices cited:

- Hiring compliance personnel with a variety of professional and educational experience, including legal, operations, risk management and trading.
- Integrating compliance personnel into the organization's business units (for example, locating compliance personnel on the trading floor and regularly rotating business unit employees into compliance functions).
- Performing background investigations on energy traders for evidence of criminal activity, civil lawsuits, drug abuse, excessive gambling or financial problems.
- Implementing compensation structures that incentivize compliance.
- Implementing rules discouraging traders from using price-setting instruments such as physical natural gas or electric products to benefit open financial positions. It also recommended conducting statistical reviews of position concentrations.
- Recording and retaining all trader communications for at least five years, including emails, instant messages and phone calls.

In contrast, the report says an overreliance on standardized and long annual training is ineffective. It also cautioned against relying heavily on attorneys for training rather than including operational staff. "Operational staff can help tailor compliance trainings and make them more relatable to the traders receiving the training," the report said.

It also said companies should have ways to resolve disputes between compliance personnel and traders. "Traders should not be permitted to decide which advice to heed and which to ignore," it said.

FERC NEWS

FERC Proposes Frequency Response Requirements for Renewables

By Rich Heidorn Jr.

In a rulemaking reflecting both reliability concerns and the technological advances of renewable generators, FERC on Thursday proposed revising the *pro forma* Large Generator Interconnection Agreement (LGIA) and Small Generator Interconnection Agreement (SGIA) to require all newly interconnecting facilities to install and enable primary frequency response capability (RM16-6).

The commission said the existing *pro forma* LGIA may be unduly discriminatory because its primary frequency response requirements apply only to synchronous generating facilities "and do not account for recent technological advancements that have enabled new non-synchronous generating facilities to now have primary frequency response capabilities."

The proposed changes will "ensure fair and consistent treatment for all types of generating facilities, help balancing authorities meet their frequency response obligations pursuant to NERC reliability standard BAL-003-1.1 and help improve reliability during system restoration and islanding situations," the commission said.

FERC said the rules would not apply to nuclear generators and would not impose "headroom" requirements for new generators. The commission said it would not require that generators be paid for complying with the frequency response requirement.

Declining Frequency Response

Acknowledging concerns over declining frequency response performance, the commission asked for comment on whether the Notice of Proposed Rulemaking is sufficient "to ensure adequate levels of primary frequency response, or whether additional reforms are needed."

"While the three [contiguous] U.S. interconnections currently exhibit adequate frequency response performance above their interconnection frequency response obligations, there has been a significant decline in the frequency response performance of the Western and Eastern Interconnections," FERC said.

The commission noted declining frequency response was identified as early as a 1991 study by NERC and the Electric Power Research Institute.

It also cited a 2010 NERC survey of generator owners and operators that found that only 30% of generators in the Eastern Interconnection provided primary frequency response and that only 10% provided sustained primary frequency response. "This suggests that many generators within the interconnection disable or otherwise set their governors or outer-loop controls such that they provide little to no primary frequency response," the commission said.

"The commission's *pro forma* generator interconnection agreements and procedures were developed at a time when traditional synchronous generating facilities with standard governor controls and large rotational inertia were the predominant sources of electricity generation. However, the nation's resource mix has undergone significant change since" the *pro forma* rules were issued in 2003 and 2005.

"This transformation has been characterized by the retirement of baseload, synchronous generating facilities and the integration of more distributed generation, demand response and natural gas generating facilities, and the rapid expansion of non-synchronous variable energy resources (VERs) such as wind and solar," the commission said.

It cited U.S. Energy Information Administration data that the U.S. added 13 GW of wind, 6.2 GW of utility-scale solar photovoltaic and 3.6 GW of distributed solar PV generation in 2014 and 2015.

"Conversely, NERC has reported that almost 42 GW of synchronous generating facilities (e.g., coal, nuclear and natural gas) have retired between 2011 and 2014, and the EIA recently reported that nearly 14 GW of coal and 3 GW of natural gas generating facilities retired in 2015."

Wind farm near Palm Springs, Calif. | © *RTO Insider*

The commission said that although wind and solar generators now have the technology to provide primary frequency response, "this functionality has not historically been a standard feature that was included and enabled on non-synchronous generating facilities. Moreover, wind and solar generating facilities typically operate at their maximum operating output, leaving no capacity (or 'headroom') to provide primary frequency response during under-frequency conditions."

RTO Rule Changes

The commission acknowledged it was playing catch up with RTOs that have already begun changing the rules for asynchronous generators:

- ISO-NE and NYISO have adopted provisions to their LGIAs that establish more specific requirements for governor operation.
- PJM has implemented governor requirements for non-nuclear generators and required new non-synchronous generators to have "enhanced inverters" allowing the provision of primary frequency response. (See *Enhanced Inverters Clear MRC*.)
- MISO requires governor operation as a condition for providing regulating reserves but does not require specific settings.
- The commission recently accepted CAISO Tariff rules on governor settings and provisions for sustained primary frequency response.

FERC NEWS

FERC OKs Information Security, FOIA Rules

By Rich Heidorn Jr.

FERC on Thursday gave final approval to a rule updating its processes for the handling of Critical Energy Infrastructure Information (CEII), a measure to protect the grid from terrorist attacks (RM16-15, RM15-25-001).

The rule (Order 833) is intended to comply with the Fixing America's Surface Transportation (FAST) Act. Although the bill mainly dealt with highway funding, Congress added the CEII provisions (Section 215A of the Federal Power Act) following controversy over the agency's security procedures.

The order establishes rules for designating information as CEII; prohibits unauthorized disclosure of CEII; and sets penalties for FERC employees who knowingly and willfully make unauthorized disclosures. FERC said the final rule "largely adopts" the proposals in its June Notice of Proposed Rulemaking. (See *FERC Proposes Protections on CEII*.)

In response to concerns raised by the Nuclear Regulatory Commission, FERC clarified that its rule "does not limit the discretion of other federal agencies to protect sensitive information in their custody" but provides a way for agencies to consult with the commission's CEII coordinator.

"We believe this change strikes a reasonable balance by recognizing other federal agencies' discretion to protect their information, while adhering to the statutory framework that limits CEII designation authority to the commission and" the Department of Energy, FERC said.

The commission also said it would make a change to clarify it has delegated to the General Counsel authority to decide appeals of CEII designations.

Penalties

The rules include sanctions for unauthorized disclosures of CEII by commission staff and a requirement to refer improper disclosures by commissioners to the Energy Department's Inspector General. FERC commissioners and staff could face dismissal and criminal prosecution for improper disclosures.

The commission said it has already instituted requirements that former employees and commissioners certify that they are not unlawfully removing records from the agency and acknowledge potential criminal penalties for doing so.

The FAST Act's CEII provisions were both a vindication and a rebuke of former FERC Chairman Jon Wellinghoff's controversial campaign to raise awareness of the grid's vulnerability to sabotage.

The sanctions for unauthorized release of CEII stemmed from Wellinghoff publicly discussing a confidential FERC analysis on the grid's vulnerability to physical attacks. But the bill also included measures to protect the grid from terrorist attacks and natural disasters, giving the secretary of energy emergency powers and creating a Strategic Transformer Reserve. (See *Transportation Bill Includes Grid Security Measures*.)

Sharing, NERC Information

The rule requires recipients of CEII outside of FERC to sign nondisclosure agreements. FERC said it will continue to "balance the requestor's need for the information against the sensitivity of the information."

"The commission has utilized this balancing approach effectively in response to Critical Energy Infrastructure Information requests for almost 15 years."

Order 833 also implements the commission's June order giving FERC access to NERC's transmission availability data system, generating availability data system and protection system misoperations databases. (See *FERC to Look over NERC's Shoulders on Reliability*.)

The commission said it will treat information downloaded from NERC databases as nonpublic. It will evaluate whether it should be designated as CEII in response to a request for the information or if the commission determines such information should be disclosed.

FOIA Improvement Act

In a separate order, FERC also approved a final rule implementing the requirements of the FOIA Improvement Act of 2016 (RM17-5).

The law requires federal agencies to:

- Allow a minimum 90-day period for Freedom of Information Act requesters to file an administrative appeal — up from 45 days.
- Include in any FOIA denial letter a notice that the requester may seek dispute resolution services from the Office of Government Information Services in the National Archives and Records Administration.
- Provide requested information unless "the agency reasonably foresees that disclosure would harm an interest protected by an exemption" or "disclosure is prohibited by law."
- Make reasonable efforts to segregate and release nonexempt material by redacting protected information in documents.
- Release records 25 years or older that would otherwise be subject to the deliberative process exemption.
- Make information that has been requested and disclosed three times publicly accessible in an electronic format.

FERC Rule Would Boost Energy Storage, DER

Continued from page 2

in a way that maximizes their operational effectiveness.

"While some existing bidding parameters were developed for older electric storage technologies (such as pumped hydro facilities), newer storage technologies (such as battery storage) have greater flexibility to transition between charging and discharging. Therefore, bidding parameters designed for slower storage technologies or other types of generation resources that are not capable of charging and discharging energy may limit the opportunity for faster electric storage resources to participate in the organized wholesale electric markets."

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FERC NEWS

FERC Rule Would Boost Energy Storage, DER

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For RTOs with capacity markets, the commission proposed that the de-rated capacity value for electric storage "be consistent with the quantity of energy that must be offered into the day-ahead energy market for resources with capacity obligations."

The commission said storage's participation also should not be barred by requirements, designed for synchronous generators, that the resource be online and synchronized to the grid to be eligible to provide ancillary services.

"Newer technologies, particularly electric storage resources, tend to be capable of faster start-up times and higher ramp rates than traditional synchronous generators and are therefore able to provide ramping, spinning and regulating reserve services without already being online and running," the commission said. "Therefore, we preliminarily find that participation in ancillary service markets should be based on a resource's ability to provide services when it is called upon rather than on the real-time operating status of the resource."

Energy Schedules

But the commission acknowledged that because RTOs co-optimize energy and ancillary services dispatch and pricing, they may require ancillary services providers to have an energy schedule. "As a result, it is not clear whether eliminating the requirement for a resource to be online and synchronized to the grid would be impactful given the continued need to have an energy schedule," it said, asking for comment on whether the requirement for energy schedules could be relaxed.

Gridbank Energy Storage | *Alevo*

"Specifically, we seek comment on whether dispatch and pricing of energy and ancillary services would continue to be internally consistent if a resource were not required to offer to provide energy in order to offer to provide ancillary services."

Size

The NOPR says that the RTOs' minimum size requirement for participation in the markets should be no more than 100 kW, a threshold the commission said "balances the benefits of increased competition with the ability of RTO/ISO market clearing software to effectively model and dispatch smaller resources often located on the distribution system."

The limit would apply to any minimum capacity requirements, minimum offer requirements and minimum bid requirements.

Pricing

The NOPR proposes that the energy that storage resources purchases from RTO markets and then resells back to those markets must be at the wholesale LMP. It also said storage should be permitted to set LMPs both as buyers and sellers.

"This proposal includes the requirements that the RTOs/ISOs accept wholesale bids from electric storage resources to buy energy so that the economic preferences of the electric storage resources are fully integrated into the market, the electric storage resource can set the price as a load resource where market rules allow and the electric storage resource can be available to the RTO/ISO as a dispatchable demand asset. However, we note that these requirements must not prohibit electric storage resources from participating in organized wholesale electric markets as price takers, consistent with the existing rules for self-scheduled load resources."

Smaller DER

The NOPR also acknowledged the expected growth of DER in requiring RTOs to "remove any unnecessary limitations on how the distributed energy resources that participate in such aggregations must be operated."

"It is clear from the comments that the ability to meaningfully participate in the organized wholesale electric markets for these smaller distributed energy resources is through aggregations," the commission said.

"For example, combining the discharge times of multiple electric storage resources and/or combining them with distributed generation resources could allow aggregated resources to meet minimum run-time requirements that individual electric storage resources may not be able to meet."

Under FERC's proposal, a DER aggregator could register as a generation asset "if that is the participation model that best reflects its physical characteristics."

The commission expressed hope that price signals will encourage DER to locate in areas where new capacity is most needed, helping reduce congestion costs during load peaks and to reducing transmission investments for delivering energy into high-priced load pockets.

"Unlike larger fossil fuel generators that often are not able to locate in load pockets due to environmental or other citing concerns, distributed energy resources are more able to co-locate with load and provide associated benefits," the commission said. "We also believe that the shorter lead time to develop many forms of distributed energy resources compared to traditional generators or transmission lines allows them to rapidly respond to near-term generation or transmission reliability-related requirements, further improving their ability to enhance reliability and reduce system costs."

Transaction Costs

The commission said the changes should

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FERC NEWS

FERC Rule Would Boost Energy Storage, DER

Continued from page 31

remove the commercial and transactional barriers to DER participation in wholesale markets.

"Owners and operators of individual distributed energy resources may be reluctant to incur the significant costs of participating in the organized wholesale electric markets, such as the costs of the necessary metering, telemetry and communication equipment," it noted.

"The smaller a resource is, the more likely the transaction costs to sell services into the organized wholesale electric markets outweigh the benefits that the prospective market participant may realize from selling wholesale services. However, some of these costs can be reduced by participating in the organized wholesale electric markets through a distributed energy resource aggregation; for example, the time and resources necessary to learn the market rules and actively submit bids and/or offers into the organized wholesale electric markets."

FERC said integrating DERs into the markets will help RTOs account for them in calculating installed capacity requirements and day-ahead energy demand, "thereby reducing uncertainty in load forecasts and reducing the risk of over procurement of resources and the associated costs."

LaFleur Statement

Commissioner Cheryl LaFleur issued a statement saying that DERs "will play a critical role in the future of the grid" but noting that they present "unique issues since they are connected to the grid at the distribution level."

She called for "close coordination among the RTO/ISOs, the distribution control centers that operate the systems to which they are connected and the distributed energy resource aggregators. … This coordination could include, for example, real-time operating procedures and software-enabled communications among the control centers."

The commission noted that it was awaiting an informational report from CAISO, which recently began implementing rules for DER aggregations.

Myersdale PA Energy Storage | *NextEra*

CAISO's Tariff also includes participation models for Generators, Proxy Demand Resources, Reliability Demand Response Resources and Non-Generator Resources.

Comment Period

The commission will accept comments for 60 days after the NOPR is published in the *Federal Register*. In particular, the commission solicited comment from the RTOs on the rule and software changes that would be required to implement the new requirements as well as the associated costs and how they can be minimized.

New FERC Rule Will Double RTO Offer Caps

Continued from page 1

capped at the higher of $1,000/MWh or a resource's cost-based energy offer, with $2,000/MWh being the maximum bid.

- An RTO must verify the costs underlying a resource's bid above $1,000/MWh before that offer can be used to calculate the market-clearing LMP.
- All resources — regardless of type — will be eligible to submit cost-based incremental energy offers in excess of $1,000/MWh.

The final rule modifies FERC staff's original proposal, which would have converted the current $1,000/MWh cap into a "soft" cap — without implementing a new hard cap. (See *FERC Proposes Uniform Offer Caps Across RTOs*.)

The commission said the absence of a hard cap could be problematic for RTOs and their market monitors, who might have only "imperfect information" ahead of the market clearing process to verify the short-run marginal costs for resources bidding above $1,000/MWh.

"While a hard cap may diminish the ability to fully address the shortcomings of current offer caps identified above in all circumstances, we find that, on balance, a hard cap is necessary to reasonably limit the adverse impact that any imperfect information during the verification process could have on LMPs," the commission said.

Opposing the rule was CAISO, which said that the current $1,000/MWh ceiling far exceeds the highest cost-justified offer from any ISO resource. CAISO further contended that any natural gas-driven price spikes would be too infrequent and short-lived to warrant a change. ISO-NE said it saw no need to increase the cap, but it didn't contest the rule change.

Market monitors for ISO-NE and SPP also protested, arguing that new sources of gas supply have provided sufficient stability in fuel prices in recent years.

The commission dismissed those contentions, pointing out that three RTOs — PJM, MISO and NYISO — had made previous filings to temporarily waive or change the level of their offer caps.

"The waiver requests and high natural gas costs experienced during the polar vortex, which could have caused some resources to experience costs above $1,000/MWh, demonstrate that the deficiencies of current offer caps, in particular the $1,000/MWh offer cap, are concrete rather than hypothetical."

In its Nov. 17 presentation to the commission explaining the rule, FERC staff made the case for applying the change to all organized markets.

"Adopting the same offer cap structure in each RTO and ISO would avoid seams issues that could arise if offer caps differ materially across markets," staff said.

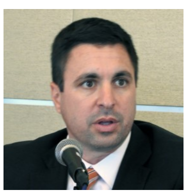
The new rule will be effective 75 days after publication in the *Federal Register*.

24th US/Canada Energy Trade & Technology Conference

BOSTON — Quebec hydropower already supplies about 12% of New England's electricity and its exports are expected to grow considerably over the next decade. So there was plenty to talk about at the 24th U.S./Canada Energy Trade & Technology Conference last week.

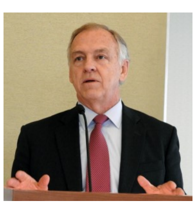
The Massachusetts Energy Diversity Law, passed over the summer, commits the state to acquire 9,450 GWh of new large-scale hydropower contracts annually by 2027 — a 73% increase from the nearly 13,000 GWh that ISO-NE imported from Quebec in 2015.

"For the first time, the Commonwealth of Massachusetts is designating large-scale hydropower, like the kind we generate in Quebec, as a source of clean energy that can help meet the objectives of the Global Warming Solutions Act," Hydro-Quebec CEO **Eric Martel** said during a keynote speech. That law commits Massachusetts to a 25% reduction in greenhouse gases by 2020.



Matt Beaton, Massachusetts' Secretary of Energy and Environmental Affairs, said expanded imports will both reduce emissions and help maintain system reliability.

"We have always looked kindly on the import of hydroelectricity and recognize that it is one of the few resources that help us reach all three of the targets we are trying to accomplish: It's a reliable resource, it's affordable and it's one that helps us meet our climate goals," he said.



Entergy's decision to close the 680-MW Pilgrim nuclear plant in 2019 is a major setback for the state's climate goals, said **David O'Connor**, senior vice president for energy and clean technologies at ML Strategies.

"The Pilgrim nuclear plant by itself produces 85% of the [carbon-free] energy consumed in Massachusetts," O'Connor said. "When it goes away, there's going to be a dramatic alteration of the carbon profile in the state."

Ed Krapels, CEO of transmission developer Anbaric, is looking at what he called the Greater Northeast — including New England, New York, Quebec and Ontario — where a massive buildout of renewable generation is needed to achieve climate reduction targets.

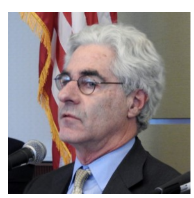
"For us, we look at this as a 5,000- to 10,000-MW transition, so there's room in that for many different things. Distributed energy will be a large part of that, as well as batteries, solar microgrids, all of that will have a big impact. But we still have bulk power needs," Krapels said.

Anbaric is proposing stand-alone transmission development, as well as collaborations with wind generators to pair with hydropower in cross-border projects throughout New York and New England.

Marcy Reed, president of National Grid Massachusetts, joked that although she heads an electric utility, she spends most of her time talking about natural gas.

"You talk about a balanced approach. We need pretty much everything. We need renewables, we need efficiency, energy storage, natural gas; we need a full platter of solutions to get us where we ultimately need to be," she said.

National Grid was a partner in the failed Access Northeast pipeline development, whose proposed funding mechanism was rejected by the Massachusetts Supreme Judicial Court in August. (See *Eversource, National Grid Withdraw Requests to Bill for Pipeline*.)



Natural gas analyst **Richard Levitan** said the failure of pipeline projects to overcome litigation and community opposition leaves the system vulnerable in the winter, when gas generation must compete with gas heating for fuel supplies.

ISO-NE has incentivized generators to provide dual-fuel power sources, but that fails to solve the underlying problems, he said.

"The Winter Reliability Program is chipping away at a fundamental problem of the region's great reliance and growing reliance on natural gas," he said. "Is it enough? Well, this winter it probably is enough, if ISO-NE's 50-50 load forecast materializes. And that the pipeline and storage infrastructure linking us to the Marcellus region is fully available and nothing bends or breaks."

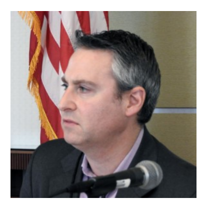
Over the longer term, the addition of solar and wind resources presents serious challenges that are only now starting to be addressed, said **Peter Rothstein**, president of the Northeast Clean Energy Council.

Rothstein said the modernized grid that's needed to enable renewable integration and two-way power flows must join the conversation along with cleaner generation.

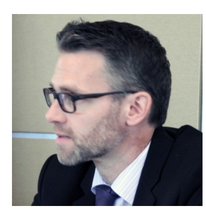
"We can deploy a great amount of solar resources over the next five or 10 or 15 years, but we're going to hit a wall and it's going to become inefficient and not at all cost-effective, so we have to modernize the grid," Rothstein added.

Election Talk

The election of Donald Trump as president creates much uncertainty, many speakers said. But they agreed that clean energy will likely lose federal support and climate issues will be confronting a hostile federal administration.



"If you look at the election, it's easy to get discouraged because we need a lot of policy support, and it's not going to be there," said **Joshua Paradise** of Current, GE's LED, solar, energy storage and electric vehicle business. "But as a skeptic [of conventional wisdom] as I think of what's happened, this train [of strong support from the states and the public] has left the station. … We're already at the tipping point."



Jon Norman, vice president of business development for Quebec-based Brookfield Renewable, was a bit more circumspect. He said he feared climate change deniers becoming more entrenched in government under Trump.

"It's unquestionable that the need for state action is far more urgent than it was [before the election]. And that need for action has to happen and I don't think we can delay it

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COMPANY BRIEFS

PG&E Posts Results of Battery Project in Wholesale Market

Pacific Gas and Electric sees "great potential" for energy storage after completing a project demonstrating the use of batteries in CAISO's wholesale markets.

The results of the project, which began in 2014, were detailed in a report released last week. Called the Energy Program Investment Charge (EPIC), it used PG&E's 2-MW Vaca-Dixon and 4-MW Yerba Buena battery storage systems.

Among the findings, from a financial perspective, battery storage performs best when providing frequency service. Also, CAISO day-ahead and real-time revenues were not conducive to energy arbitrage.

More: *Microgrid Knowledge*

Duke Settles Shareholder Lawsuit for $27M

Duke Energy has agreed to pay $27 million to settle a lawsuit by shareholders over the abrupt firing of CEO William Johnson in July 2012.

As part of the terms to buy out Progress Energy, Duke agreed to install Johnson as CEO of the combined company, but it reinstated its former CEO James Rogers within hours of closing the deal.

The lawsuit claimed Duke decided in May 2012 to fire Johnson but concealed its decision from the public, investors and regulators.

More: *Reuters*

Microsoft to Power Data Center with Kansas Wind Energy

Microsoft announced it will buy all 178 MW of power from a wind farm under construction near Dodge City, Kan., to power its Cheyenne, Wyo., data center.

The Bloom Wind facility, which will be operational in the third quarter of 2017, will provide part of the 237 MW of alternative energy the software giant needs to power the center.

Microsoft plans to generate half the electricity at all its data centers from wind, solar or hydropower by 2018.

More: *The Wichita Eagle*

Clean Line May Lose Conductor Wire Supplier

Clean Line Energy Partners may be shopping for conductor wire for its $2.5 billion Plains & Eastern Clean Line power transmission project after an Arkansas plant announced it will shut down in mid-2017.

The company had a deal since 2011 to buy $135 million worth of conductor wire from General Cable in Malvern.

Clean Line is exploring options to somehow continue sourcing the conductor from General Cable's Malvern facility, Executive Vice President Mario Hurtado said.

More: *Arkansas Business*

Exelon to Use GE Power Plant Management Software in 48 States

Exelon has signed a deal to use General Electric's Predix software and applications to analyze and manage 91 power plants in 48 states that produce 32,700 MW of power.

In initial uses, the technology increased power plant efficiency by 3% and reliability by 5% while cutting operations and maintenance costs by 25%, GE Power CEO Steve Bolze said.

The deal, which is GE's largest deployment

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24th US/Canada Energy Trade & Technology Conference

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until we have all the right answers [on technology]. But I'm optimistic, especially in New England because you have states with very aggressive targets and they're taking actions to implement them."

What appears likely is that the federal governments of the U.S. and Canada will take divergent paths on global climate initiatives. Former Prime Minister Stephen Harper was aligned with fossil fuel interests and was hostile to international climate accords, said Monica Gattinger, director of the Institute for Science, Society and Policy at the University of Ottawa.

Prime Minister Justin Trudeau "has taken a very balanced approach to energy. On fossil fuels, [Trudeau's Liberal Party] is quietly supportive. They're visibly supportive of clean renewable energy," she said. "When it comes to the environment, from a bragging perspective, they wanted everyone to know Canada was back in Paris last year [for the 21st Conference of Parties' climate agreement], and with a commitment to moving on a carbon tax."

— William Opalka

Company Briefs

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in the power sector, is six times larger than its previous largest. That deal, signed in October with the New York Power Authority, covers 16 power plants in New York that generate about 5,600 MW.

More: Reuters

PG&E Corp. Makes Several Executive Leadership Changes

PG&E Corp. has announced changes to its executive leadership effective March 1, 2017.

Geisha Williams will serve as CEO and president. Presently, Williams serves as electric president of Pacific Gas and Electric, PG&E Corp.'s main utility subsidiary.

Tony Earley, currently chairman, CEO and president of PG&E Corp., will serve as executive chair of its board of directors. Nickolas Stavropoulos, currently gas president of Pacific Gas and Electric, will serve as its president and COO.

More: PG&E Corp.

Fermi 2 Nuclear Plant Back Online after Maintenance

DTE Energy's Fermi 2 nuclear power plant is back online after being taken offline on Nov. 7 to repair a main unit transformer.

It was the second time in 2016 the plant, located on the shore of Lake Erie, Mich., was taken offline for scheduled maintenance.

More: The Associated Press

Earth Networks to Focus on Selling Data Services to Energy Utilities

Earth Networks will focus on selling data services to energy utilities — one of its fastest growing new revenue generators — after selling its WeatherBug smartphone app to mobile advertising firm xAd.

The app found its energy niche in 2012, when utilities began optimizing energy use by triangulating local weather data with in-home thermostat data taken from a smart-thermostat service the company created under the WeatherBug brand.

Earth Networks recently launched Connected Savings, a new platform that provides energy intelligence through the integration of Internet of Things-connected smart home devices, proprietary weather data and patented predictive algorithms.

More: The Washington Post; Earth Networks

RES Supplying Wind Power to 16 GM Facilities

General Motors has announced the purchase of 50 MW of wind power from Renewable Energy Systems to meet the electricity needs of 16 of its U.S. facilities.

When the contract begins in the first half of 2018, renewable energy will power 6% of the automaker's global energy use.

GM's goal is to meet the electricity needs of all its global operations with 100% renewable energy by 2050.

More: Dallas Business Journal

Geopetro Expands into Natural Gas Production

Oil and gas company Geopetro has acquired 27 wells and 37,000 acres of land from natural gas producer Chesapeake Energy.

The wells — located in Columbiana County, Ohio, and Beaver County, Pa. — are mostly natural gas producers in the Utica shale play, while one is producing oil.

The acquisition "is a tremendous growth opportunity. It fundamentally alters our production operations from primarily conventional production in Central Ohio to primarily unconventional natural gas production," Geopetro said in a statement.

More: Columbus Business First

Shareholders Approve SolarCity, Tesla Merger

Shareholders of SolarCity and Tesla Motors voted by a wide margin to merge the two companies.

SolarCity expects the all-stock deal to close in the coming days. The deal was worth $2.6 billion when the companies approved it in August.

Share prices for both companies dropped after the deal was proposed in June, as analysts wondered why Tesla would want to take on SolarCity while it's building a big battery factory in Nevada and preparing to launch its first mass-market car at the end of 2017.

More: Times Union

Dominion Expands Solar Alliance with Amazon

Dominion Resources has announced a major expansion of its solar alliance with Amazon Web Services and will add 180 MW of solar generating capacity in five Virginia counties.

A power purchase agreement between subsidiary Dominion Energy and AWS will enable construction of the solar facilities, which are anticipated to enter service in late 2017.

This new development is expected to increase Dominion's total solar capacity to 1,400 MW by 2017.

More: Dominion

SoCalGas Hopes to Install 2,000 Methane Sensors in 2018

After successfully testing new methane detection sensors for nearly one year, Southern California Gas hopes to deploy approximately 2,000 sensors in 2018.

SoCalGas installed 12 sensors that read methane-in-air concentration levels every five minutes at various locations in the Los Angeles basin. When the sensors detect methane, they send an alarm within 15 minutes to a monitoring system. They are solar powered and supplemented by battery.

"We're very pleased with the progress of this program over the last year," said Deanna Haines, director of gas engineering for SoCalGas. "As far as we know, no other natural gas utility has implemented a similar methane detection pilot program. Wider use of methane detectors will enhance public safety."

More: Southern California Gas

FEDERAL BRIEFS

Sweden's Vattenfall Sets World Record for Low Wind Power Price

Sweden's Vattenfall set a world record for the lowest price ever paid for offshore wind power — with a winning bid of $54/MWh to develop the 600-MW Danish Kriegers Flak.

The average cost of offshore wind is about $126/MWh.

Scheduled to begin operations by 2022, Kriegers Flak is Denmark's largest offshore wind farm. It is located in the Baltic Sea, about 15 km off the Danish island Møn.

More: *EcoWatch*

Buyer to Breathe Life into Unfinished Nuclear Plant

A development company plans to pump $13 billion into the unfinished Bellefonte Nuclear Station to make it operational after paying a purchase price of $111 million.

Nuclear Development, which purchased the Hollywood, Ala., plant from the Tennessee Valley Authority, will receive two unfinished reactors, several buildings and 1,600 acres of land on the Tennessee River.

It has up to two years to complete the purchase.

More: *The Associated Press*

Kujala Named Director of Power Planning for NWPCC

Ben Kujala has been named director of power planning for the Northwest Power and Conservation Council. He replaces Tom Eckman, who retired in July.

Kujala has served as the NWPCC's acting director since April.

In 2013, he joined the NWPCC as a senior analyst and recently led the redevelopment of the Regional Portfolio Model for the Seventh Power Plan.

More: *HydroWorld.com*

FERC Extends Deadline for Complying with EQR Data Dictionary

FERC has extended its deadline for complying with its Electronic Quarterly Report Data Dictionary, from the fourth quarter 2016 EQR filing to the first quarter 2017 EQR filing.

In June, FERC issued an order clarifying reporting requirements and fields related to "Increment Name" and "Commencement Date of Contract Terms." FERC also made changes regarding the "Time Zone" field options and deletes fields for reporting e-Tag data. (See *FERC Clarifies Electronic Quarterly Report Rules*.)

More: *RM01-8, et al.*

10 Cities Plan to Join City Energy Project

Ten cities will be joining the City Energy Project, which aims to improve energy efficiency of urban buildings.

The project, which now has 20 member cities, is a joint initiative of the Natural Resources Defense Council and the Institute for Market Transformation.

The new member cities are Des Moines, Iowa; Fort Collins, Colo.; Miami-Dade County, Fla.; New Orleans, La.; Pittsburgh; Providence, R.I.; Reno, Nev.; San Jose, Calif.; St. Louis; and St. Paul, Minn.

More: *Natural Resources Defense Council*

Md. Officials Ask EPA to Stop Interstate Pollution from Coal Plants

Maryland environmental regulators have asked EPA to crack down on 19 coal plants in five other states whose emissions are carried downwind into Maryland.

The plants — located in Indiana, Kentucky, Ohio, Pennsylvania and West Virginia — have spent billions of dollars on technology to reduce pollution but are not using it every day during the summer, Maryland officials said.

They estimate that 70% of the state's ozone pollution comes from upwind states.

More: *The Baltimore Sun*

TVA Plans to Reduce Coal Dependence Notwithstanding Trump

Citing economics, the Tennessee Valley Authority announced it will continue to reduce its dependence on coal — even though the incoming Trump administration is expected to loosen environmental regulations.

Natural gas is particularly cheap, TVA CEO Bill Johnson said.

"We have been following a path that is consistent with the direction of the Clean Power Plan, but we've been following it based on what's the best for our customers," he said.

More: *WPLN*

Report Warns Against Tax Subsidies For Carbon-Capture Coal Plants

A new report from Friends of the Earth and Taxpayers for Common Sense warns Congress against providing tax subsidies to coal plants that use carbon-capture technologies.

"Carbon capture and storage is a false solution to the climate crisis and a waste of our tax dollars," Lukas Ross of Friends of the Earth said.

Carbon capture cannot take off without federal support to encourage investment and implementation, Sen. Heidi Heitkamp (D-N.D.) said.

More: *The Associated Press*

Great Northern Transmission Line Gets Presidential Permit

GREAT NORTHERN TRANSMISSION LINE

The Department of Energy has issued a presidential permit for Minnesota Power's plan to bring electricity into Minnesota from northern Manitoba hydroelectric dams, clearing the last regulatory hurdle for construction of the Great Northern Transmission Line.

In 2020, Minnesota customers can expect to receive electricity generated by a new dam in northern Manitoba.

The 224-mile Minnesota segment of the power line will run from Roseau County to an expanded electric substation at Blackberry, just east of Grand Rapids.

More: *Duluth News Tribune*

Climate Change Denier Bannon Scores Key White House Post

President-elect Donald Trump has named Stephen Bannon, former executive chair of

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the far-right Breitbart News, as his chief White House strategist.


Bannon

Bannon's appointment was met with outcry by many different groups, including environmentalists. Per Breitbart News, global warming was invented by activists, university researchers and renewable energy industry profiteers. After Pope Francis urged the world to protect the environment and slow climate change, Breitbart News suggested Marxists took over the Vatican.

Bannon has also criticized Republicans in Congress for supporting subsidies for renewable energy facilities.

More: InsideClimate News

China Tells Trump: We Didn't Invent Climate Change 'Hoax'


Zhenmin

China didn't invent global warming as a hoax to harm U.S. competitiveness, China's Vice Foreign Minister Liu Zhenmin told reporters at U.N. talks last week.

U.S. Presidents Ronald Reagan and George H.W. Bush supported the Intergovernmental Panel on Climate Change in initiating global warming talks without China even knowing negotiations to cut pollution were starting, Zhenmin said.

Zhenmin's remarks came as the U.N. meets in Marrakech, Morocco, for further climate talks. Almost 200 countries are awaiting Trump's decision on whether he will withdraw the U.S. from the Paris Agreement.

More: Bloomberg

IEA Report: Renewable Energy, Gas are Global Energy's Future

Renewable energy and natural gas are the future of global energy for the next 25 years, per a report issued last week by the International Energy Agency.

The IEA's annual "World Energy Outlook," issued at the COP22 climate change talks held in Marrakech, Morocco, provides a detailed analysis of the pledges made for the Paris Agreement on climate change.

The report also contains a special feature on renewable energy and expects that its rapid deployment will continue.

More: Clean Technica

CCS Offers Trump a Way To Keep Pledge to Coal Miners

Although President-elect Donald Trump never articulated any detailed pro-carbon capture storage policies, CCS could be his ticket to keeping his campaign promise to save the ailing coal industry.

By lowering the climate impact of coal burning, CCS could help save the coal industry from environmental regulations — and the business and investment decisions that environment regulations spur.

Renewable energy has received massively more investment in recent years over CCS, a recent report from the Global CCS Institute said.

More: The Washington Post

DOE: Coal Comes into Texas, but Doesn't Leave

Texas imported more coal than any other in 2015 while not exporting any of the 36 million short tons of coal it produced, according to the latest coal distribution report by the Department of Energy.

Coal mines in Wyoming supplied 55.2 million short tons of coal to the state, while mines in Colorado, Virginia and Oklahoma provided a combined nearly 800,000 short tons.

More: Fuel Fix

State Briefs

ARKANSAS

7 Businesses Sign Letter to Governor Supporting Clean Line

Seven companies, which collectively employ more than 4,000 state residents, sent a letter to Gov. Asa Hutchinson supporting the $2.5 billion Plains & Eastern Clean Line power transmission project.

The companies — Ingersoll Rand, Unilever, LM Wind Power, AFCO Steel, Maverick Transportation, McGeorge Contracting and Sediver USA — cited renewable and low-cost wind power as "an increasingly important factor in our decisions to locate our facilities."

Opponents of the project have alleged federal overreach in the process by which it was approved. The state's entire congressional delegation and Hutchinson is not an enthusiastic supporter — even though it could pump an estimated $660 million into the state's economy.

More: Arkansas Business

CALIFORNIA

Automakers Should not Expect Relief from Clean Air Regulations

Automakers — whose stocks surged last week after President-elect Donald Trump named climate change skeptic Myron Ebell to lead his EPA transition team — should not expect relief from state clean air regulations.

The state is committed to lowering greenhouse gas emissions 40% below 1990 levels by 2030, said Dan Sperling, a member of the Air Resources Board. Doing so will require some 40% of its auto sales to be zero-emission vehicles or gas-electric plug-ins by 2030, up from the current 3%, according to the ARB staff's published projections.

Both Democratic Gov. Jerry Brown, with two years left in his term, and ARB Chairwoman Mary Nichols tweeted their support for climate protection following the election.

More: Bloomberg

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State Briefs

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NCPA Resumes Cloud Seeding in Sierra Nevada

Hoping to augment winter snowpack runoff by at least 2%, the Northern California Power Agency has begun cloud seeding a 74-square-mile watershed in the New Spicer Reservoir from 6,500 feet above.

However, the National Oceanic and Atmospheric Administration predicts La Nina conditions, and that might make the snow pack goal difficult to achieve

NCPA has conducted cloud seeding since 2006 and expects to complete this year's program on May 1.

More: Calaveras Enterprise

Group Gets Its Day in Court Over San Onofre Nuclear Waste

A group that wants to see the 3.6 million pounds of nuclear waste at the San Onofre Nuclear Generating Station transferred to another location will get its day in court in March, a superior court judge in San Diego has ruled.

Advocacy group Citizens Oversight filed suit claiming the Coastal Commission should not have approved in October 2015 a permit to store the spent nuclear waste in dry casks at the SONGS site within sight of the Pacific Ocean.

Southern California Edison officials expect to start burying spent fuel from the San Onofre Nuclear Generating Station as early as 2017.

More: The San Diego Union-Tribune; San Clemente Times

Woodland Selects Panel to Study Community Choice Energy

A panel of six Woodland residents — with as many as seven more expected to be added — has been approved by the City Council to consider whether a Community Choice Energy program would be preferable to purchasing power from Pacific Gas and Electric.

The council has been following developments between Yolo County and the city of Davis in their Valley Clean Energy Alliance and is also considering other community choice programs, with Vice Mayor Angel Barajas noting that savings of 4 to 8% would be substantial for businesses.

It also plans to convene a group of eight individuals familiar with electrical power systems, markets, distribution and policies, and who have expertise in local economic and environmental issues, to study energy alternatives.

More: Daily Democrat

CONNECTICUT

Murphy: Renewable Energy Drives Economic Growth

U.S. Sen. Chris Murphy (D) told employees of a North Haven clean energy technology company that President-elect Donald Trump and lawmakers need to recognize that renewable energy can be a driver of economic growth for the U.S.

"There are going to be millions of jobs in the renewable energy business in the coming years," Murphy said to Precision Combustion employees. "The question is, are they going to be here in this country or someplace else, like Korea?"

Precision Combustion is looking to expand its 37-person workforce by seven people, company President Kevin Burns said.

More: New Haven Register

Bond Commission Approves $30M to Expand Microgrid

The Bond Commission has approved $30 million to expand the state's microgrid program, which began in 2012 after several major storms left tens of thousands of homes and businesses without power for several days.

Since 2012, the Department of Energy and Environmental Protection has awarded funding for 10 microgrids across the state.

Three of the microgrids are operational. Two are awaiting testing and commissioning. Four projects are in the design and construction phase.

More: New Haven Register

ILLINOIS

Worker Dies in Natural Gas Explosion, Others Injured

One Ameren worker was killed and three others were injured, along with several other people, when a natural gas explosion occurred in Canton.

A third-party contractor for a communications company was installing a fiber-optic cable when a tool broke the gas line, Ameren Illinois spokesman Tucker Kennedy said. An Ameren crew, which included the worker who was killed, was called to repair the line.

The explosion damaged 48 buildings, including the historic Opera House, which was damaged beyond repair.

More: The Associated Press

INDIANA

Kokomo Solar Park Starting Operations in December

Kokomo's new solar park, which includes 21,000 solar panels producing 7 MW of energy, is likely to be operational by the first half of December.

The park encompasses about 26 acres of a brownfield site and was developed by Inovateus Solar.

State regulators approved a 20-year purchase-power agreement last August between Inovateus and Duke Energy, and the plant will power between 500 to 1,000 homes.

More: Kokomo Tribune

Duke Energy, OUCC, BIC Join Forces to Protect Microgrids

Duke Energy, the state Office of Utility Consumer Counselor and the Battery Innovation Center are exploring ways to protect microgrids from cybersecurity threats — with Duke contributing $500,000 to the cause.

"Microgrids present unique security challenges that need specific tools to guard against threats," said Rob Caldwell, president of Duke Energy Renewables and Distributed Energy.

Duke's $500,000 contribution is pursuant to a settlement agreement reached last September with OUCC and other groups regarding the company's Edwardsport plant. BIC will use the funds to purchase cyber lab infrastructure.

More: Daily News

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State Briefs

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KENTUCKY

KU Asking to Start 2017 With Rate Increase

Kentucky Utilities plans to ask state regulators Wednesday for a rate hike effective Jan. 1 that will add an estimated cost of $7.16, a 5.94% increase, to residential customers' monthly bills.

KU said the need arises from a $103.1 million investment in its infrastructure to "improve safety, reduce outage times and enhance service to customers."

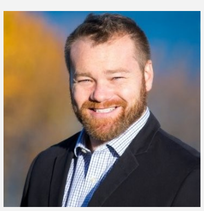
The $2.2 billion infrastructure upgrade includes improvements for KU's partner-utility Louisville Gas & Electric. It began in July and is expected to continue through June 2018.

More: The Crittenden Press

MAINE

Energy Chief Steps Down, Cites Lobbyists' Influence

The director of Gov. Paul LePage's Energy Office will be leaving his job on Dec. 1, citing too much influence by lobbyists in contributing to energy policy as a factor in his decision.


Woodcock

Patrick Woodcock, who has held his position since 2013, expressed frustration with the power of lobbyists to define and advance energy policy when turnover among lawmakers makes it difficult for them to get up to speed.

"Augusta is really broken," he said. "Energy policy is really complicated and there's an over-reliance on special interests."

More: Portland Press Herald

MARYLAND

BGE Transitions State Park Rights of Way to Pollinator Habitats

Some 200 acres of Baltimore Gas and Electric's rights of way in five state parks currently maintained by mowing will be transitioned to meadow or prairie ecosystems, which are natural pollinator habitats.

The initiative between BGE and the state Department of Natural Resources will provide habitats for native pollinators including bees and monarch butterflies. Pollinator habitats provide both natural resource and economic benefits, as pollinators are required for the reproduction of food crops.

BGE will maintain its electric rights of way in the state parks through integrated vegetation management, which selectively removes invasive species that could interfere with power lines by using environmentally safe herbicides rather than mowing.

More: Baltimore Gas and Electric

Regulators Grant Pepco $52.5M Rate Increase

The state Public Service Commission has granted Pepco an immediate $52.5 million rate increase — about half of what the utility requested — to offset the $327 million in power grid improvements the company made over the past year.

The commission noted that Pepco's investments led to 46% fewer outages and 43% less time spent with power out during outages in 2015, compared with the utility's 2011 performance. Moreover, Pepco's $97.2 million in investments in "smart meters" helped lower energy bills and relieve pressure on its transmission and distribution systems.

The average residential monthly bill is expected to go up by $6.96/month as a result of the rate increase.

More: Bethesda Magazine

MASSACHUSETTS

Outgoing State Sen. Ben Downing Joining Nexamp

State Sen. Ben Downing (D-Pittsfield), who opted not to run for a sixth term this year, will be joining solar energy company Nexamp as vice president of new market development and will be responsible for leading the company's entry into the energy storage market.

Downing serves as state Senate chair of Beacon Hill's Joint Committee on Telecommunications, Utilities and Energy.

More: Mass Live

MISSOURI

Clean Line Files Again for Grain Belt Express Permit

For a third time, Clean Line Energy Partners has filed an application for a Certificate of Convenience and Necessity to construct an electric transmission line carrying wind energy from the Kansas plains across northern Missouri and further east.

State regulators denied permits for the company's Grain Belt Express in July 2015, citing a lack of proof that it was needed and beneficial to the state. Regulators again denied permits earlier this year based on a technicality in the filing process.

Thirty-five member communities of the Missouri Joint Municipal Electric Utility Commission have agreed to purchase up to 200 MW of electricity if the project is built. Individual utilities also have indicated they are willing to purchase electricity from the project.

More: Hannibal Courier-Post

NEW HAMPSIRE

Timetable Set for Eversource To Auction Off Power Plants

State regulators have established a timetable for Eversource Energy to auction off its remaining fossil fuel and hydroelectric power plants.

Preliminary nonbinding offers will be due in mid- to late-February 2017, and final bids will be due in early to mid-May 2017.

The sale is necessary to complete the restructuring of electricity markets the legislature approved in the 1990s, which calls for separate ownership of generation and transmission.

More: New Hampshire Union Leader

NEW MEXICO

Proposed Verde Transmission Line Meets Resistance

A proposed 345-kV electric transmission line that would connect two substations, one northwest of Santa Fe and the other northwest of Española, is meeting resistance from area residents worried about

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STATE BRIEFS

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visual and health impacts.

The proposed Verde Transmission Line has a 33-mile route and could include as many as five to seven towers per mile. Hunt Power and its subsidiary Hunt Transmission Services are the developers.

The line would strengthen Public Service Company of New Mexico's electric grid and expand capacity to transport power from both renewable and traditional coal-fired or natural gas sources, Hunt Power said.

More: The Santa Fe New Mexican

NORTH CAROLINA

Duke Wants to Increase Waste It Can Discharge in Dan River

Duke Energy has asked state regulators for a wastewater permit for its Belews Creek Steam Station that would increase the amount of waste from the plant's coal ash basin that it can discharge into the Dan River.

Duke, which also requested a storm water permit, is required to close its coal ash basins statewide under a law enacted after a steel pipe running beneath its Dan River waste basin collapsed in 2014, sending more than 30,000 tons of coal sludge into the river.

Closing the Belews Creek coal ash basin will be a massive undertaking, as its surface area is 350 acres. Sergei Chernikov, a Department of Environmental Quality engineer who is working on the wastewater permit, said waste from the ash basin would go into the Dan River, and waste from the cooling system would go into Belews Lake.

More: Winston-Salem Journal

Duke Offers Radical Plan for Solar Energy

Duke Energy is proposing radical changes to state regulators that would reduce the size of solar projects it is required to buy power from at standard prices and cut the price it pays for the power.

The company wants to reshape the state's solar policy to allow an annual bidding system for solar construction and ultimately allow its utilities to compete against independent developers to build projects.

Steve Kalland, executive director of the N.C. Clean Energy Technology Center, said that although Duke can make a case that current solar policies have led to uncontrolled and inefficient growth, its proposal will "look to developers like an effort by Duke to control the whole process."

More: Charlotte Business Journal

County Commissioners Deny Permit for Apex Wind Project

A proposal by Apex Clean Energy to build the nation's tallest wind energy turbines — 599-foot-tall structures — in the eastern portion of the state failed to win the approval of the Perquimans County Commission.

Officials voted 3-2 against a permit for 57 turbine towers, indicating that they were not in harmony with the timber-harvesting region and could substantially bring down neighboring property values.

The vote came after unanimous permit approval for the Timbermill Wind farm in neighboring Chowan County, where 48 turbines are slated for construction.

More: The News & Observer

NORTH DAKOTA

Billings County Commissioners Reject Orion Wind Farm Application

Billings County Commissioners rejected a zoning application by Orion Renewable Energy Group to build a 114-turbine wind farm that would have been visible from the Painted Canyon Visitor Center and Theodore Roosevelt National Park.

The proposed 383-MW project would have been Orion's first wind farm in the state.

"This project, in my opinion, has got too many impacts to our county and to our citizens in different uses of our economy from ridgeline, to tourism, to being able to see it at the Painted Canyon, to the neighbors that are directly affected by it," Commissioner Jim Arthaud said.

More: The Dickinson Press

OHIO

$5K Reward for Wire Thieves Dressed as Utility Workers

FirstEnergy is offering $5,000 in hopes of catching thieves — who may be dressed as utility workers — who stole overhead wire and other equipment in the Cleveland, Ohio, area.

The suspects knocked on doors to tell residents about a power outage to stop them from reporting problems to the company.

More: WJW

Businesses Ask Government not To Weaken Clean Energy Policy

A group of 68 businesses and renewable energy groups is asking the state government not to weaken the state's clean energy policy one day after a Senate committee adopted Senate Bill 320, which would make renewable energy a goal — instead of a requirement — for the next three years.

An energy freeze has been in effect for the past two years — easing standards overwhelming passed in 2008 that required 12.5% of power sold in the state to come from renewable energy sources. The freeze will end in 2017.

The group indicated that important business development opportunities have been lost because of uncertainty surrounding the 2014 freeze.

More: Columbus Business First

NOPEC to Customers: Your Rates Won't Go Up

The Northeast Ohio Public Energy Council is assuring more than 200 communities that their electricity prices will not go up when it ends its relationship with FirstEnergy Solutions.

In 2010, NOPEC signed a contract effective through 2019 with FirstEnergy, which guaranteed a 6% discount for consumers and a 4% discount for small businesses on electricity rates charged by the Illuminating Co. and Ohio Edison.

In October, FirstEnergy announced it was canceling the contract, and NOPEC signed a three-year contract with NextEra Energy, which presently sells natural gas to NOPEC customers. The NextEra contract takes effect Jan. 1.

More: cleveland.com

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STATE BRIEFS

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OREGON

PGE Unveils Plan for Replacing 600-MW Boardman Plant

Portland General Electric has submitted a plan to state regulators charting how it will replace the 600-MW output of its coal-fired power plant in Boardman when the plant shuts down in 2020, as PGE agreed to do in its 2009 Integrated Resource Plan.

The 2016 Integrated Resource Plan calls for energy efficiency projects to save the equivalent of at least 135 MW, resources to reduce customer demand to save up to 77 MW of electricity and 500 MW of new renewable energy resources.

State regulators have six months to provide comments and recommendations to the state's three public utilities commissioners.

More: The Oregonian; Portland Tribune

SOUTH DAKOTA

South Sioux City Continues To Address Big Ox Odor

The South Sioux City Council is continuing to address a strong odor affecting area homeowners after hydrogen sulfide connected with Big Ox Energy Plant's wastewater treatment plant spread through sewer lines beneath area homes.

The city approved an agreement with a company that is now seeking hydrogen sulfide testing monitors for affected homes. So far, monitors have been found that will sound an alarm at a reading of 1.6 ppm, which is 0.1 ppm above the U.S. Occupational Safety and Health Administration's standard.

The city also is considering long-term plans to install a separate industrial waste line to isolate residential areas from industrial wastewater.

More: Sioux City Journal

VIRGINIA

Big-Name Corporations Seek Renewable Energy Options

Eighteen major corporations, including Microsoft, Walmart, Best Buy, Ikea, Staples and Mars, have sent a letter to state lawmakers and the State Corporate Commission requesting more renewable energy options.

The letter is part of a public comment on Appalachian Power's request to the commission for a voluntary, 100% renewable energy rider. Opponents contend Appalachian's request thwarts competition from third-party providers and financiers of renewable energy in the utility's southwestern service area.

Under state law, customers can purchase electricity "provided 100% from renewable energy from any supplier of electric energy licensed to sell retail electric energy within the commonwealth ... if the incumbent electric utility serving the exclusive service territory does not offer an approved tariff for electric energy provided 100% from renewable energy."

More: Richmond Times-Dispatch

Two Potential Deals in Works For Atlantic Coast Pipeline

The Atlantic Coast Pipeline project, currently before FERC, is the subject of two potential deals.

Kyanite Mining is finalizing an agreement with Columbia Gas and ACP that would allow Kyanite to use natural gas from the controversial pipeline.

Meanwhile, Buckingham County is working on a deal with Kyanite to pay a $260,000 portion of the lateral pipeline construction cost in exchange for allowing the county to market 200 acres of land with access to the natural gas.

More: The News Virginian

Sandoval: Nuke Shutdown, Auto-DR Aided Aliso Canyon Response

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The program yielded 300 MW in DR, Sandoval said. "That's a peaker plant. So we were able to get a negawatt peaker through auto-DR," Sandoval said.

Southern California weathered the summer without incident on either the gas or electricity system. Now planners are turning their attention to winter, when heating requirements create a second peak for gas demand not driven by electricity generation. (See CAISO Seeks to Extend Aliso Canyon Gas Rules Through Winter.)

While Aliso Canyon owner Southern California Gas has been testing the storage facility for leaks, the CPUC still hasn't authorized reopening. No set timetable has been established for bringing the facility back online.

"We really have to come up with new messages [for consumers] that are actually well-tailored to the winter side," Sandoval said. "We have to think about what sorts of programs can we adopt to really ensure that there's gas sufficiency so that we don't run into problems, especially if we're not able to bring Aliso back online."

FERC OKs Tx Settlements for PG&E, NextEra

FERC last week approved uncontested transmission rate settlements involving Pacific Gas and Electric and NextEra Energy Transmission West.

PG&E's wholesale base transmission revenue requirement was set at $1.32 billion and its retail TRR was set at $1.33 billion. The company had requested a total of more than $3.1 billion. It will make refunds for the period of March 1 to Aug. 31, 2016 (ER15-2294, ER15-2294-001).

The NextEra settlement will reduce its base return on equity for the 230-kV +300/-100 MVAr Suncrest Reactive Power Project and the 230/70-kV Estrella Substation Project to 9.7%, excluding a 50-basis-point incentive for RTO participation (ER15-2239). The company had proposed a total ROE of 10.5%. The base ROE will be fixed for three years after NextEra turns the projects over to CAISO.

— Rich Heidorn Jr.