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Comings and Goings Mark 2015 PJM Annual Meeting

PJM, IMM Ponder Changes to Virtual Trades, Day-Ahead Market

By Rich Heidorn Jr.

ATLANTIC CITY, N.J. — PJM officials and the Independent Market Monitor are considering changes to the treatment of virtual transactions to reduce uplift and gaming opportunities and allow quicker solving of the day-ahead energy market.

PJM Executive Vice President for Operations Mike Kormos and Market Monitor Joe Bowring floated ideas for potential changes during a Year in Review presentation at the PJM Annual Meeting at the Borgata Hotel Casino last week.

Bowring suggested PJM consider NYISO's model, which limits virtual transactions to

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The PJM Members Committee meet to close out the RTO's 2015 Annual Meeting. © RTO Insider

PJM's Annual Meeting in Atlantic City was a chance to say goodbye to retiring CEO Terry Boston and board member William Mayben and hello to Mayben's replacement, Terry Blackwell. It also marked the introduction of term and age limits for the board.

More PJM Annual Meeting Coverage

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- New PJM Board Member Elected, Re-election Eligibility Changed (p.2)
- Bowring, Shanker Spar over Traders' Obligations on Loopholes (p.5)

'We're Not Crazies'

Meet the People Making Life a Little More Difficult for FERC this Week

By Michael Brooks

WASHINGTON — It's Friday afternoon at St. Stephen and the Incarnation Episcopal Church in the Columbia Heights neighborhood in D.C. and, to anyone who's attended a Federal Energy Regulatory Commission open meeting over the past year, there are a few familiar faces.

There's Ted Glick, national campaign coordinator for Chesapeake Climate Action Network, who was among the first to test FERC's new rules regarding disruptive behavior in March — as well as the first protester to speak at Norman Bay's first meeting as the commission's chair in April.

See related story:

'I Never Figured to be Engaged in Protest Activity' (p.20)



Resting at St. Stephen (from left to right): Lee Stewart, Jane Kendall and Thomas Parker.

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There's Jimmy Betts, who started a chain of interruptions at FERC's meeting in January, leading then-Chairman Cheryl LaFleur to call a recess while security cleared the floor of protesters.

And there's Lee Stewart, who was <u>carried</u> out of April's meeting by security.

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Emergency Pricing Gets New Focus at MISO

By Chris O'Malley

With its reliance on demand response and behind-the-meter generation increasing amid generator retirements, MISO plans to update the way it sets prices during emergency resource offers.

The emergency pricing proposal is "one of the key reforms" that MISO is likely to make next year, Jeff Bladen, executive director of market design, told the Markets Committee of the Board of Directors on Wednesday.

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Utilities Accuse MISO of Overcharges (p.11)
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Annual Meeting Marks CEO's Departure, Industry Challenges

By Suzanne Herel

ATLANTIC CITY, N.J. — PJM's Annual Meeting last week marked a number of milestones: It was the largest yet, with 525 attendees, and it heralded the end of CEO Terry Boston's eight-year tenure as well as the retirement of PJM employee No. 13, Jim Kirby, after half a century.

In remarks at the Members Committee meeting that ended the three-day event, Boston employed his trademark humor. During Superstorm Sandy, Boston said, "We got caught with our plants down."

In his presentation, "21st Century Power Grids or 'The Future Ain't What It Used to Be," Boston revisited his time at PJM and identified the challenges facing the industry and his successor, Andy Ott.

He noted the flat demand for electricity, saying, "The load forecast is the lowest in my entire career."

He followed that with discussions of extreme weather; the world's largest fuel switch to low-carbon sources; the integration of demand response; and the need for



Terry Boston © RTO Insider

more high-voltage direct current transmission.

"If we're smart, over this next century we'll focus on the electrification of automobiles," Boston said, noting the rise in EV sales in the PJM footprint from nearly nothing in 2010 to about 28,000 in 2014.

He juxtaposed industry predictions from 15 years ago with the state of the market today to underscore the need to keep a balanced generation portfolio.

Fifteen years ago, he noted, gas-fired plants were to be avoided, with their high, volatile fuel prices. Wind and solar were absent from long-range plans. "The resiliency of the future is what we're here to protect," said Boston, who closed to a standing ovation.

"Thank you for your great and unique style of leadership," Board of Managers Chairman Howard Schneider said, calling Boston's tenure, "an incredible career that has improved the lives of millions of Americans."

Schneider then introduced Ott, PJM's executive vice president of markets, who will succeed Boston sometime in the fall. (See <u>Incoming PJM CEO Ott Expects Challenges from an Industry in Transition.</u>)

"Andy has led or has been intimately involved in every facet of PJM's mission during his 18-year career at PJM, and prior to that at [General Public Utilities Corp.]," Schneider said.

Ott praised Boston for building a culture of openness and consensus-building at PJM. "You set a standard when you came on board," Ott said. "You set an example for us all."

Ott promised to continue Boston's tradition, saying "I value diversity of opinion, diversity of thought."

He added that he would work to help PJM "be more nimble, more innovative as we go forward."

New PJM Board Member Elected, Re-election Eligibility Changed

By Suzanne Herel

ATLANTIC CITY, N.J. – The PJM Members Committee last week elected South Carolina electrical engineer <u>Terry Blackwell</u> to the <u>Board of Managers</u>, where he will serve out the term of William Mayben, who is retiring after eight years.

Mayben's term expires next year. Blackwell, who retired in 2013 from his post as senior vice president of power delivery for Santee Cooper, was chosen from 10 candidates with expertise in transmission-dependent utilities, per PJM's Operating Agreement.

The committee also re-elected Chairman <u>Howard Schneider</u> and board members <u>Neel Foster</u> and <u>Sarah Rogers</u> to new three-year terms.

With no other candidates on the ballot, the vote lacked any drama. But board member Jean Kinsey, the non-voting chair of the Nominating Committee, followed the appointments with more surprising news: Going forward, members will be ineligible for re-election once they either turn 75 or have

served five terms.

Had the new rule been in place, it would have disqualified Schneider from another term. The term limit will preclude Richard Lahey from seeking re-election when his term expires in 2016. Like Schneider, he has served on the board since its inception in 1997. Kinsey's term also expires next year. She joined the board in 2003.

PJM would not disclose the ages of its board members, so it's unclear who might be affected by that limit.

The eight-members Nominating Committee included three board members, Kinsey, Ake Almgren and Susan Riley.

The committee hired executive search firm Russell Reynolds, which identified 10 candidates, three of whom were interviewed.

Blackwell retired in 2013 after 35 years with Santee Cooper, the last four and a half as senior vice president of power delivery. He is a senior consulting engineer with McCall-Thomas Engineering, in Orangeburg, S.C. He also is a former board member and chairman of the Southeastern Electric





Blackwell (left) and Mayben. (Source: PJM)

Reliability Corp.

"He is regarded not only for his technical acumen but is widely praised in the industry for his character and collaborative working approach, both as a representative of public power, and with other industry and regulatory interests focused on the challenges of power system reliability," outgoing CEO Terry Boston said in a <u>letter</u> to PJM members announcing the committee's choice.

The board also includes Boston, who will cede his seat to incoming CEO Andy Ott, and Charles Robinson, who did not attend the Annual Meeting.

Capacity Performance, DR, EPA Plan Headline Advocates' Meeting with PJM Board

By Suzanne Herel

ATLANTIC CITY, N.J. — Consumer environmental advocates told the PJM Board of Managers last week that the Capacity Performance proposal could saddle ratepayers with excessive costs because of its treatment of renewable energy. They made their case during their annual meeting with the board last week, at which they also delivered a wish list on issues ranging from cost allocation to load forecasts.

Costs of Capacity Performance

Mike Jacobs, of the Union of Concerned Scientists, said wind and solar resources will be unable to qualify as Capacity Performance resources due to their intermittent nature.



"There's a real possibility that capacity needs will be overstated, misallocating capital and overcharging users," he said, explaining that while the renewable resources won't be in the capacity auction, they will be added as a result of state renewable portfolio standards. Thus, he said, "consumers will pay twice" for that capacity.

The consumer advocates said they doubt the need for the "vast changes" in the proposal, which they said will be "a dominant focus" of their cost concerns. The advocates asked the board to limit future changes to permit "a period of stability in the capacity markets."



"I think many of us think of our grandmothers or others in our lives who depend on energy and for whom price increases that seem maybe to us the cost of an extra latte at Starbucks really do

make a difference," said **Robert Mork**, deputy consumer counselor for the Indiana Office of Utility Consumer Counselor.

The Federal Energy Regulatory Commission is expected to decide by June 9 on the proposal.

Demand Response

The consumer advocates said they were "heartened, but not over-optimistic" by the Supreme Court's decision to reconsider the D.C. Circuit Court of Appeals' ruling vacating FERC's authority over demand response in wholesale energy markets. The court said

DR is a retail product and thus subject to state, not federal, jurisdiction. (See <u>Supreme Court Agrees to Hear Demand Response Appeal</u>.)

"Should the Supreme Court uphold the Circuit Court order, we urge the board to limit PJM's response to the energy market until FERC rules on any further implications" regarding regulation of DR in capacity markets, the advocates said.

Artificial Island Cost Allocation

The cost allocation issue was sparked by PJM planners' recommendation of a stability fix for New Jersey's Artificial Island nuclear complex.

While one transmission solution considered by PJM would have spread costs among two dozen transmission zones and merchants, the proposal selected may be assigned entirely to the Delmarva Power & Light zone in Delaware. (See <u>Delaware Unhappy with Artificial Island Cost Allocation</u>.)

"The potential allocation of all costs to a single zone suggests, to us, that cost allocation rules should be revisited," the consumer advocates said in their presentation.

Clean Power Plan

The environmentalists focused largely on the Environmental Protection Agency's Clean Power Plan, which the agency is expected to finalize this summer.

Allison Clements, director of the Sustainable FERC Project, urged a multi-state compliance scheme, which PJM analyses already have pegged as the most affordable approach to the carbon reduction effort. (See PJM: Regional Approach the Cheapest Way to Comply with EPA Carbon Rule.)

Clements said that while most RTOs' studies of the plan have not met minimum modeling requirements, PJM's have been good.

"There's not a doubt in my mind that a multistate plan will save millions of dollars," said outgoing CEO Terry Boston. But, he said, "In any multi-state plan, there will be winners and losers. How can we collectively work so there can be economic benefit for those states that lose? How can we work together to show these benefits are real and can be traded?

"This is something for you as a group to be thinking about and working with your states on," he said. Jackie Roberts, director of the West Virginia Public Service Commission's consumer advocate division, said the best way to persuade political leaders opposed to the plan to join in regional compliance is to "show them the economics of it. That's what's going to be persuasive to the governors and their environmental departments."

Board member **Richard Lahey** asked the environmentalists about their opinion on nuclear power's role in meeting compliance. Nuclear power provided more than one-third of PJM's generation in 2014.



"If we lose that, we're really worried about the stability of the grid and there would be a huge increase in CO_2 . It would be irreversible," Lahey said.

Clements said there is "no consensus" among environmentalists on the subject. As a result, she said, Sustainable FERC Project has focused on "cheap, clean and quick" resources such as energy efficiency and renewables.

Clements lauded adjustments PJM is making in its load forecasting to reflect the impact of energy efficiency. She urged planners to broaden their efforts to capture the impacts of distributed generation and priceresponsive demand. "Traditional GDP-related variables no longer correlate well with load growth," she said.

Pledge to Seek Consensus

While they mostly made requests, the consumer advocates also pledged to do their part to help reach consensus in the stakeholder process — a response to requests by Boston and Board Chairman Howard Schneider.



As an example, said **Ruth Ann Price**, Deputy Delaware Public
Advocate, the group is working
with Calpine and other generators on an intraday pricing initiative. (See <u>Bid for Generator</u>
Price Flexibility Draws Debate

Over 10% Adder.)

Price said they are trying to identify issues early in the process to increase the odds of compromise.

"Contentious litigation is time-consuming, expensive ... and doesn't represent the culture and values that we all want to support," she said.

Microgrids: Evolutionary or Disruptive? That Depends on Who's Talking

By Suzanne Herel

ATLANTIC CITY, N.J. - The eye of Superstorm Sandy swept over this city nearly three years ago, leaving 2.8 million residents without power. That made the Borgata Hotel Casino a fitting spot to debate the value and challenges of microgrids, Richard Mroz, president of the New Jersey Board of Public Utilities, told a group at PJM's biannual General Session.

"Sandy had a cascading effect on all critical systems," he said, highlighting their interdependency and the role microgrids could play in strengthening their resiliency against natural, accidental and manmade threats.

"It's resulted in debates over the grid — the role of generators, distribution companies and regulators," he said. "It's a discussion worth all of our efforts."

Joined for a roundtable on just that topic were Michael Burr, director of the Microgrid Institute; Lawrence Jones, North America vice president for utility innovations and infrastructure for Alstom; Micah Kotch, director of the New York Prize program at the New York State Energy Research and Development Authority; Thomas Nyquist, executive director of engineering and campus energy for Princeton University; and Thomas Fenimore, technology development manager for Duke Energy.

'Nested' Microgrids

Centralized grids are reliable but not resilient, Burr said. That's where distributed energy technologies can step in.

In particular, he pointed to a trend of "nested" microgrids, where critical facilities such as hospitals and water towers that are located in different areas of town can be served by a cluster of "nodes."

One such community is the Olney Town Center in Montgomery County, Md., part of a U.S. Department of Energy technology research program to study microgrid models. When completed in the fall of 2016, the community's six nodes will operate together during normal conditions to maximize economic efficiency and "island" during outages to preserve resiliency.

However, there are challenges to such a model, he said. The nested architecture contains more points of coupling, requiring more interconnection and safety equipment, Burr said. In addition, non-critical loads must be disconnected during islanding.

Princeton Keeps the Lights On

Nyquist brought to the table Princeton University's experience operating two generators on campus to serve the school's need for power for labs and data centers. During Sandy, it was this energy independence that saved 50 years' worth of DNA research, he said.

Princeton uses energy from the PJM grid at night, when the prices are lowest, and generates its own power during the peak period.

"We save a lot of money doing this, but it also reduces load on the grid," he said.

Kotch likened the innovation erupting in the energy industry to the disruption that tech companies such as Uber, Facebook, Alibaba and Airbnb have effected in their spaces none owns a product, but they're providing services that have eclipsed their brick-andmortar competitors.

"Thomas Edison would be the first to agree that energy isn't about moving commodity but delivering services," he said. "Utilities have traditionally thought their business ends at the meter. That notion is fundamentally trying to change. There is this customer pull — not a top-down push — for more control."

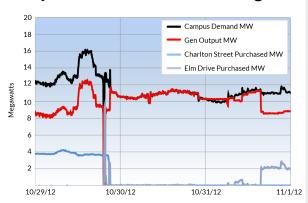
Outgoing PJM CEO Terry Boston agreed. "I think choice and control are going to drive microgrids as much as economic viability," he said.

Energy as a Service

Jones also spoke of the idea of rethinking energy as a service.

"If kilowatt-hours are not selling, if they're reducing ... how do we evolve from a kilowatt-hour approach to more of a service model?" he asked.

He recounted the experience of one African region where residents were so used to the government subsidizing electricity that they were unwilling to pay for it. What they valued, however, was refrigeration — so they paid more for that in a bundle of services, which made up for the low price of electricity.



Princeton was able to supply its most crucial power needs from on-site generation after losing purchased grid power during Superstorm Sandy. (Source: Princeton)

> Such a paradigm change, Jones said, is where regulators must get involved.

Other core issues, he said, are whether microgrids can benefit the overall transmission system and how to quantify the value of distributed energy.

"How will the markets evolve?" he said. "How do we unlock the value of distributed resources? Do we keep the assumptions we've had?"

As for whether microgrids are considered evolutionary or disruptive, "It's all relative to who you're talking to," he said, and depends on where you are in the world.

Value

Fenimore, of Duke Energy, echoed some of Jones' questions.

"We know how to operate and build these assets," he said. "How do we integrate these newer technologies ... and then how do we understand in a regulated space what the value of that is on the market side?"

To address the changing landscape, Duke in 2014 created the Distributed Energy Resources Group. Fenimore highlighted the company's energy storage efforts, which charge and discharge based on market signals to help maintain grid stability.

Boston, who did his graduate thesis on the optimization of energy storage, applauded the project.

"I'm for storage," he said, adding, "I did learn something today, and that was about the innovation and change that are inevitable here."

Bowring, Gates' Consultant Spar over Traders' Obligations on Loopholes

By Rich Heidorn Jr.

ATLANTIC CITY, N.J. — To shake or not to shake the Money Tree?

That was the question Independent Market Monitor Joe Bowring posed during his Year in Review presentation at PJM's Annual Meeting last week, setting off a lively debate with one of the consultants that Richard and Kevin Gates, enlisted in their high profile defense against market manipulation allegations.

"If the rules are imperfect, is it OK to do anything not explicitly prohibited?" Bowring asked.

He quickly provided his own answer. "It is not permissible," he said, citing what he called the "duty" of market participants to inform RTO officials and federal regulators of such "money trees."

Bowring referred to PJM's poorly designed rules on rebating excess line losses, which allowed the Gates brothers' Powhatan Energy Fund and a handful of other traders to profit through what the Federal Energy Regulatory Commission later called riskless, back-to-back up-to-congestion trades. The rules were later changed. The Gates brothers and their associates — despite stopping the practice after being warned by Bowring — are now facing up to \$29.8 million in fines. (See FERC Staff Seeks \$30 Million Fine in Powhatan Case.)



Joe Bowring © RTO Insider

"Almost all of the market knew these opportunities existed and chose not to take advantage of them," Bowring said. "That raises the question: Who's the smartest guy in the room? The guy who took advantage or the guy who didn't?"

That brought a response from consultant Roy Shanker, who is quoted on the Gates' brothers' website criticizing FERC's case. "It's really unfair to have an ill-defined affirmative obligation to do something," Shanker said.

On the website, Shanker <u>says</u> he believes the Gates and their associates "were simply engaging in rational economic decision making." He rejected FERC's contention that the trades were riskless "wash trades."

In response to Bowring, Shanker cited traders that schedule power deliveries through the IMO interface with Ontario's Independent Electricity System Operator. Bowring has identified the interface as a location where traders can manipulate PJM's pricing

rules by breaking transactions into multiple "back-to-back" transactions, a practice he has called "sham scheduling." (See <u>Monitor Gives Lukewarm Review to PJM 'Sham Scheduling' Fix.</u>)

"It may be a money tree or there just may be [ambiguity] about the rules," Shanker said. "We know that ambiguity is out there. It sits like a heavy stone on everyone."

"When you find something, [the RTOs should] identify it, post it and try to change the rules," Shanker said. "Because you can't hit every [possibility] that doesn't mean that you do not try to address some."

"Would you be supportive if we proposed such [an affirmative obligation] rule?"
Bowring asked.

"Yes," Shanker responded.

He later explained that he would support "the coupling of an affirmative obligation on market participants" with a "safe harbor" that would protect traders from manipulation charges as long as they stop activity of concern after being specifically warned. "Then it is up to RTO or IMM to act to clarify or change rules," he said, adding that he was speaking for himself and not the Gates brothers.

Andy Ott, senior vice president for markets, said he, too, would support such a rule. As long, he said, as it was not seen as an "inoculation" for traders that have done something not explicitly listed.

PJM, IMM Ponder Changes to Virtual Trades, Day-Ahead Market

Continued from page 1

zones or hubs. Kormos said the RTO could consider either removing the financial transactions from the day-ahead market or making the day-ahead a pure financial market.

In interviews afterward, Bowring and PJM officials said the changes could address uplift and allow quicker solving of the dayahead market to reduce the disconnect with gas trading schedules.

NY Model

Bowring made his suggestion first, saying PJM might benefit from adopting NYISO's treatment of virtual transactions — increment offers (INCs), decrement bids (DECs)



Mike Kormos © RTO Insider

and up-to-congestion transactions. "Should that be a secondary derivative market or in the PJM market?" he asked.

He said virtual transactions were introduced into the market to improve efficiency. "I think we've gone well past that now," he

said, saying they affect unit dispatch and commitments and cause congestion. "I haven't come to a full and final opinion on this, but questions need to be asked," he added.

Bowring said his primary motivation for wanting to change the treatment of virtual transactions is to reduce gaming opportunities. "The ability to manipulate the market ... would be substantially reduced by limiting financial transactions to zones and hubs or putting them all in a secondary market where they do not affect the actual operation of the market." he said.

Executive Vice President for Markets Andy Ott said Bowring's suggestion is "something we need to look at."

Ott said large volumes of virtual trades are

PJM, IMM Ponder Changes to Virtual Trades, Day-Ahead Market

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"dumped into the market" because there's no cost for doing so. Although most do not clear, the large volumes slow processing time for the RTO's security constrained economic dispatch.

Kormos made his suggestion in response to questions after Bowring's presentation. "It's the blending of the physical and the financial that's causing the uplift" and making the market more difficult to solve, he said.

If the day-ahead market became purely financial, the reliability assessment and commitment (RAC) run could determine the day –ahead schedules for generators, said Mike Bryson, executive director of system operations.

Eliminating physical generation from the day-ahead market could aid efforts to post day-ahead results sooner, Kormos said. A market with no generator minimum run times "would solve a lot faster," he said.

Under the current system, Bryson said, virtual trades can hurt reliability by masking transmission congestion.

An increment offer — an offer to sell to the day-ahead market if prices go above a specified price — can act like a dispatchable resource. But transmission constraints that are "solved" financially by virtual trades remain in the physical market, Bryson said. "In real time there wasn't truly a generator there."

Any changes would be subject to stakeholder review to determine their impacts. For example, limiting virtual transactions to only zones and hubs would prevent them from using generation buses, reducing their value as hedges for generation.

Gas-Electric Scheduling

Ott said PJM hopes to reduce the dayahead market solution to three hours from the current four-hour average in time for the Federal Energy Regulatory Commission's April 1, 2016, deadline for changes to



Mike Kormos gives the Year in Review presentation at PJM's Annual Meeting. © RTO Insider

gas-electric scheduling. (See <u>PJM Considering Change to Day-Ahead Deadlines in Response to FERC Gas Schedule Order.</u>)

PJM officials are considering parallel processing and sequencing changes to speed the market solution. Ott said further reductions would not be "feasible" in the next year.

Bowring said the 85% reduction in UTC trading since FERC suggested the transactions might be subject to uplift charges had contributed to a recent reduction in the processing time required for the day-ahead market. (See <u>FERC Issues Request for Comments in UTC Uplift Docket; Ruling by October.</u>)

Ott demurred. "Before we jump to conclusions, we have to see what is the cause of the day-ahead market running faster," he said.



Andy Ott

its results by 1 p.m. ET, an hour before the first gas nomination deadline at 2 p.m.

Members Polled

PJM currently posts its day-ahead results at

from day to day depending on factors such

tions. Most days it takes three to three and a

than four hours, according to a PJM <u>analysis</u>

as transmission outages and load projec-

half hours. But some days can take more

that will be presented at Thursday's Mar-

kets and Reliability Committee meeting.

[generation] on or you're hardly bringing

anything on," and solution is easier, Kormos

Ideally, Kormos said, PJM would like to post

"Some days you're bringing it all

4 p.m. The time required to solve varies

PJM is compiling the results of a <u>poll</u> that closed May 18 to gauge members' preferred response to the FERC order.

The poll asked members which day-ahead market start time would allow them adequate time to construct their offers, with choices ranging from 9:30 a.m. to 11 a.m. It also asked preferences on posting times to provide sufficient time to purchase fuel, offering choices between 1 p.m. and 2 p.m.

Because FERC declined to change the start of the gas day, however, RTO officials say there is no escaping some uncertainty. Other RTOs are wrestling with the same dilemma. (See <u>SPP Trying to 'Balance the Risk' on Gas-Electric Schedules</u>.)

"In [either the gas or electric] markets you have to commit before you have your numbers locked up," Kormos explained.

"Before we jump to conclusions, we have to see what is the cause of the day-ahead market running faster."

Andy Ott



Jim Kirby, center, celebrates his retirement from PJM with (left to right) Dave Yannarell, PPL; Ed Tatum, Old Dominion Electric Cooperative; Jason Barker, Exelon; Steve Fernands, Customized Energy Solutions; and Pati Esposito, Reliable Energy Strategies. © RTO Insider



Jim Kirby with a lookalike retirement gift. © RTO Insider



PJM Chairman Howard Schneider listens as board member Sarah Rogers comments during a session with consumer and environmental advocates. © RTO Insider



Michael Burr, Microgrid Institute (left), led a panel discussion on microgrids featuring (left to right) Lawrence Jones, Alstom; Micah Kotch, New York State Energy Research and Development Authority; Tom Nyquist, Princeton University; and Tom Fenimore, Duke Energy. © RTO Insider



Bruce Campbell, EnergyConnect, asks a question at PJM General Session. © RTO Insider



Former N.J. Gov. Jim Florio addresses the Members Committee. © RTO Insider



Members gathered for dinner after a day of recreation, including golf, fishing and wine tasting. © RTO Insider

PJM NEWS



Members Committee Briefs

ATLANTIC CITY, N.J. — The Members Committee last week gave final approval to a <u>measure</u> tightening rules on lost opportunity payments for generators.

Under the new rules, PJM will use the schedule that the resource is committed on for energy as the reference for lost opportunity costs unless it is self-scheduled. For self-scheduled resources, PJM will use the higher of the available cost or price curves.

In addition, combustion turbines that are scheduled in the dayahead energy market will be prevented from receiving start-up and no-load costs when they do not run in real time. (See <u>PJM Members Tighten Lost Opportunity Cost Rules; Tech-Specific Eligibility Retained.</u>)

Adam Keech, PJM's director of wholesale market operations, said the previous rules either over- or under-compensated generators.

DR Verification

Members also approved Tariff and manual revisions regarding PJM's use of sampling to measure and verify residential demand response. The new measurement method was originally endorsed by the MC in January. Thursday's vote <u>approved</u> the inclusion of an additional transition year because of delays in filing the new method with the Federal Energy Regulatory Commission.

- Rich Heidorn Jr.

MRC Preview

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

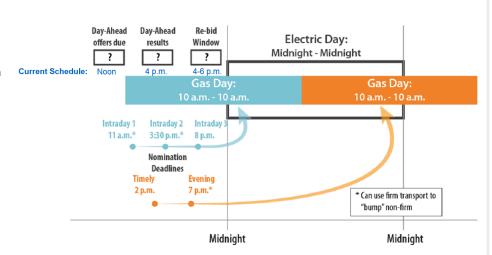
RTO Insider will be in Wilmington covering the discussions and votes. See next Tuesday's newsletter for a full report.

Markets and Reliability Committee

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

Members will be asked to endorse the following manual changes:

- A. Manual 36: <u>System Restoration</u> Annual review. Adds detail about when PJM assumes control and when it returns to normal operation. Also adds guidance on completion of interconnection checklist. Effective: June 15.
- B. Manual 03: <u>Transmission Operations</u> Updates index and operating procedures for PJM RTO operation (nuclear station voltage limits, operation procedures with neighboring systems and operation procedures for AEP, ComEd, Dominion, PPL, UGI, PSEG and PECO.) Effective: June 1.
- C. Manual 38: Operations Planning Makes minor changes due to system upgrades and specifies periodic review of IROL facilities. Updates the study process for transmission reliability analysis procedure. Effective: June 1.



A revised gas schedule is forcing PJM market changes. (Source: PJM)

3. TIMING OF DAY-AHEAD MARKET (9:30-9:45)

The committee will be asked to approve a problem statement and issue charge to review options for moving the day-ahead energy market and reliability unit commitment timelines in response to the Federal Energy Regulatory Commission's final rule on gas schedules. PJM must make a compliance filing in response to the order by July 23. Discussions would take place at the MRC. (See PJM Considering Change to Day-Ahead Deadlines in Response to FERC Gas Schedule Order and related story, PJM, IMM Considering Changes to Virtual Trades, Day-Ahead Market, p.1.)

4. INTERIM FEE FOR VIRTUAL TRANSACTIONS (9:45-10:30)

Members will be asked to approve a <u>proposal</u> by Inertia Power to impose a temporary uplift fee of \$0.07/MWh for increment offers, decrement bids and up-to-congestion bids. The proposal would expire in six months or upon FERC approval of an alternative. Transactions placed between September 2014 and the effective date of the filing would not be affected.

The proposal is in response to a Section 206 proceeding ordered by FERC to determine whether PJM is improperly treating UTCs differently from INCs and DECs. Sponsor Noha Sidhom, who announced the proposal at last month's MRC meeting, has removed a provision limiting the fees to netted transactions. (See <u>Cool Response to 7-Cent Fee on Virtual Transactions</u>.)

- Suzanne Herel

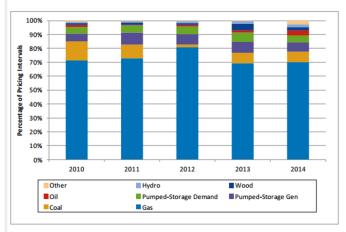
ISO-NE Prices Jumped 13% Last Year

By William Opalka

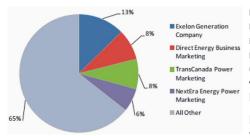
ISO-NE's average real-time prices rose 13% to \$63.32/MWh in 2014, the RTO's Market Monitor reported Wednesday.

The 2014 Annual Markets Report said the increase was largely driven by higher fuel costs in the first quarter. Prices of natural gas, which was the marginal fuel for the RTO in 70% of the hours in 2014, rose 15% last year, to \$7.99/MMBtu from \$6.97/MMBtu in 2013. Electricity usage dropped 2% to 127,138 GWh.

"Overall, 2014 weather was milder compared with 2013, but the extreme cold in



Natural gas generation was marginal in about 70% of hours in 2014, about equal to 2013 but down from 80% in 2012. (Source: ISO-NE)



Real-time load obligations for 2014 peak load hour. (July 2, hour ending 15:00) (Source: ISO-NE)

January, February and March and the resulting high natural gas and power prices were the main reason for 2014's higher annual average power price," Jeffrey McDonald, ISO-NE's vice president of market moni-

toring, said in a statement. "Lower oil and natural gas prices, combined with mild summer weather that contributed to lower energy usage, and the implementation of several ISO market enhancements that helped improve both reliability and market efficiency, brought generally lower wholesale electricity prices during the rest of the year."

The Monitor repeated a recommendation it has

made since its 2010 report: that the RTO relieve virtual transactions from energy market payments — also known as real-time net commitment-period compensation (NCPC) charges — that it said is preventing virtuals from improving day-ahead market liquidity.

Last year, the RTO proposed a partial solution that would have excluded positive load deviations from real-time first contingency NCPC charges. The Monitor said the change would strengthen incentives for load-serving entities, exporters and virtual demand bidders to buy energy in the dayahead market.

The proposal was unable to win stakeholder support and was not submitted to the Federal Energy Regulatory Commission. The RTO plans to start a new stakeholder process to reconsider the issue this year.

Total reliability payments, including NCPC charges, increased 10% to \$173.7 million in 2014. About 62% of the payments stemmed from the need to operate more expensive generation during extreme cold weather in the first quarter.

The total value of the region's wholesale electricity markets, including electric energy, capacity and ancillary services markets, rose about 12%, from about \$8.8 billion in 2013 to about \$9.9 billion in 2014. Electric energy comprised \$8.4 billion of the total in 2014, up from \$7.5 billion a year earlier. The cost of ancillary services jumped 50% to about \$410 million.

NYPSC Rejects Renegotiation on Biomass Contract

By William Opalka

New York regulators on Wednesday declined for the third time to renegotiate a contract with a financially troubled biomass generation plant, saying that doing so would threaten the integrity of the state's renewable energy procurement program.

In 2007, the 51-MW co-firing Niagara Generating Facility (NiGen) in Niagara Falls won a \$21.6 million contract to provide up to 180,500 MWh of energy per year from renewable-eligible biomass for 10 years. The contract was awarded under the main tier of New York's renewable portfolio standard following a competitive bidding process.

Sterling Energy Group, which purchased the NiGen plant in 2013, mothballed it in August 2014, saying the fall in wholesale energy prices had left it unprofitable despite its

\$11.99/MWh in RPS incentives.

Sterling told the New York Public Service Commission it should be given extra credit for increased clean energy generation because it is now able to generate 80% of its power from wood products, without burning tires, which had previously represented 40% of its fuel. The company said the change increased its RPS-eligible generation and reduced harmful emissions.

The petition had won backing from local elected officials who said the plant's closing would result in the loss of 100 direct and indirect jobs and more than \$10 million in local spending. In its mothballed status, the plant has 26 part-time employees.

But the commission was unmoved, saying that Sterling knew of the plant's shaky finances when it acquired it (03-E-0188).

"The petitioners have requested that the

commission provide additional financial incentives that it has twice denied in the past and the commission does not see any significant material differences in this request that compels the reversal of earlier decisions," the PSC wrote.

"The contract was awarded under a competitive solicitation at a price chosen by NiGen and for the term of years chosen by NiGen. Adjusting NiGen's RPS benefits would undermine the competitive nature of the solicitation process established by the commission for the main tier."

Instead, the commission said Sterling should bid its additional renewable capacity into future main tier solicitations.

The plant is permitted to burn coal, tires and various wood-based fuels, but it only receives RPS incentive payments for the amount of generation produced by agricultural residue, wood and other eligible biomass.

MISO NEWS



Reliability, Pricing of Emergency Resources Gets New Focus at MISO

Continued from page 1

"It's at least plausible, and maybe even likely, that under emergency conditions when we deploy load-modifying resources, we would in all likelihood depress prices as a result," Bladen told the committee. "The rule change that we're pursuing is designed to ensure that the price at least doesn't go down and may well go up based on the highest offer of economic resource at the time."

The <u>proposal</u> would involve a price floor, set as the maximum of the emergency resource's offer cost or the highest available economic offer cost of the last resource cleared prior to the initiation of the maximum generation procedure, MISO said.

More Reliance on DR, LMR

Generation resources are projected to fall with the retirement of coal-fired plants due to the Environmental Protection Agency's Mercury and Air Toxics Standards, which took effect in April, and its proposed Clean Power Plan, aimed at reducing carbon dioxide emissions.

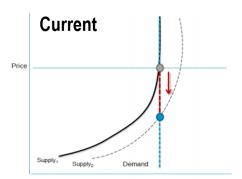
MISO projects 2015/2016 total generation at 122.9 GW — down nearly 1.6 GW from 2014/2015.

"What you see is a reduction of about a gigawatt-and-a-half of actual generation supply as being relied on to meet our reliability requirements. It's effectively being replaced by behind-the-meter generation and by demand response and to a lesser degree by external resources," Bladen told the committee.

Will They Show Up if Needed?

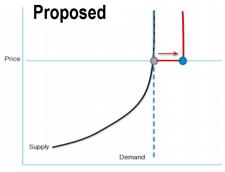
Because it has had ample generation supplies in the past, MISO has no recent history of deploying load-modifying resources

	2014/2015	2015/2016	Delta
Generation	124,556	122,965	(1,591)
Behind the Meter Generation	3,659	3,986	327
Demand Response	4,979	5,938	959
External Resources	3,156	3,469	314
Total	136,350	136,358	8
(Source: MISO)			



Dispatch of \$0/MWh emergency demand response causes the market price to fall

(Source: MISO)



Price is maintained at price floor or higher.

(LMR) — and that's a challenge of its own.

Bladen told the committee that MISO "has questions about the degree to which we can actually rely on emergency and load-modifying resources," particularly what's available on a real-time basis. "The challenge here is we have no recent deployment history."

To better gauge reliability, MISO staff have been running monthly LMR drills with participants. Participation rate has been increasing significantly since 2014. One problem identified has been that participants sometimes do not provide signals to MISO when their LMR or DR resources have been already deployed, leaving uncertainty as to how much relief MISO can count on.

"There's no testing protocols currently. Even though people are required to provide availability notifications, there's no penalty, if you like, for not providing availability notifications, although most are very diligent about doing it. So that leads to real concerns about the reliability and availability of those load-modifying resources," Bladen said.

Todd Ramey, MISO's head of real-time operations, said as a control room operator,

the bottom line is that "I don't have situational awareness of 2 to 3 GW of planned capacity resources" claimed by members to meet their firm requirements.

Ramey said he plans to seek development of an issues statement to address the lack of information on such resources.

Director Baljit "Bal" Dail echoed concerns, saying the discussion about the reliability of DR and LMR has been going on for a long time.

"In a market that is tightening, I think we need to have much greater clarity about what is going to show up and what isn't," Dail said.

Director Michael Curran underscored the urgency, saying: "Aren't we at the 'time-is-of-the-essence' stage? ... Time is essentially running out on us."

'Cascade' Effect

Unlike PJM, most of MISO's DR assets are administered through state programs. As a result, they would not be directly affected if the U.S. Supreme Court lets stand an appellate court ruling voiding the Federal Energy Regulatory Commission's jurisdiction over DR in energy markets. (See <u>MISO Ponders Large DR Role</u>.)

But Bladen said MISO could be affected if the court's ruling results in neighboring systems being unable to certify as much DR as they have in the past to meet their requirements.

"It might well mean that some capacity or other resources that we currently rely upon actually become that much more interested in supplying other systems," Bladen said.

"Maybe prices go up on other systems and that further encourages exports. So the cascade event is likely the one that we would watch mostly closely," he said.

MISO NEWS



Utilities Accuse MISO of 'Massive' Overcharges on Entergy System

By Chris O'Malley

Southern Co. and three Missouri utilities say that MISO has billed them more than \$21 million in excessive transmission rates since Entergy joined the RTO in December 2013.

In a complaint filed Wednesday with the Federal Energy Regulatory Commission, the companies accuse MISO of imposing a "massive and unlawful increase" for power moved over the Entergy system (EL15-66).

It alleges MISO shifted and reallocated sunk costs and network upgrade costs from its legacy region in the Midwest to Entergy export customers in the South. The companies allege the allocations violate MISO's Tariff and FERC findings that — with the exception of certain multi-value projects — point-to-point export services are provided under a no-cost-sharing rule.

Bringing the complaint are Kansas City Power & Light's Greater Missouri Operations Co., The Empire District Electric Co., Associated Electric Cooperative Inc. (AECI) and five Southern Co. affiliates: Alabama Power, Georgia Power, Gulf Power, Mississippi Power and Southern Power.

MISO spokesman Andy Schonert said that FERC is already litigating these issues in docket <u>EL14-19</u>, a section 206 proceeding it initiated in February 2014. "These claims are not new," he said. "We are reviewing the

legal arguments and plan on responding."

FERC began that case to investigate MISO's proposed regional "through and out" rate. AECI complained that most legacy customers would be charged a zonal rate based on the facilities in their zone. Thus, the co-op argued, it and other customers would be forced to pay rates based on both the MISO and Entergy footprints after the Entergy integration into MISO.

The case was consolidated with others involving challenges by stakeholders in the South over what Entergy should be able to collect in rates as part of MISO. Many of those disputes have been under settlement talks over the last two years. Last week, FERC <u>terminated</u> settlement procedures and set the matter for hearing.

'First of its Kind'

At the heart of the new complaint is the nocost-sharing provision in MISO's Tariff that, according to plaintiffs, acknowledges the historical lack of coordinated planning between MISO's legacy region and the newly added Entergy region.

With no basis to conclude that customers of one region benefit from projects planned and constructed to benefit customers of the other region, the Tariff provides that any system-wide rate or cost allocation under the Tariff "shall be limited to the planning

area where the project terminates," the complaint states.

Because FERC noted that Entergy's integration into MISO as the "first of its kind," the commission justified the separation of the MISO footprint into two distinct regions for cost allocation and rate design purposes, the utilities say.

They asked FERC to force MISO to modify rate schedules in the Tariff related to export service and to ensure that the no-cost-sharing rule be applied to exports from the Entergy region.

The complainants said they were customers of Entergy prior to its MISO integration and hold long-term, point-to-point transmission service contracts with the company.

Charges for long-term, point-to-point transmission service under Entergy's Open Access Tariff have jumped from \$1.78/kW-month to \$3.33/kW-month — an 87% increase — since Entergy joined MISO, they said.

"This massive rate increase should never have happened. It was and remains unauthorized," the utilities said.

Increases Detailed

The utilities say much of the transmission is used to move wind generation from the Southwest to the Southeast.

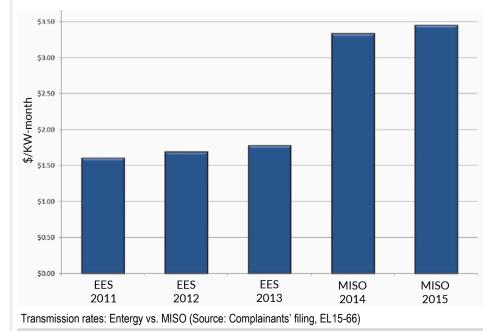
When Entergy joined MISO, "it essentially became a continental divide stretching from the nation's northern border to [the] southern border — with MISO as the gatekeeper for the delivery of Western wind to Southeastern loads and delivery of low-cost Southeastern base-load generation to Western loads," the complaint states.

Southern said it has paid \$8 million more in transmission fees between December 2013 and April 2015.

KCP&L said it paid Entergy \$6 million a year for point-to-point transmission service prior to MISO but that the amount has nearly doubled since then.

AECI said it is paying \$8.3 million a year, up 94% since Entergy joined MISO.

Empire District, based in Joplin, Mo., said only that its total costs for point-to-point transmission service on Entergy's system have doubled.



COMPANY BRIEFS

Xcel Gets FAA Permission To Use Drones for Inspections

The Federal Aviation Administration will allow Xcel Energy to use drones to inspect the company's power lines in lightly populated areas. Xcel wants to



use the unmanned aerial devices to inspect lines in some inaccessible and environmentally sensitive areas.

The company said it will conduct some field tests this summer. A spokesman said the company might use drones as damage assessment tools after major storms. Some drones, if equipped with special sensors, could also be used to detect leaks from natural gas lines. The company already used a drone to inspect the inside of a massive boiler at the company's Sherco plant in Becker, Minn.

Xcel is one of about 400 companies to get approval to use the drones. Southern Co. received FAA authorization earlier this month.

More: Star Tribune

Dominion Fires Back After Tx Line Complaint



Dominion Transmission strenuously responded to a complaint before the Virginia State Corporation Commission that it misled the public about its plans to rebuild a 500-kV transmission line. Farmer Kristopher Baumann, of Rockbridge, Va., said Dominion's inclusion of a new 230-kV line that added 60 feet to the transmission line's towers violated terms of the project and ruined the scenic view.

The project was built "entirely within existing right-of-way" of the existing 500-kV Dooms-Lexington Line, Dominion wrote in response to Baumann's complaint. It did acknowledge, however, that due to an oversight, the project's website didn't include

information on the additional line. "The company has rectified this administrative oversight and the structure comparison is now accurate."

It is now up to the SCC to determine if Dominion violated any public notice rules.

More: News Leader

A Mellow Month For MISO

Falling natural gas prices helped make for a rosier April monthly market metrics report by MISO's Independent Market Monitor.

Average day-ahead energy prices declined about 40% to \$25.23/MWh, and real-time energy prices were \$24.85/MWh, Monitor David Patton told MISO's Markets Committee of the Board of Directors last week. The value of real-time congestion fell to \$86 million – down 18% from last month and 60% from last year.

The price drop was due to lower fuel costs and lower spreads between the dispatch costs of coal-fired and natural gas-fired generation resources, Patton said.

Meanwhile, MISO's monthly operations report to the board noted that average temperatures for the month were near-normal and that all metrics were in the "expected" status, a not all-that-common event.

More: IMM Report

Paslawski to Succeed Smith as OMS Executive Director

The Organization of MISO States board of directors Thursday voted unanimously to appoint Tanya Paslawski as executive director, effective June 1. Paslawski, who currently is deputy executive director, will succeed William H. Smith.



Paslawski

Before joining MISO, Paslawski worked for the Michigan Public Service Commission, Direct Energy and ITC Holdings. She holds a bachelor's in political science from Oakland University and a law degree from the Michigan State University College of Law.

Smith, who has been executive director since 2004, will be retained in a part-time, emeritus role through the end of 2015 to help in the transition, OMS President Libby Jacobs said during the organization's May board meeting. Smith's career includes a

role as government relations manager for the Iowa Utilities Board and as a legal advisor to commissioners of the Federal Energy Regulatory Commission.

Duke Spending \$1.1 Billion on **New Gas Plant and Solar Farm**



Duke Energy an-ENERGY it will spend \$1.1 billion nounced last week that

to construct a 650-MW natural gas-fired combined-cycle plant on the site of a to-beretired coal-fired plant. It will also install a solar farm of undetermined size on the plant's ash site. The company said it made more sense to demolish the two 51-year-old coal units at the plant on Lake Julian near Asheville, N.C., than to install new emissions controls to extend their lives.

Duke estimated the cost of the facilities at about \$750 million. The company will spend another \$320 million to build a new substation and a 40-mile transmission line in Spartanburg, S.C., to bring the plant's electricity to the grid.

Duke said it would be filing a full plan with the North Carolina Utilities Commission by the first quarter of 2016.

More: Citizen-Times; Charlotte Observer

Jennifer Murphy Hired by NARUC as Asst. Gen. Counsel

The National Association of Regulatory Utility Commissioners has hired a former Massachusetts regulatory attorney as its assistant general counsel.

Jennifer M. Murphy, who worked for the Massachusetts Department of Public Utilities for five years, will represent NARUC before the Federal Energy Regulatory Commission, the Department of Energy and federal courts. She will also be involved in the development and implementation of the association's Washington Action Program and will serve on the Consumer Affairs, Electricity, Energy Resources and the Environment, and Gas subcommittees.

Murphy received a law degree from Vermont Law School and has master's degrees in Marine Affairs and International Studies.

More: NARUC

COMPANY BRIEFS

Continued from page 12

Wisconsin Brewer Goes All-Wind for Power Needs

A Green Bay, Wis., craft brewer has entered into a partnership with Arcadia Power to purchase all its electricity from Midwest wind farms.



Andrew Fabry, president of Badger State Brewing, said renewable energy is a focal point of the company's business plan. Arcadia, based in D.C., buys the output of nine wind farms in the Midwest and the Pacific Northwest.

More: Journal Sentinel

National Grid Profits Up; US Investments Increasing

London-based National Grid reported \$5.86 billion in operating profit for the year ended March 31, a 1% increase over the year earlier. Adjusted results, reflecting continuing operations before exceptional items, were \$5.99 billion, up 5%.

The company's regulated gas and electric operations in New York, Rhode Island and Massachusetts recorded a 3% increase in operating profit to \$1.8 billion. Although it absorbed additional costs due to prolonged cold weather, the company benefited from rate increases and new customers. It also made record capital investments of \$2.4 billion, boosting its U.S. rate base by 7%. U.S. operations generated an average 8.4% return on equity, down from 9% a year earlier.

"The benefit of filing and delivering effective rate cases can clearly be seen in the progress we have made with NiMo Electric [Niagara Mohawk] and our business on Rhode Island," CEO Steve Holliday said in an earnings call. Although the Federal Energy Regulatory Commission reduced Niagara Mohawk's allowed ROE, the company "is achieving over 95% of its allowed return in the second year of a three-year plan," Holliday said. "That's a very far cry from the performance in 2011, a full 340 basis points up."

National Grid says its customers in Rhode Island who signed up for the company's energy efficiency programs will save \$427 million over 13 years. The company said 41,500 customers participated in the programs in 2014. The company has invested

\$102 million in the programs, funded through an energy efficiency charge on customers' bills.

More: National Grid; Fierce Energy

FirstEnergy Crews Use Aerial Saws for Trimming in Rural Areas

Vegetation management crews with FirstEnergy subsidiary Mon Power in West Virginia are using helicopter mounted aerial saws to trim trees in areas that are inaccessible to bucket trucks. A company spokeswoman said an aerial saw can cover in one day the work a ground crew could handle in a week.

"Suspended from a vertical boom beneath the helicopter, the saw can trim both sides of a 10-to -12-mile right-of-way in about a week," Mon Power said. "Ground crews work in tandem with the pilot, flagging traffic and removing limbs and

smaller branches from roadways, trails, waterways or other sensitive areas."

Mon Power spends about \$70 million a year on vegetation management, maintaining reliability along 4,500 miles of transmission and distribution lines.

More: Fierce Energy

Former Duke CEO Slams Lawmakers For Freezing Green-Energy Goals

Jim Rogers, former CEO of Duke Energy, was sharply critical of North Carolina legislators after a Senate committee approved a bill that would freeze the renewable energy standard. The current law calls for utilities to obtain 12.5% of the energy they sell from renewable sources



Rogers

by 2021. The bill now before the Senate would freeze the standard at 6%.

"They are not focused on the future," Rogers said of legislators. Renewable standards, he said, are "something we need to get behind and figure out how to educate those who claim to be leading us into the 21st century."

Solar advocates say that the new measure will reduce incentives for renewable power developers. Currently, North Carolina ranks fourth in the U.S. for installed solar generation.

More: The Charlotte Observer

Customers Will Be Able to Phone in Comments on Next PPL Rate Hike

Customers of PPL Electric wishing to weigh in on the company's latest rate increase request will be able to phone in their comments instead of attending a Pennsylvania Public Utility Commission hearing.

PPL spokesman Paul Wirth said the company welcomes the pilot program, which will be used in two of three scheduled PUC meetings. "We are in favor of getting as much comment into the process as possible," he said. Acting Public Advocate Tanya J. McCloskey said her office will see how it works before passing judgement. "At this point, this is the first one we have tried and I'm sure we will learn a lot of lessons."

The company is seeking a \$167.5 million rate increase, representing a 3.9% jump in residential monthly bills, or about \$10 a month.

More: The Morning Call

NextEra North Dakota Wind Project In Limbo After County Votes No

NextEra Energy Resources said it is shelving a proposed 150-MW wind energy project near Dickinson, N.D., after opposition to the project's location and aesthetics spurred the Stark County commissioners to deny the project a conditional use permit earlier this month.

NextEra asked the Public Service Commission to suspend its review of the project. "We've been talking to those who support and oppose the project as well as looking at potential changes to the project layout that would address concerns expressed by commissioners," NextEra spokesman Steven Stengel said.

More: ReNEWS

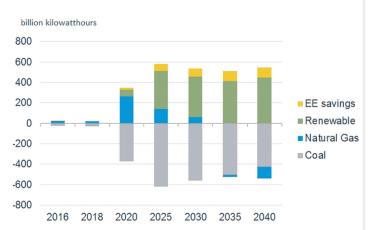
FEDERAL BRIEFS

EIA: EPA Carbon Plan to Double Coal Retirements, Cut Electric Bills

The federal government's energy statisticians last week released their analysis of the Environmental Protection Agency's proposed Clean Power Plan, concluding it will hasten the shift from coal-fired generation and ultimately reduce electric bills.

The Energy Information Administration's report concludes that:

- The switch from coal- to natural gas-fired generation will be the most used compliance strategy in the early years of the new rules. At 90 GW, coal plant retirements through 2040 are more than double the 40 GW in EIA's 2015 Annual Energy Outlook (AEO2015) reference case, with nearly all retirements occurring by 2020. The Clean Power Plan is not expected to impact natural gas prices significantly except during the first two to three years of implementation.
- Renewable power and energy efficiency will become the more important compliance method by about 2025.
- Nuclear capacity would grow if new nuclear generation receives the same treatment as new renewable generation in compliance calculations.
- Retail electricity prices will rise by 3 to 7% during 2020-25 due to spending on new generation and increased use of natural gas. Prices return to near-baseline levels by 2030 in many regions but remain higher in some regions, with prices in Florida,



Impact of Clean Power Plan on generation, energy efficiency savings (vs. AEO2015 reference case) (Source: EIA)

the Southeast, the Southern Plains and the Southwest regions remaining about 10% above the baseline in 2030. By 2040, total electricity expenditures under the Clean Power Plan are slightly below those in the AEO2015 reference case, as decreases in demand more than offset the price increases.

More: Energy Information Administration

State Calls for More NRC Oversight At Indian Point Nuclear Station



New York state is calling for the Nuclear Regulatory Commission to step up oversight of Entergy's Indian Point nuclear station after a May 9 transformer explosion, fire and oil leak into the Hudson River. Entergy is seeking a license renewal, which the state has opposed.

"As the history of explosions and fires at Indian Point make clear, transformers play an important role in nuclear plant safety," state Attorney General Eric Schneiderman said. "The time has come to require that transformers be closely and frequently monitored as a part of the facility's aging management program as I have raised in the re-licensing proceeding.'

A recent NRC inspection found that the plant met all requirements. The commission will hold a public meeting to discuss the plant's performance.

More: Wall Street Journal

Utilities Call for NRC Review Of New Metallic Fuel Design

Lightbridge

Four energy producers, representing the operators of

nearly half of the country's nuclear reactors, are asking the Nuclear Regulatory Commission to review a new design for metallic fuel components. Lightbridge Corp. has devised a new design for metallic fuel for use in pressurized water reactors. The design operates at lower temperatures, has increased heat transfer rate and fluid flow and increased structural strength, according to Lightbridge. The company also boasts that the design could provide 30% more power with the same fuel cycle length.

Dominion Generation, Exelon Generation, Southern Co. and Duke Energy all have asked for federal refuel of the new type of fuel assemblies. Lightbridge said they could be ready as soon as 2020.

More: Nuclear Street

DOE Report Says Wind Energy Possible in All 50 States

A Department of Energy report examining the rise of wind energy in the U.S. said advances in turbine technology make wind power feasible for all 50 states, instead of the 39 that already have wind farms. The advances, according to the report, "enable

wind to be a true nationwide economic re-

Higher turbine tower — up to 110 meters tall, as opposed to the current 80-meter heights — would enable a 54% increase in wind power deployment because it would enable the turbine blades to reach faster wind speeds that are at greater heights. Building 140-meter towers would boost the increase to 67%, according to the report.

"Regions primarily affected by this increased technical potential include the Southeast, states bordering the Ohio River Valley, the Great Lakes Region, the Northeast, and portions of the Interior West and Pacific Northwest," according to the study.

The taller towers require stronger supports and foundations, higher costs and transportation challenges getting components to the

More: DOE: Washington Post

Senators Call on Obama to Name Pipeline Safety Head

Two days after a pipeline leaked more than 100,000 gallons of crude oil into the Pacific Ocean, 10 U.S. senators urged President Obama to name a new head of the Pipeline and Hazardous Materials Safety Administration.

FEDERAL BRIEFS

Continued from page 14

In a letter to the president, the lawmakers — Jon Tester, Dianne Feinstein, Heidi Heitkamp, Patty Murray, Debbie Stabenow, Tammy Baldwin, Maria Cantwell, Gary Peters, Joe Manchin and Barbara Boxer — cited an increase in pipeline failures across the country.

The administration has not had a permanent head since October. "Given PHMSA's responsibilities of regulating approximately 2.6 million miles of pipelines that carry natural gas, crude oil, gasoline and other hazardous liquids all over the country, and the critical role the agency plays in regulating by-rail," the senators wrote, "we are concerned that we still do not have a permanent administrator to head the agency.

"Additionally, several of our states have experienced crude-by-rail accidents in recent years, emphasizing the need to work to prevent future accidents."

More: The Hill; Sen. Maria Cantwell

Jeb Bush Acknowledges Climate Change, but Cause 'Convoluted'

Jeb Bush, speaking at a New Hampshire house party last week, began to frame a position on climate change during the run up to the 2016 election. Asked to comment on President Obama's characterization of climate change as a "serious threat" to national

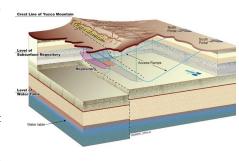


security, the former Florida governor acknowledged that Earth's climate is changing, but he stopped short of attributing it to human causes.

"The climate is changing," he said. "I don't think the science is clear on what percentage is man-made and what percentage is natural. It's convoluted. And for the people to say the science is decided on this is just really arrogant, to be honest with you."

More: The Washington Post

Senate Energy and Water Bill Lacks Yucca Mountain Funding



The Senate Appropriations Committee has stitched together a \$35 billion energy and water spending bill, but the proposed funding includes nothing for the Yucca Mountain nuclear waste repository. While Republicans still vow to get legislation to include the controversial Nevada project, keeping it out of the appropriations stage helps ensure that it doesn't get caught up in committee.

Some Republicans, including Sen. Lamar Alexander (R-Tenn.), say the way to assure funding for Yucca Mountain is through an amendment.

"Putting an end to our decades-long nuclear waste stalemate will involve completing Yucca Mountain," said Alexander, the chairman of the Appropriations Committee's energy and water panel. "I look forward to an open amendment process in the U.S. Senate and to working with the House to remove obstacles to nuclear power."

Republican lawmakers have argued that the Nuclear Regulatory Commission has a commitment to complete a full review of the project. A House version of an energy and water funding bill includes \$50 million for a review. The NRC has said it has only a small fraction of the necessary funding for the review.

More: The Hill

EPA: Crack Down on Emissions From Start-ups and Shutdowns

Regulators have typically allowed some pollutants emitted by industrial facilities

during the start-up and shutdown periods and equipment malfunctions, but the Environmental Protection Agency is urging states to cut down on emission limit exemptions. The agency on Friday formally issued a regulation that tells 36 states to stiffen pollution standards in the Clean Air Act. Under the new <u>rule</u>, the states have until November 2016 to make the changes.

Environmentalists see the agency's move as a long-needed closure of loopholes. "For too long, neighborhoods adjacent to dirty oil refineries, coal plants and other sources of pollution have been left with little recourse to protect their families from toxic pollutants such as sulfur dioxide and soot," Sierra Club Executive Director Michael Brune said. "More often than not, the communities that face the worst of this pollution are lowincome communities or communities of color," he said.

More: The Hill

Fed Study Shows Dolphin Deaths Tied to Deepwater Horizon Spill

A study overseen by the National Oceanic and Atmospheric Administration concludes that 46 dolphins that washed up on Gulf of Mexico beaches between 2010 and 2014 died from ailments caused by oil from the 2010 Deepwater Horizon spill. The study said the dolphins died of bacterial pneumonia, adrenal disease and lung lesions, all caused by the Deepwater Horizon spill.

"These dolphins had some of the most severe lung lesions I have ever seen," said Kathleen Colegrove, a veterinary pathologist who worked on the study. "The dolphins were swimming in oil," said Stephanie Venn-Watson, National Marine Mammal Foundation, the study's lead author.

More: Post and Courier

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STATE BRIEFS

CONNECTICUT

State Offers Incentives For Electric Vehicles



The state is offering a cash rebate of up to \$3,000 to buyers of electric cars. An incentive program offers customer rebates and will provide dealers with bonuses for selling electric or hydrogen vehicles. The incentive program is funded by \$1 million that the state received as a condition for approving the 2012 merger of Northeast Utilities and NStar into Eversource Energy.

The funds are enough to offer rebates for as many as 457 electric or hydrogen vehicles. The program will allocate \$800,000 for cash rebates and \$200,000 for dealer bonuses.

The state has 1,625 electric vehicles registered as of May 18. The rebates are available to state residents, businesses and municipalities that buy or lease electric vehicles. Fifteen vehicle models qualify.

More: Hartford Courant

Eversource, Advocates Spar over Fixed Charges

Boston-based consumer advocacy group Acadia Center and Eversource Energy are sparring over a state bill that would cap fixed-rate charges to customers of electric utilities. An Acadia report found that more than half of Eversource's customers would see their electric bills decrease if the legislation, which would cap fixed-rate charges at \$10, is approved.

Eversource argues that more than half of its customers would see an increase in their overall bill if the fixed charge is lowered and that a \$10 fixed charge is more regressive than a \$19.25 fixed charge. Daniel Sosland, Acadia's president, said the utility is misleading lawmakers. An Eversource spokesman said the company stands by its analysis of the legislation's impact.

More: New Haven Register

DELAWARE

Consultant Advises Against Creating Purchase Pool



A statewide electricity purchase pool, as an alternative to Delmar-Your life. Plugged in." va Power & Light's standard offer, is un-

likely to bring customer savings, and costs could be higher under some scenarios, according to a state consultant advising against the idea.

Exeter Associates reported the conclusion after a nationwide survey of aggregation programs. State lawmakers called for a study last year.

However, state officials could consider other options, Exeter said, including allowing customers to specify shares of electricity from renewable power sources or options that let customers specify peak use times.

Delmarva has about 260,000 customers who subscribe to the company's standard offer.

More: The News Journal

DISTRICT OF COLUMBIA

Opposition Against Exelon-PHI Deal **Grows as Window Nears Close**



A fifth coun-**Exelon** cilmember came out Friday against

Exelon's proposed \$6.8 billion acquisition of Pepco Holdings Inc., expressing "serious concerns" about the deal in a letter to the district's Public Service Commission. The 27th of the district's 40 Advisory Neighborhood Commissions formally opposed the deal.

The district is the last entity to decide on the merger, which Maryland regulators narrowly approved on May 15 and Delaware approved several days later. Public comment in the district closes May 27. (See *Update*: Md., Del. PSCs OK Exelon-Pepco Deal.)

"While it is clear that this merger would provide great benefit to PHI shareholders, the benefits to ratepayers do not appear proven or clear." Councilmember Brianne Nadeau said.

Should the commission approve the merger, she said, members should consider using the proposed Customer Incentive Fund to support development of renewable energy

sources for low- and fixed-income residents.

More: Councilmember Brianne K. Nadeau

MAINE

PUC Won't Reconsider Funding

The Public Utilities Commission won't reconsider its controversial decision to cut \$38 million in proposed funding from an energy efficiency program. The commission's 2-1 vote means that funding the Efficiency Maine Trust will fall to the legislature. The trust subsidized the purchase of 2.5 million energy-efficient light bulbs for consumers last year and helped more than 3,000 businesses convert to energy-saving equipment.

The PUC voted in March not to provide the funding for the trust, after a close review of language in the 2013 energy law showed that a single word was missing, apparently as the result of a clerical error. On Wednesday, PUC Commissioners Mark Vannoy and Carlisle McLean argued that petitioners for reconsideration had not brought forward additional information to support changing the panel's March 17 decision.

More: Portland Press Herald

MARYLAND

Bowie Homeowners Tapping into Solar Savings

Bowie homeowners are beginning to take advantage of a solar cooperative purchasing program sponsored by the city and Maryland Sun, a renewable energy nonprofit organization.

Thirteen residents have signed contracts, 18 are considering proposals and 12 have site visits scheduled, said Maryland Sun program director Corey Ramsden.

At 157 committed members, Bowie is the largest collective the group has created in the state. It has 27 similar co-ops running in Maryland, D.C., Virginia and West Virginia.

More: Gazette

STATE BRIEFS

Continued from page 16

MASSACHUSETTS

Vote Authorizes Eversource Strike

EVERS⊕URCE A union representing 1,900 Eversource Energy workers in the

state has authorized its leaders to strike over stalled negotiations on a new contract. The current contract expires at midnight on June 1.

The Utility Workers Union of American Local 369 said its members voted "overwhelmingly" to allow the strike if its leaders so choose. The union said in a statement that Eversource and the union have been unable to agree on provisions about staffing, health care and the possible elimination of a no-layoff clause.

More: Hartford Courant

MINNESOTA

Minnesota Power's Great Northern Tx Line Gains OK from PSC



GREAT The Public Serivce Commission ap-

kV Great Northern Transmission line, a crucial step in the estimated \$710 million project. The 220-mile line would deliver hydro power from Manitoba to northeastern Min-

A separate route permit is pending. So is a permit from the U.S. Department of Energy to approve the cross-border line.

More: North American Wind Power

NEW HAMPSHIRE

Eversource Legislative Deal Endangered

Legislation that would pave the way for an orderly sale of Eversource Energy power plants was pulled from the House floor at the last minute last week. The bill would set the stage for a "universal settlement" on a variety of utility issues that would affect customer rates. Eversource has proposed to sell its power plants, but who would pay for the losses that would be incurred is a sticking point. (See Eversource to Sell New

Hampshire Plants.) Some legislative leaders also are concerned the bill would pre-empt an ongoing review of electric rates by the Public Utilities Commission.

More: New Hampshire Union Leader

NEW JERSEY

South Jersey Gas Makes New Push for Pipeline



South Jersey Gas last week filed an amended application South Jersey Gas including "new details" with the Pine-

lands Commission seeking approval for a 22 -mile pipeline that would carry natural gas to a power plant in northern Cape May County.

The proposed pipeline, which would largely follow a roadway through part of the protected, 1.1 million-acre Pinelands Forest Management Area, has been criticized by conservationists and four former governors. The Pinelands Commission blocked it last year in a 7-7 vote.

But the project is heavily supported by Gov. Chris Christie, who since then has replaced a long-time advocate on the commission with a new member, Robert Barr, who has not disclosed his position on the project.

With the retirement of the Oyster Creek nuclear plant in 2019, PJM and the state Department of Environmental Protection have said that repowering the B.L. England plant — which would use natural gas instead of coal — is necessary to retain reliability on the grid.

More: NJSpotlight

NEW YORK

NYPA, Union Contract Finalized



Power Authority has ap-

proved a contract with about 560 workers from the International Brotherhood of Electrical Workers, including about 215 at the Niagara Power Project in Lewiston. The deal is retroactive to April 2011, when the previous contract expired, and runs through March 31, 2019.

The contract includes wage increases for each year starting in 2014 and requires the union members to increase their contributions to the cost of their health insurance. The wage increases are 3.5% in 2014, 2% in 2015 and 2016 and 2.5% in 2017 and 2018. IBEW members who have been working at NYPA since the expiration of the previous contract will receive a \$4,000 lump-sum payment; others will receive a pro-rated payment.

More: Buffalo News

Snow Damaged Solar Array

Heavy winter snow caused ground-mounted photovoltaic panels at a large solar farm in Feura Bush to collapse. The 4.5-acre facility is owned by Constellation Energy, which sells power to an Owens Corning insulation plant next door. Owens Corning has said that the farm will be able to offset the costs of about 6% of the factory's electricity needs. None of the panels went offline during the winter but all need to be remounted for optimal position.

More: Albany Times Union

NYSEG Seeks Rate Hike

New York State Electric & Gas filed for an increase in electricity delivery charges that would add about \$8 to the average residential customer's monthly electric bill. The increase would cost consumers about \$126 million. NYSEG said it needs the increase to help pay for an expanded program to manage vegetation along the 35,000 miles of electric lines it maintains across its upstate service territory. The company also is seeking to recover more than \$260 million in restoration costs that it incurred during storms such as Sandy in 2012. State regulators would review the proposal over the next 11 months, with the earliest effective date in May 2016.

More: Buffalo News

STATE BRIEFS

Continued from page 17

OHIO

FirstEnergy Heading to **Hearings on Income Guarantee**



Hearings begin in June on FirstEnergy's request for an

income guarantee for seven plants in the state, a case that already has generated thousands of pages of filings with the Public Utilities Commission.

Under the plan, the plants would be guaranteed enough income to cover costs plus a profit. Consumers would make up the difference if the actual income fell short: if the plants exceeded their targets, customers would receive credits.

The FirstEnergy plan affects Davis-Besse Nuclear Power Station, the coal-fired W.H. Sammis plant and the company's share of jointly owned coal-fired plants.

PUCO has rejected similar proposals from American Electric Power and Duke Energy, but it said their underlying concept was legal.

More: The Columbus Dispatch

Murray Energy CEO Predicts More Layoffs



More layoffs will be coming soon for cause of low prices and demand for the

coal it mines, its CEO said last week. The St. Clairsville company operates 13 mines in West Virginia, Ohio, Illinois, Kentucky and

"We had 8,600 employees until last month. We've had to reduce some since then. I can't keep all those jobs," Robert E. Murray told a gathering of the North American Coal Bed Methane Forum.

Coal prices are down about 10% from a year ago. Murray blamed low demand on environmental rules and cheaper natural gas.

"If I had to describe today's coal industry ... I call it extremely dangerous," he said. "Not from a safety standpoint, from survival."

More: Pittsburgh Tribune-Review; Pittsburgh Business Times

PENNSYLVANIA

PUC OKs PECO's Updated, Pricier Long-Term Upgrade Plan

The Public Utility Commission approved PECO Energy's updated long-term gas infrastructure improvement plan, which is expected to cost the Philadelphia-based company more than \$534 million and take two decades to complete.

The two-year-old plan was amended earlier this year, in part to speed up the replacement of at-risk natural gas mains. While those pipelines make up just 12% of the entire system, they are responsible for nearly all of PECO's leaks.

Under the proposal, spending on upgrades would jump from \$34 million to \$61 million by 2018. Total costs would rise from the initially forecast \$371.3 million to \$534.4 million.

More: Natural Gas Intel

RHODE ISLAND

Ferry Built to **Service Wind Farm**



Rhode Island Fast Ferry has been awarded a 20-year contract to operate a

specialized boat for the construction and maintenance of a five-turbine wind farm that Deepwater Wind will install in waters near Block Island starting this summer. The new vessel will transport workers to and from the offshore wind farm, which will be the first of its kind in the U.S. The company will spend \$4 million to build the boat and train crew members to operate it. It is expected to be ready to provide crew and equipment support in spring 2016 in advance of the installation of the turbines for the Block Island Wind Farm.

More: Providence Journal

TEXAS

Fearing Levee Breach, **Entergy Shuts Down Hydro Plant**



Entergy took its Lewis Creek units 1 and 2 offline Saturday night in order to lower reservoir water levels and reduce the risk of levee failure.

"This is absolutely the right decision for the protection and safety of Montgomery County residents and the long-term reliability of the plant," said Sallie Rainer, CEO of Entergy Texas. Company and MISO officials said that taking the two 271-MW units offline will not result in any immediate reliability issues.

On Thursday, Entergy Texas notified local authorities of the potential for a failure due to heavy rainfall that saturated the earthen dam near Willis. The company is hauling in truckloads of limestone rock to stabilize the base of the levee.

More: Entergy

WISCONSIN

3 Down, 2 to Go in Wisconsin Energy-Integrys merger

The Public Service Commission last week finalized its approval of Wisconsin Energy Corp.'s \$9.1 billion acquisition of Integrys Energy Group.

The Federal Energy Regulatory Commission and the Michigan Public Service Commission previously signed off on the deal. The Wisconsin PSC had only indicated verbal

That leaves regulators in Illinois and Minnesota next to give their blessings. Any drama likely would come from Illinois, where Chicago Mayor Rahm Emanuel late last year asked the state Commerce Commission to reject the acquisition.

More: Green Bay Press Gazette

Meet the People Making Life a Little More Difficult for FERC this Week

Continued from page 1

But there are more unfamiliar faces, some of them FERC is seeing for the first time.

They all have taken up temporary residence at the church for a week's worth of protest activities: marches, workshops, training and, of course, rallying outside of FERC headquarters. It is a somewhat homogenous group, mostly from the Northeast U.S., but with a variety of concerns, ranging from climate change to eminent domain to hydraulic fracturing's effects on the environment. But all of them agree: FERC is a rogue agency that is beholden to the natural gas industry, insulated from public scrutiny and unconcerned with the long-term effects of fossil fuels on the planet's climate.

Beyond Extreme Energy

Called "Stop the FERCus," the events scheduled through May 30 were planned months ago. They were intended to begin on Thursday to coincide with this month's FERC meeting. But the commission rescheduled it a week earlier in an effort to avoid any major disruptions. Instead, there were only minor ones. (See <u>Another Meeting Day, Another Drama at FERC</u>.)

The protests against FERC are often attributed to a single group, called <u>Beyond Extreme Energy</u>. Glick calls BXE a "coalition" of about 70 groups, mostly local alliances created to stop individual pipeline projects.

BXE's mission now is to fundamentally change FERC's structure and purpose. It doesn't have an active roster of members nor any centralized leadership. While Glick is often the de facto leader — starting chants and kicking off the disruptions at open meetings — Stewart was identified as the coordinator for this week's activities. Anyone can join, so long as they are committed to peaceful, nonviolent protests, multiple activists said.

About 500 activists will be coming and going throughout the week, according to Stewart. About 25 gathered on a soggy Thursday morning outside FERC, "a good, solid start," said Melinda Tuhus of New Haven, Conn., who is handling media relations for the group. On Friday — sunny, with a light breeze — there appeared to be less than that.

Protesters <u>described</u> a "cat-and-mouse game" with police, starting with a sit-in outside FERC headquarters as employees arrived at work, then a stop at the Department of the Interior to protest Arctic drilling. Later, they returned via Metro to FERC.

The turnout was a far cry from last June, when two dozen activists protesting Dominion Resources' Cove Point liquefied natural gas export terminal were arrested for blocking the main entrance to



Federal Protective Service barricaded the main entrance to FERC on Friday to prevent sit-ins. Police apparently expected more protesters: at one point there were 10 officers keeping an eye on about 20 protesters. © RTO Insider

FERC, making <u>national news</u>. Three protesters were arrested and charged with a misdemeanor for unlawful entry at this month's meeting on May 14, but no one protesting last week was arrested. "That may change" this week, Tuhus said.

Police had the main entrance barricaded last week, directing some FERC staff members to use side entrances while chatting with others who came outside to catch a glimpse of what was going on.

Base of Operations

At St. Stephen, sleeping bags and backpacks line a wall in an auditorium, where protesters sleep for \$5 per person per night. The church, known for being among the first to allow women to be ordained as Episcopalian ministers, has been allowing activists to rent sleeping space since the 1960s. Some immediately take a nap after arriving back from Friday's morning rally, before a private meeting is held to discuss the schedule for next week as well as long-term plans.

While they come from different areas and cited different priorities, each of the activists shares similar concerns.

"We're not crazies. We're not irrational. We are deeply concerned about the future of this country and the world and our children and our grandchildren and what kind of world they're going to inherit," Glick said. "We wish the FERC commissioners took much more seriously what so many people from all over the world and walks of life are saying about the necessity of moving off of fossil fuels."

"I'm here for my children," said Don Weightman of Philadelphia. "I worry desperately that the climate will be unlivable in 100 years."

In the auditorium of St. Stephen Episcopal Church, protesters rest after a morning at FERC, with their sleeping bags and backpacks lined to the right. © RTO Insider



Many more activists arrived on Saturday to St. Stephen, where they painted banners. (Source: Beyond Extreme Energy)

Jane Kendall of New York — where Gov. Andrew Cuomo recently announced plans to ban fracking — came to show solidarity with those wanting to end the technique. She has long been involved in opposing local gas projects, including Port Ambrose, a proposed LNG import facility off the coast of Long Island. "FERC is like the bogeyman in my house," she said.

Every activist interviewed on Friday said they wanted to see FERC become more transparent, with more public input. Some talked about their initial confusion when attending their first open meeting, expecting to be given a chance to speak.

The BXE website lists nine <u>changes</u> it says are needed at FERC. One of them is "FERC monthly meetings must include time for public comments." Another one: "FERC must make its website easier to navigate."

Organic Farmer Turned Protester: 'I Never Figured to be Engaged in Protest Activities'

By Rich Heidorn Jr.

Maggie Henry, a 61-year-old organic farmer from Western Pennsylvania, never expected to become a protester.

"I was happy working like a mule to produce food for my community," she said.

Her 100-acre farm in Bessemer, near the Ohio border, produced eggs, meat and vegetables for top restaurants in Pittsburgh, including the Fairmont Hotel, the Enrico Biscotti cafe and Crested Duck Charcuterie. Over four years it grew from six to 400 chickens. "I had a thriving business going! It was all I could handle," she said.

But after a shale gas operation began drilling in a neighboring farm in 2010, she says, her life changed.

Her farm, which has been in her family for almost a century, is located above an historic oil field. Plugged wells can serve as pathways for methane and other pollutants, allowing them to seep to the surface and into aquifers.

She has a monitor that measures particulate matter that is "off the charts all the time."

"The toxicity of the air and the contamination of the water is absolutely unbelievable," she said. "People are covered with rashes and blisters. They experienced all sorts of neurotoxic symptoms. Their children suffer

nose bleeds and asthmatic reactions."

She blames drilling in the Utica shale for a series of earthquakes in March 2014 that she says cracked her basement foundation, drywall and chimney pipe. "When it rains, water pours through my basement wall," she said. "That never happened before." In February, two pigs

and a cow unexpectedly died within two and a half weeks of each other.

A year ago, she told her story in a <u>documentary</u>. And on May 14, she traveled to D.C. to attend the Federal Energy Regulatory Commission's open meeting, becoming one of three protesters to evade a security dragnet and enter the meeting room. (See <u>Another Meeting Day, Another Drama at FERC.</u>)

She stood up at the end of the session, shouting "In the shale plays of Pennsylvania, you are killing people!"

She mentioned <u>Terry Greenwood</u>, a farmer who she said "made a chilling prediction years ago. He said, 'First it is the animals, then it will be the people.' We buried him in June of last year, the victim of a rare form of brain cancer," she said.



After the FERC meeting, Chairman Norman Bay called the protesters' repeated interruptions of the commission's meetings "disrespectful" and noted that it is the states — not FERC — that regulates fracking.

Henry insists FERC shares responsibility because it has approved liquefied natural gas export terminals. "They are poisoning us so they can make more money selling this fracked gas overseas," she said. "No way am I going to permit this. I intend to give voice to the struggle every chance I get."

She stopped farming her land after the 2013 harvest, no longer able to guarantee that her products were pure.

"I don't care about anything [else] anymore," she said Tuesday morning, shortly before marching to FERC headquarters again with other protesters. "I have been radicalized."

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Meet the People Protesting at FERC this Week

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To the activists, these aren't just common sense requests; FERC is structured to specifically exclude public input and favor industry insiders, they say.

"I think that FERC is used to operating in the darkness, and they rely on a lack of public scrutiny," said the 28-year-old Stewart, a D.C. resident. "And one function of these actions is to shine a spotlight on FERC, to bring attention to what this agency does."

For Thomas Parker, 19, of western Massachusetts, an open comment period isn't enough. "I would like to see community members hold chairs" — that is, become commissioners.

"I think you start out getting pissed off by the climate change but end up realizing it's a democracy issue as much as a climate change issue," explained Theo Talcott of Manchester, Vt. **Natural Gas**

At the top of the BXE list: "Enact a moratorium on new gas infrastructure and export terminals until FERC has been reorganized with independent funding and a clearly defined mission of playing a leading role in reducing greenhouse gas emissions, and shifting to renewables and an energy-efficient power grid."

Protesters say that, despite the increasing demand for natural gas due to lower prices, coal plant retirements and harsher winter weather, there is already plenty of pipeline infrastructure in the country.

"I would say that if we continue to invest in fracked gas infrastructure, it's ultimately going to be costly to everyone because of the climate change impacts of these projects," Stewart said. "And it will only become increasingly clear as time goes on."