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

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CAISO Recounts Tense Hours Leading to May 3 Emergency

By Robert Mullin

It typically takes "two or three or four things" to occur for CAISO declare a grid emergency, according to Tim Beach, an operations shift manager with the ISO.

"Which is what played out here on May 3," Beach said during a May 16 Market Performance and Planning Forum, at which he recounted why CAISO on that day declared its first Stage 1 emergency in 10 years.

The causes on this day: high temperatures, a generator failure, no-show imports and a rebuff from suppliers.

The emergency triggered the use of demand response programs managed by the ISO's member utilities. (See *California Grid Emergency Comes Days After Reliability Warning*.) A more critical "Stage 3" signals the threat of blackouts.

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The unexpected shutdown of one unit at AES' Alamitos generation station was one of a handful of events that precipitated CAISO's May 3 "Stage 1" emergency. | *California Energy Commission*

PJM Annual Meeting 2017

PJM's board meets with consumer advocates and environmental activists at the RTO's annual meeting in Chicago last week. | *© RTO Insider*

Report: Vistra Suggests Takeover of Dynegy

By Tom Kleckner

Vistra Energy has approached Dynegy regarding a potential takeover that would create the nation's largest independent power producer with more than 46 GW of capacity, *The Wall Street Journal* reported Friday.

The *Journal*, citing unnamed sources, said the two Texas companies are in preliminary talks, but there is no guarantee the deal would go through.

Luminant, Dallas-based Vistra's competitive

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CLF Asks ISO-NE to Override States, Order Public Policy Tx Study

By Michael Kuser

The Conservation Law Foundation last week asked ISO-NE to override its member states and conduct a study to determine transmission needs driven by state renewable energy and carbon reduction policies.

In a letter May 16, CLF Senior Attorney David Ismay criticized a May 1 submission from the New England States Committee on Electricity as "legally insufficient for purpos-

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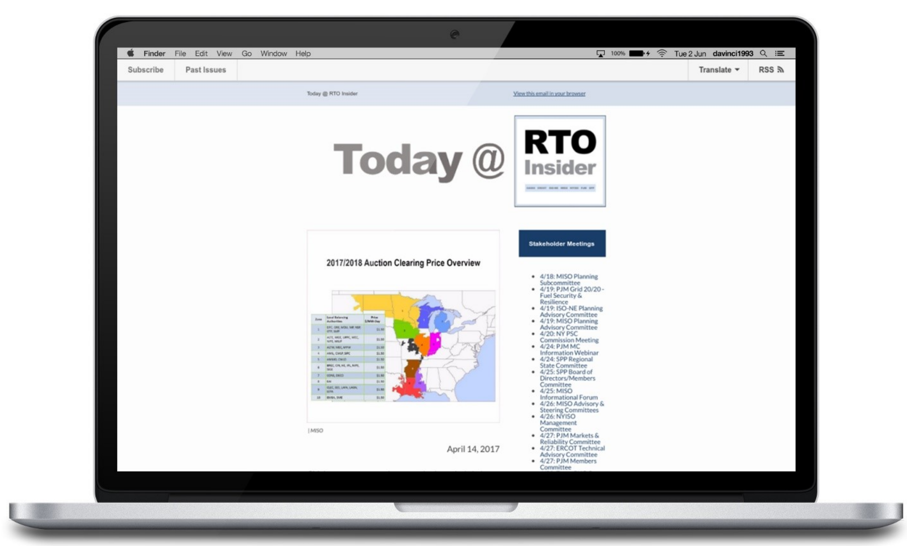

RESISTANCE
BY STEVE HUNTOON

Powerwall Redux


Huntoon

We all follow Elon. (He's ubiquitous.) Tesla buys — or bails out — SolarCity to create an even grander vision of integrating electric cars, solar panels and batteries.

Next will be Tesla/SolarCity buying SpaceX so the integrated electric cars, solar panels and batteries can be transported to those new Martian communities. All aboard![1]


Tesla Powerwall on the side of a house. | *Tesla*

I wrote before about why Elon's Powerwall home battery made no sense.[2] Remember Elon saying he had 38,000 orders for the Powerwall 1, with installations to begin in October … of 2015? And announcing a new version, Powerwall 2, last year with twice the specs — but at twice the cost?[3]

What is Tesla actually delivering? From Tesla's first-quarter 2017 letter to shareholders: "In Q1, we installed 60 MWh of energy storage, including a 52-MWh storage project for Kauai Island Utility Cooperative (KIUC) in Kauai, Hawaii."

So subtracting the Hawaii project using utility-scale Powerpacks, Tesla installed 8 MWh of Powerwalls and other Powerpacks. If the 8 MWh was all Powerwalls, then worldwide sales of the Powerwall were 571 (8,000 kWh divided by 14 kWh per Powerwall).

That is a pittance.

There's also a huge reality gap for the combined Powerwall/Powerpack business. In August 2015, Elon said revenue in 2017 for this business would be "probably at least a few billion dollars."

From Tesla's first-quarter 10-Q we can determine that its Powerwall/Powerpack gross revenues were $5.244 million. Annualized: $21 million.

That's less than 1% of what Elon claimed they would be two years ago. Maybe the first quarter was anomalous. Maybe not.

The fundamental problems with the Powerwall bear repeating.

As a backup generator, the Powerwall is uneconomic and impractical relative to conventional backup generators. Tesla quietly abandoned the backup version of the Powerwall because it made no sense relative to conventional backup generators.

As a cycling generator, there is no value added where net metering is available, because net metering effectively provides storage for free. Rightly or wrongly, net metering remains widespread in the U.S.

Elon acknowledged the value problem in 2015 in explaining why SolarCity wouldn't offer the cycling version of Powerwall 1. As Bloomberg headlined in May 2015, "Tesla's New Battery Doesn't Work That Well With Solar."

But later, to justify Tesla buying SolarCity, Elon reversed course, saying battery plus solar is a match made in heaven. Confused? So was I.

Powerwall 2, with or without solar pairing, continues the intractable problem of one foot in the canoe, and one foot in the boat.

As a backup generator, it is uneconomic and limited relative to conventional backup generators.[4]

As a cycling generator with solar, it is uneconomic in comparison with net metering that effectively provides storage for free.

At the end of the day, Powerwall 2's only hope is the demise of net metering … the net metering that the SolarCity business needs to survive.[5]

Isn't it ironic?

[Editor's Note: *RTO Insider* offered Tesla an opportunity to respond to this column on May 15. Although a company spokeswoman claimed the column contained "multiple inaccuracies," the company had not provided any rebuttal as of deadline.]

Steve Huntoon is a former president of the Energy Bar Association, with 30 years of experience advising and representing energy companies and institutions. He received a B.A. in economics and a J.D. from the University of Virginia. He is the principal in Energy Counsel, LLP, www.energy-counsel.com.

[1]We may want to await proof of concept. As Elon said: "I'd like to die on Mars. Just not on impact."

Speaking of proof of concept, Elon's latest and greatest is "Neuralink," which involves implanting electrodes in the brain to enable communication with computers. My immediate reaction: When you think about the damage hackers can do to your computer, imagine what they can do when they hack into your brain. How much bitcoin ransom is that going to cost?

[2]http://energy-counsel.com/docs/powerwall-follies.pdf.

[3]Speaking of cost, here's a fun question: What costs more, a Powerwall or the equivalent capacity in rechargeable "D" batteries (yes, those flashlight batteries)? If you answered the D batteries, congratulations. A Powerwall is $6,200 (without installation) with 13.5 kWh of capacity. Rechargeable NiMH D batteries have 11.4 Wh, so it would take 1,184 of them to provide 13.5 kWh of capacity. At $5 per battery, the total cost is $5,920.

[4]Tesla continues to promote the Powerwall as providing cycling *and* reliable backup power even though it is inherent in cycling that the battery will be partially or fully discharged most of the time. And even if fully charged when a utility outage occurs, the battery supply is of limited duration — unlike natural gas backup generators.

And here's something to check out: On the order-your-Powerwall page here, https://www.tesla.com/powerwall#design, you can select a two-bedroom home using 20 kWh/day. For the option of supplying the entire home for one day, Tesla recommends one Powerwall. How does a battery with 13.5 kWh maximum usable capacity supply 20 kWh? It must be magic.

Not to mention that just the air conditioner for a two-bedroom house of maybe 1,500 square feet is going to exceed the 5-kW continuous rating of one Powerwall. More Musk magic I suppose.

[5]Of course energy storage is only a part of Tesla (a very small part as shown earlier). As for the cars, the bull-bear debate rages over whether Tesla is the next Apple or the next DeLorean. For millennials wondering who/what DeLorean is, here's a good history lesson: http://blog.caranddriver.com/back-to-the-future-the-rise-and-fall-of-the-delorean-motor-company/.

CAISO NEWS

CAISO Stakeholders Question Risk-of-Retirement Initiative

By Robert Mullin

CAISO stakeholders last week voiced skepticism about the effectiveness of a new ISO initiative to prevent early retirement of unprofitable generators that will be needed to ensure grid reliability as California progresses on its aggressive renewable energy goals.

The ISO wants to limit the scope of its "risk-of-retirement" initiative to improving processes for its existing Capacity Procurement Mechanism (CPM), which includes a set of "backstop" provisions that enable the ISO to bypass its wholesale market to directly compensate generators under exceptional circumstances.

"We've had the CPM risk-of-retirement Tariff provisions in place for a number of years, and we've heard from suppliers that they think that those provisions are — for lack of a better word — clunky," Keith Johnson, CAISO manager of infrastructure policy and contracts, said during a May 18 CPM Risk-of-Retirement Process Enhancements working group meeting to kick off the initiative.

Unaddressed Issue?

But some market participants say the initiative will fail to address a looming and critical issue: that CAISO's energy market can no longer adequately compensate the construction and operation of the kind of resources needed to support the grid as California moves to meet its 50% renewable portfolio standard by 2030.

The effort specifically aims to address the circumstances of gas-fired plants that are not currently needed for resource adequacy (RA) and do not earn enough money in the wholesale market to remain financially viable but will likely be needed in the future as other units shut down because of state environmental standards prohibiting once-through cooling.

CAISO wants to build a clear "bridge" that would provide a needed supply resource with a limited period of out-of-market payments until the plant is able to obtain an RA contract from a load-serving entity.

Under existing rules, only resources not currently under an RA contract are eligible for a CPM risk-of-retirement designation. A resource still under contract must wait until its agreement expires before making an application.

The application must include an offer price as well as an attestation signed by an executive officer stating that the resource is uneconomic and that retirement is inevitable without the CPM designation. Once that information has been submitted, the ISO undertakes a study to determine whether the unit will likely be needed for RA during the compliance period two years out.

Timing Problem

A key problem for resource owners: CAISO cannot initiate its study to determine the need for an individual unit until November of each year, just after all LSEs publish their RA requirements for the following calendar year. That gives a resource just two months' notice before losing an RA contract, followed by a three- to four-month ISO study and stakeholder comment process, leaving the resource owner in financial limbo for an extended period. Through process changes, the ISO hopes to provide a resource a financial bridge to get from the next year — for which it lost its RA designation — to the following year, when it is

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CAISO News

CAISO Stakeholders Question Risk-of-Retirement Initiative

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assumed to be needed.

Mark Smith, a vice president at Calpine, said that even if the ISO could issue a CPM designation as early as November, it wouldn't provide his company enough time to weigh the decision of whether to keep operating a potentially money-losing plant.

"We're making business decisions on maintenance. We're making business decisions on employment of people. We're making business decisions that cannot be done in a few weeks or a couple of months' timeframe," Smith said. "These are multimillion-dollar assets — sometimes hundreds of millions of dollars."

Earlier this year, CAISO awarded reliability-must-run designations to two Calpine peaking plants after the company said it would be forced to retire the facilities if required to await a CPM decision next year. (See CAISO RMRs Win Board OK, Stakeholders Critical.)

"What we found ourselves in was a situation that the only viable option was to use an RMR contract," Johnson said. "So what we're trying to do in this initiative here with CPM is to address at least some of these process enhancements so CPM can be used as, more or less, the first and primary backstop procurement option."

CAISO won't produce a proposal on the issue until it receives stakeholder comments after a second working group meeting May 25. Johnson emphasized that the ISO wants the initiative to zero in on the process for applying for a CPM designation — including the timing and deadlines for studies, rather than dealing with the costs or terms of CPM contracts.

The Yuba City power plant was awarded an RMR contract earlier this year. | *Calpine*

"We have to recognize that the state has goals to go to low — if not zero — GHG emissions from the electricity sector."

Eric Little, Southern California Edison

Johnson also assured stakeholders that CAISO would not use CPM to circumvent other procedures in place, such as the RA program administered by the California Public Utilities Commission, which relies on ISO studies to determine statewide needs for system, local and flexible capacity carried by the state's utilities. The ISO's own RA efforts focus on complementing that program by developing market mechanisms to procure increasing amounts of flexible capacity.

Michele Kito, a PUC regulatory analyst, expressed concern that the ISO would start to use an updated CPM process under more than just "extraordinary circumstances."

"We don't envision using this more frequently than we do now, in the sense that it's really just making the process work better," Johnson responded. "I mean it's possible that you might see more CPM risk-of-retirement if more units become at risk of retirement, because — remember — this is really a backstop mechanism."

While Tyrone Hillman, a principal with Pacific Gas and Electric, said he understood the ISO's need to narrow the scope of the initiative, he pointed out its overlap with another effort that could allow certain unprofitable generators to temporarily suspend operations short of full retirement. (See CAISO Initiative Could Toss Lifeline to Struggling Generators.)

Johnson acknowledged the "potential" overlap between the two efforts, but said the ISO wanted to keep them separate to ensure the ISO Board of Governors approves at least one of them later this year.

"If one of the initiatives gets bogged down, then hopefully it wouldn't bog down the other initiative," Johnson said.

'Elephant in the Room'

"The elephant in the room is killing me, so I'm going to bring it up," said Eric Little, manager of wholesale market and greenhouse gas market design at Southern California Edison. "We have to recognize that the state has goals to go to low — if not zero — GHG emissions from the electricity sector."

Getting there will mean increased reliance on renewable resources, translating into a larger number of market intervals with "very low" to negative prices, Little said.

Prior to the high penetration of solar on the California system, generators without RA contracts could earn sufficient revenues from the energy market, Little said. That opportunity is dwindling.

"So the question in front of us is how to we get from here — where we have been with that environment — to an environment in which we no longer have any thermal resources on the system," Little said. He joked that California might never achieve that goal if nobody is consuming electricity at all "because the lights are out" because of low system reliability.

"I think recognizing all the different pieces that have to work is important thing," Little said.

Calpine's Smith pointed to the "huge shift in pricing dynamics" over the past two years, which leaves peaking units running just 5% of the time and earning just 50 cents/kW-month, too little to cover property taxes, let alone operation and maintenance costs.

"Eric is right. What we need here is a thought-out plan to transition us to the new world, and part of that plan has to involve — at least from Calpine's perspective — the confirmation that units needed for local reliability are locked in and able to do all the stuff they need to do to manage the transition while the transition occurs," Smith said.

"That's way beyond CPM, way beyond the very narrow issue, Keith, that you've defined here, but that is the elephant that needs to be addressed."

CAISO News

CAISO: Analysis Needed Before Reforms on CRR Auctions

By Robert Mullin

Reforms to CAISO's congestion revenue rights auctions will come only after painstaking analysis of what is causing the auctions to pay out significantly more money than they take in as revenue, the ISO official leading the effort told stakeholders last week.

The shortfalls have cost California ratepayers more than $560 million over five years, according to the ISO's internal Market Monitor. (See *CAISO Monitor Proposes End to Revenue Rights Auction*.)

"We really want to lay down what's going on and understand the dynamics of the auction," Guillermo Bautista Alderete, CAISO director of market analysis and forecasting, said during a May 16 Market Performance and Planning Forum. "We want to understand what are the drivers [of revenue shortfalls] and have an informed set of data that can guide us into what the policy's going to be."

Any policy changes are likely to prove contentious among market participants with a stake in the auctions.

The CAISO Department of Market Monitoring insists that the ISO-sponsored auctions should be replaced with a bilateral market that doesn't leave utility ratepayers as unwilling counterparties in losing deals.

On the other side stand the Western Power Trading Forum and DC Energy — a firm specializing in trading CRRs and other financial instruments tied to power and natural gas markets — which argue that the auctions provide the only liquid market for hedging congestion risk in the ISO's wholesale market.

Most stakeholders, including the ISO's load-serving entities, sit somewhere in the middle of the debate but tend to agree the auctions require significant changes, if not dissolution.

Bautista Alderete said the CAISO plan for examining the CRR auctions was shaped by suggestions coming out of an April 18 working group convened to kick off the initiative. (See *Heated Start for CAISO CRR Reform Initiative*.)

The analysis phase will begin with ISO staff picking off the "low-hanging fruit" to be found in the auction results: "Profits, losses, who's losing, who's winning over time [and outcomes of] the annual [auction] versus the monthly," Bautista Alderete said.

A second, "more complex" phase will look at how various auctions were modeled and compare that information to how the transmission system was modeled in the day-ahead markets on which CRR payments are settled. That will require an accounting of transmission outages, and whether they were included in auction models.

"These types of metrics are not that simple" to produce, Bautista Alderete said.

A third, "most complicated" phase will delve into the transmission system constraint by constraint, focusing on those constraints that did not bind (or show high congestion) in the auctions but paid out to CRR holders in the day-ahead market, as well as con-

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CAISO NEWS

CAISO Recounts Tense Hours Leading to May 3 Emergency

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Warm Day

Although May 3 was forecast to be one of the warmest days of the year to date, it was considered a day with "pretty normal" conditions, Beach said. Los Angeles area temperatures ranged from the mid-80s downtown to the mid-90s farther inland and to the north.

System loads began to diverge from day-ahead forecasts about 1 p.m. "That's not unusual," Beach said. "We typically see a lot of that. We'll see it diverge and we'll also see it come back and converge again at peak or after peak."

About 10 minutes later, a 330-MW unit at AES' gas-fired Alamitos generating station in Long Beach shut down unexpectedly, taking with it 270 MW of energy production that had been awarded in the day-ahead market.

Still, conditions remained normal throughout the afternoon, and the ISO was carrying ample reserves by the time load peaked at 5:45 p.m.

No Shows

But a short time later, about 1,150 MW of imports scheduled in the day-ahead market didn't materialize. The hour-ahead market then awarded 1,230 MW of supplemental energy on the interties for the hour ending 8 p.m. But about 830 MW of the awards were declined by the suppliers.

"So going into hour ending [8 p.m.], we're over the peak. We've got solar ramping off very quickly. It's starting to look pretty tight," Beach said.

At 6:42 p.m., with solar quickly coming off the system, the shift manager on duty began canvassing the utilities for available DR.

"That's a typical procedure we do," Beach said. "We go out and look and make sure we have a number that we can operate to."

Within 15 minutes, the shift manager determined that the ISO's area control error — the difference between actual and scheduled generation — was at 750 MW. With solar continuing to roll off the system, the manager was forced to deploy reserves, which then fell to about two-thirds of the 1,870-MW requirement.

Emergency Declared; DR Called

About 7 pm., CAISO declared the Stage 1 emergency, simultaneously calling for 843 MW of DR from the utilities.

"And at [7:34 p.m.], with the DR deployed, our ACE was up to 34 MW on the plus side," Beach said. "So we recovered briefly, but solar is still ramping off — but the load's ramping off at the same time."

By 8 p.m. the situation had stabilized. The ISO called off the emergency an hour later.

Brian Theaker, director of market affairs at NRG Energy, asked how much of the 843 MW of DR deployed by the ISO actually responded to the dispatch call.

"I can't establish that at this time," Beach said. "I think the market analysis [will provide] the exact number or a close number. We'll rely on some of that to come from the utilities as well."

Wei Zhou, senior project manager at Southern California Edison, asked whether transfers from the Western Energy Imbalance Market (EIM) assisted during the event.

"There were about 500 MW of transfers around that time, so it was helping us," said Guillermo Bautista Alderete, CAISO director of market analysis and forecasting.

Why the Rejections?

Bautista Alderete was unable to address a question about exactly why suppliers on the interties declined the 8,300 MW of awards ahead of the event. Such declines are not unusual, but "not to this level, not to this volume," he responded.

"This is somehow an action that [suppliers] can take and this is something we have to discuss further as to how we can enhance the procedure that we have," Bautista Alderete said. "Because usually you don't want to see them decline when you need that [energy] most."

"Was it a lot of different entities that made up the 830 [MW of declines] or was it just a few?" asked Carolyn Kehrein, a consultant for Energy Users Forum.

"I would love to give you an answer on that," Bautista Alderete said. "We haven't completed the full analysis, so I would like to hold off on that answer."

CAISO: Analysis Needed Before Reforms on CRRs

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straints responsible for the largest payouts.

"That is the type of analysis that we want to take on to understand the efficiency of the auction, because once we can understand what is behind the specific divergence between day-ahead and [the auctions] — the specific driver for revenue insufficiency — we can really start putting the pieces together for why we landed there, [for] why we have a systemic constraint that is always on the winning side or the losing side," Bautista Alderete said.

In order for the findings to be "meaningful," he added, the ISO must undertake a time-consuming process of examining constraint data going back to the start of the auctions, which will include determining how nomograms modeled in the CRR auctions may have changed in the corresponding day-ahead market.

Bautista Alderete expects the first round of "straightforward" data analysis related to auction results and settlements to be complete in two months. He provided no timeline for the other two phases.

"Once we complete the analysis phase, then we're going to start moving into the discussion of the policy — what we need to do. Do we need to scrap the auction? Do we need to tweak the auction? That is the piece we need to reach only when we have determined, based on the analysis, what we need to do."

ERCOT NEWS

Texas PUC Delays Final Judgement on NextEra's Bid for Oncor

By Tom Kleckner

NextEra Energy's bid to acquire Texas utility Oncor has failed to gain traction with state regulators, who said Thursday they have not changed their minds about rejecting the Florida company's purchase.

The Public Utility Commission briefly considered NextEra's request for a rehearing before deciding to postpone final action until it meets on June 7, allowing time to review reply briefs due May 23.

"I haven't changed my decision on their motion," said Commissioner Brandy Marty Marquez, saying she would keep an "open mind" pending the reply briefs.

"I, too, remain unpersuaded at the time by their substantive arguments," Commissioner Ken Anderson said. "I'm inclined to believe our original decision was the correct one."

The PUC rejected NextEra's $18.7 billion proposal last month, finding the acquisition not to be in the public interest because the risks outweighed the promised benefits. NextEra argued the commission went beyond the scope of its powers and called the PUC's order "unprecedented," asking it for additional time to review the case (Docket 46238). (See NextEra's Rejected Oncor Bid Gets Second Look.)

Anderson said after reviewing NextEra's arguments and an amicus brief filed by Oncor's bankrupt parent, Energy Future Holdings, he was convinced the PUC has jurisdiction over the transaction and that NextEra was "legally required to seek our prior approval for the transaction."

"I see no compelling reason to further delay these proceedings beyond what's absolutely necessary," Anderson said.

The commissioner asked staff to prepare an order clarifying some of the provisions in the original order and address the technical errors NextEra pointed to in requesting a rehearing. That order would be adopted June 7, should the PUC not grant a rehearing.

NextEra is liable for a $275 million termination fee should the deal fail for certain reasons.

The PUC last year rejected a previous attempt to acquire Oncor by Dallas-based Hunt Consolidated. Oncor's future is central to EFH's bid to exit Chapter 11 bankruptcy, which has now dragged on for three years.

New York hedge fund Elliott Management, a top creditor in EFH, sued the ownership group May 11. The firm said NextEra's bid for Oncor is unlikely to close, and it requested the bankruptcy court to allow it to propose interim financing and alternative restructuring plans for EFH.

The meeting was the PUC's first without Donna Nelson, who retired from the commission May 15. Texas Gov. Greg Abbott has yet to announce a replacement, leaving Anderson and Marquez to operate without a chairman.

ISO-NE NEWS

CLF Asks ISO-NE to Override States, Order Public Policy Tx Study

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es of the regional system planning determinations that [FERC] Order 1000 requires."

NESCOE concluded that there are no state or federal public policy requirements (PPRs) "driving transmission needs relating to the New England transmission system."

Ismay argued that the NESCOE submission provided "no regional analysis, no discussion of the Regional System Plan process or timing, and no discussion of the regional impact that stakeholder-identified PPRs are likely to have collectively on regional transmission between 2018 and 2027, the relevant regional planning period."

ISO-NE asked for comments on state, federal and local PPRs driving transmission needs in January. Responding, in addition to NESCOE and CLF, were Avangrid, National Grid, NextEra Energy Transmission and TDI-New England, all of which called for the RTO to conduct a study. (See *ISO-NE Begins Discussing Order 1000 Public Policy Tx Projects*.)

States	Recent State Resource Procurement Initiatives	Expected Resources	Target MW (nameplate*)
MA, CT, RI	2016 Multi-State Clean Energy RFP	Solar, wind	460
MA	2016 Energy Diversity Act	Clean energy, including hydro imports	Approx. 1200
MA	2016 Energy Diversity Act	Off-Shore Wind	Up to 1600

Clean energy resource development legislative initiatives by state. (Nameplate capacity may be higher than qualified Forward Capacity Market capacity.) | *ISO-NE*

States: No Current Public Policy Tx Needs

NESCOE's response, which dismissed the companies' rationale, was accompanied by memos from each of the states, none of which called for a study.

Connecticut, for example, noted that two recent solicitations for renewable energy and demand response resulted in the selection of nine projects, none of them involving transmission. It also said it was meeting its greenhouse gas reduction targets and that while "far deeper cuts" will be needed to meet the 2050 target — 80% below 2001 levels — no new transmission is currently required.

The Massachusetts Department of Public Utilities acknowledged that the state's requirement that electric distribution companies sign long-term contracts for 9.45 million MWh of clean energy annually by 2022 and 1,600 MW of offshore wind generation by 2027 "may drive the need for transmission infrastructure in the future."

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ISO-NE NEWS

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"However, because we presently lack clarity regarding the outcome of the solicitations and any projects that may result from the … solicitations, we find it inappropriate to request a public policy transmission study at this time," the state said.

Rhode Island said its electric retailers are meeting the state's renewable energy standard, which requires them to obtain 11.5% of power from renewable sources in 2017, without the need for new transmission. Although the standard rises to 38.5% by 2035, the state said "local renewable distributed generation resources are projected to produce a substantial quantity of [renewable energy certificates] in the coming years, regardless of actual or perceived regional transmission needs."

Vermont said that its "statutes and policies not only do not drive transmission needs, but rather endeavor to avoid the need for increased transmission. The reason for this policy is to protect ratepayers from the significant costs of building new transmission projects where the particular need can be served more economically by a non-transmission alternative."

Ismay wrote that the "NESCOE submission simply forwards to ISO-NE individual state-centric analyses by each of the six New England states, all of which expressly disclaim or avoid the type of long-range regional assessment Order 1000 requires."

Court Rebuff of NESCOE

Ismay said a D.C. Circuit Court of Appeals ruling in April confirmed the responsibility of ISO-NE, "not the states, to evaluate transmission needs and potential solutions as part of its Regional System Plan process, regardless of whether those transmission needs arise from state public policy requirements or any other source" (*Emera Maine v. FERC*, No. 15-1139). (See *Court Rebuffs New England TOs, Upholds FERC ROFR Order*.)

The court rejected NESCOE's claim that FERC's ISO-NE compliance order went beyond Order 1000 and "impermissibly altered the balance of responsibility and power" between the states and the RTO.

"ISO-NE has no role in setting public policy for the states," the court said. "ISO-NE considers transmission needs that arise from a variety of sources, one of which is the public policy requirements chosen by federal and state officials."

Ismay asserted in his letter that "ISO-NE itself has already repeatedly recognized" that transmission will likely be needed to deliver new renewable and low-carbon resources required to meet the carbon emission reduction goals of Connecticut and Massachusetts. He cited the grid operator's January 2017 Regional Electricity Outlook, which stated that "connecting additional remote clean-energy resources is also going to require improvements on the transmission system."

ISO-NE Director of Transmission Planning Brent Oberlin provided a status report on the RTO's transmission planning evaluations during a conference call Friday of the Interregional Planning Stakeholder Advisory Committee for New England, NYISO and PJM.

"If the ISO decides that we will be moving forward with a public policy transmission study, we need to provide a scope to stakeholders by Sept. 1," Oberlin said. "We do plan on having some discussion on the ISO's going-forward plan at our June Planning Advisory Committee meeting."

MISO News

Texas Law Could Affect MISO Competitive Transmission

By Amanda Durish Cook

Texas regulators' decision on the applicability of state and local right of first refusal (ROFR) laws could influence the selection of who builds more than 20 projects proposed for MISO's 2017 Transmission Expansion Plan, RTO officials said last week.

MISO has no opinion on whether Texas has a ROFR, but it realizes the outcome of the case will affect next year's competitive developer selection process, Manager of Competitive Transmission Brian Pedersen told the Planning Advisory Committee on May 17.

The Public Utility Commission of Texas is considering a joint request by Southwestern Public Service and SPP to rule on whether Texas statutes allow ROFRs in areas of the state outside of ERCOT's footprint (46901). (See *Texas PUC Agrees to Take up SPP, SPS Request on ROFR*.) SPP claims Texas statute only allows for certificates of convenience and necessity inside ERCOT and says other areas should follow a competitive selection process. SPS, on the other hand, argues for the existence of a ROFR outside ERCOT. The Texas PUC will decide the case on briefs without hearing.

Entergy Texas has submitted 22 possible projects for evaluation and inclusion in MTEP 17, ranging from $300,000 to $47 million, and East Texas Electric Cooperative has submitted seven ranging from $900,000 to $62.5 million. MISO will not make MTEP 17 draft project recommendations until August.

Although federal ROFRs were abolished with FERC's Order 1000, state and local ROFRs were left standing. Upgrades to existing facilities also are assigned to incumbent transmission owners.

Last year, the lone market efficiency project in MTEP 2016 — the $80.9 million Huntley-Wilmarth 345-kV line in Minnesota — would have been opened to competitive bidding save for the state's ROFR statute. At the time, some stakeholders wrote a letter encouraging MISO to open the project to bidding. (See *MISO Board Approves MTEP 16's $2.7B in Tx Projects*.)

Higher Cost Threshold for Competitive Projects?

Meanwhile, stakeholders in MISO's Competitive Transmission Task Team are debating if the RTO should raise the $5 million cost threshold for opening market efficiency projects to competition. (The RTO's threshold for opening multi-value projects to competition is four times higher at $20 million.)

MISO staff posed the question to stakeholders at the May 19 task team meeting, saying inexpensive projects might not attract many bidders or justify the cost of a lengthy evaluation and selection process. Staff imagined a scenario where the RTO would run up a $1 million-plus bill evaluating a dozen or so bids on a mere $5 million market efficiency project.

Brian Pedersen, MISO manager of competitive transmission, presents to the Planning Advisory Committee. | *© RTO Insider*

MISO spent $1.3 million last year to evaluate 12 construction bids in its first competitive transmission process, recovering the entire amount from the submitting developers. (See *MISO's Competitive Tx Evaluation Costs $1.3 Million*.)

LS Power's Sharon Segner said MISO's concern that lower-cost competitive projects would attract too few bidders to justify a costly, full evaluation process would resolve itself because the RTO's cost to evaluate just a few bids would be much smaller than sizing up a dozen or so bids. MISO could also forego the cost of evaluation altogether if it received just one bid response from an incumbent developer, Segner said. LS Power won MISO's first competitively bid project with a $49.8 million proposal for the Duff-Coleman 345-kV transmission project.

Pedersen said he has heard arguments for and against a cost floor from stakeholders.

"There are 48 competitive developers in MISO right now, and we trust they can make decisions on whether to bid for themselves. We were just generally asking stakeholders because there was a concern over the evaluation cost. [Stakeholders] raised that issue from an efficiency standpoint, but if developers want to decide what's best and [decide against a minimum cost floor], that's fine too," Pedersen said.

Stakeholders also discussed whether developers should be able to recoup from ratepayers the costs of submitting bids. Some said the issue should be left to FERC while others said states govern what types of costs developers may recover from ratepayers.

MISO is asking for feedback on how to improve its competitive developer process in the hopes of presenting draft Tariff revisions by July. The RTO agreed in December to consider improvements after it announced the Duff-Coleman developer. (See *LS Power Unit Wins MISO's First Competitive Project*.)

MISO NEWS

Planning Advisory Committee Briefs

MISO Tweaks 4th and Newest MTEP Future

CARMEL, Ind. — MISO has made two changes to its newest future scenario in its annual Transmission Expansion Plan, adding more renewables and possible nuclear retirements to capture distributed energy trends and distinguish them from a continued fleet future.

The RTO bumped up the renewable target on its distributed and emerging technologies future from 15% to 20% of total MISO energy by 2032, policy studies engineer Matt Ellis told stakeholders at the May 17 Planning Advisory Committee meeting. He said MISO plans to model a more aggressive solar maturity curve for the future in response to stakeholder requests for more solar additions in the model. The RTO will assume that in 15 years, two-thirds of all solar is distributed and located near the top 20 load buses in each local balancing authority. MISO's three other MTEP 18 futures assume one-third of all solar is distributed.

Shelly-Ann Maye, representing Midwest Power Transmission Arkansas, asked how MISO settled on 20% renewable penetration in the fourth future.

Ellis explained that it examined projects lined up in the interconnection queue. "Renewable targets vary state by state, and [at] a bare minimum, our models will capture that, and that's about 10% in the limited fleet change [future]. Historically, though, we find that renewables go beyond those renewable standards."

Citing DTE Energy's recent announcement that it intends to reduce its carbon output by 80% by 2040, ITC Holdings' David Grover asked if MISO considered more aggressive low-carbon generation addition trends in the futures.

"If you look at goals that are announced and goals that are out there from large utilities, what's the base? Are you starting from the base [fleet] or from what utilities have said that they're going to do?" Grover asked.

Ellis said carbon-reduction modeling begins from the current fleet and carbon emission levels. "As these press releases come out, this is something we can look at," Ellis said.

MISO will also now assume a top end of 5 GW of nuclear retirements in the distributed future, through the assumption that nuclear licenses renewals will not be granted unless the plant had a "recent and significant update." It is the only future that will model possible nuclear retirements; the other three futures assume that the zero-emission reactors will continue running.

Some stakeholders asked if MISO considered that unprofitable nuclear plants will continue to be offered subsidies through state legislation. "I think it's implicitly assumed, not explicitly assumed. That's why we're modeling anywhere from zero to 5 GW" of retirements, Ellis said.

Stakeholders had asked how the distributed and emerging technologies future differed from MISO's continued fleet change, which originally predicted similar renewable penetrations, demand-side additions and coal generation retirements. (See *MISO Introduces Distributed Energy Future for 2018 Tx Planning*.) Ellis said the siting of resources is the main difference between the two futures. "It's more distributed, more local to load."

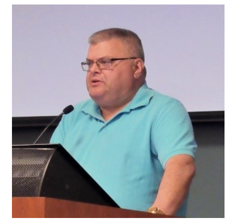
The distributed and emerging technologies future also includes the addition of 2 GW of storage by 2032 and the assumption that 25% of all new car sales by 2032 are electric vehicles — driving up MISO load by 60 TWh in 2032.

Though the MTEP 18 futures are still technically a proposal, and stakeholders have until June 1 to provide comments, Ellis said he does not expect details to change much before the final future definitions are revealed at the June PAC meeting. MISO will also discuss MTEP 18 futures weighting at the June meeting, with the RTO unveiling some weighting "process reforms," he said.

At the January PAC meeting, some stakeholders, especially those hailing from MISO South, argued that the Trump administration's distaste for carbon regulations should influence the RTO's weighting process. As a result, MISO placed less emphasis on its accelerated alternative technologies future in the South region's market congestion planning study. (See *MISO Changes MTEP Futures Weighting for South*.)

MISO: Non-Tx Alternatives in Tx Planning Process by Late Summer

MISO is moving to include non-transmission alternatives in Business Practices Manual 020, which governs transmission planning procedures.


Tackett

Adviser Matt Tackett said staff will not adopt the BPM language until the PAC makes an official recommendation, expected at the June meeting. He added that stakeholders had not suggested any significant changes in the last round of feedback.

The revision dictates that "both transmission and non-transmission alternatives to resolve transmission issues will be considered on a comparable basis" in MTEP cycles. MISO said non-transmission alternatives can include "contracted demand response, new or upgraded generators with executed interconnection agreements and other non-transmission assets (e.g., energy storage not classified as a transmission asset, etc.)." (See "Rules on Non-Transmission Alternatives Ready for PAC Review," *MISO Planning Subcommittee Briefs*.)

MISO's process for considering non-transmission alternatives involves:

- evaluating the transmission need; flagging constraints that cannot be adequately addressed by non-transmission alternatives;
- conducting analyses to find the best bus location or amounts of injections or withdrawals of real or reactive power that would resolve the issue;
- determining minimum project requirements; and
- performing a final analysis to determine if a proposed non-transmission project solves the problem.

MISO expects the updated BPM to become effective Aug. 1.

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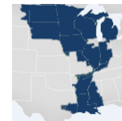
MISO News



MISO Reaffirms 2023 End Date for Market Platform

By Amanda Durish Cook

MISO's Carmel, Ind., control room in 2013. | *MISO*

Additional research has reinforced earlier projections that MISO's market platform will become obsolete in five to seven years, RTO executives told members of the Board of Directors last week.

Ever-evolving cybersecurity standards are contributing to the system's end and MISO's vendors plan to stop supporting its platform by 2023 as they shift to newer technology, officials said. The RTO has predicted that with "limited investments," its market platform can only accommodate a "modest increase in complexity" and has five to seven years before it can no longer clear the day-ahead market.

"The market systems' likely end of life is in sight, and our studies have only confirmed that we'll need a substantial upgrade," MISO Executive Director of Market Design Jeff Bladen told directors on a May 16 conference call of the board's Technology Committee.

MISO began a stress test study last fall examining how the performance and security of its critical operating system would hold up over time. (See *MISO to Study Aging Software; Market Improvements Planned for 2017*.) Since then, MISO has completed nine one-on-one workshops with vendors to discuss the overhaul.

Recommendations Due in June

Bladen's staff is drafting near- and long-term upgrade recommendations and will issue them, and post-2018 budget estimates, during the board's June week of meetings in Branson, Mo.

A business case recommending a specific course of action for a long-term platform upgrade will come in two to three years after multiple viability tests, Bladen said. MISO wants the replacement platform to employ a modular architecture, allowing replacement of individual components without affecting the rest of the system.

MISO Director Baljit Dail asked if the end of vendor support at the end of 2023 is a hard and fast date. MISO Technology Executive Kevin Caringer said vendors have agreed that the end year might be extended if absolutely necessary. "It's not a date that we can negotiate out forever, but there is some flexibility," Caringer said.

Directors asked for a special meeting in front of MISO membership and the full board to discuss the technology study and a range of possible improvements. Staff said the meeting could be scheduled sometime in October. A more detailed rundown of MISO technology improvements and goals was reserved for the committee's closed session following the meeting.

Heavy Demands from CIP Standards

MISO said NERC's Critical Infrastructure Protection standards are outstripping the adaptions it can make. Compliance with the standards will require investment in near-term improvements in 2017 and 2018, MISO Chief Information Officer Keri Glitch said.

MISO expects more new NERC standards in 2019, among them tighter requirements for control center communications and supply

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Planning Advisory Committee Briefs

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MISO Fields Another Expedited Review Request

MISO has received a new expedited project review request to connect load from a northern Michigan steel mill to a member ahead of the MTEP timetable.

Wolverine Power Supply Cooperative plans to connect 24.4 MW of industrial load from a nearby steel mill, a blend of induction furnace and plant auxiliary system load, to its Advance-Van Tyle 138-kV transmission line at a cost of $6.15 million.

The cooperative estimates that transmission structures need to be ordered by the end of August to meet a promised March 1, 2018, in-service date, making the regularly scheduled December Board of Directors decision date for MTEP too late, Manager of Transmission Expansion Planning Thompson Adu said.

The request is the fourth expedited request this year coming from Michigan market participants. MISO approved two of the three previous requests. (See *MISO Endorses 2 Michigan Projects for Expedited Review*.)

Adu said MISO has also received another expedited project review request from a Michigan market participant, as well as two requests from companies in MISO South, but they have not yet been posted publicly, as the RTO is still reviewing the requests.

— Amanda Durish Cook

MISO NEWS

Organization of MISO States Board of Directors Briefs

OMS Tightens Rules on Closed Sessions

The Organization of MISO States has adopted a stricter protocol for entering closed session during board meetings.

OMS will now require requests for closed session be circulated a few days before a meeting with an explanation for the private conversation. If an objection is raised, the OMS Executive Committee will decide by simple majority if the topic deserves closed session treatment. Acceptable closed session topics include personnel and legal matters, discussion of commercially sensitive materials, and issues subject to attorney-client privilege. (See "Closed Session Procedure Outlined," *OMS May Add Voice to Pseudo-Tie Fracas*.)

"At least in Wisconsin, we have to assume that meetings are open. … You better have a darn good reason to go closed," Wisconsin Public Service Commissioner Michael Huebsch said at the May 18 OMS board meeting.

The new rule was approved by acclimation.

OMS President and Indiana Utility Regulatory Commissioner Angela Weber led the move to draft new rules after some organization members requested a closed session in February to discuss MISO and PJM's FERC filing to implement targeted market efficiency projects. OMS held closed sessions again this spring over the creation of a seams policy document. Neither of the matters warranted closed discussion, Weber said.

MISO May End Automatic Steering Committee Leadership Posts

MISO stakeholders are considering a change to the Stakeholder Governance Guide that could shake up Steering Committee membership, and OMS is telling its members to prepare for a sector vote next month during the RTO's Board of Directors week.

The vote could allow a Steering Committee leaders to be selected through an independent stakeholder vote.

Under the Stakeholder Governance Guide, the vice chair of the Advisory Committee serves as chair of the Steering Committee, with the Advisory chair serving as the Steering vice chair.

Manitoba Hydro's Audrey Penner currently serves as the Advisory Committee chair and the Steering Committee's vice chair; NRG Energy's Tia Elliott is the Steering Committee chair and Advisory Committee vice chair.

Ted Thomas, chair of the Arkansas Public Service Commission, said OMS members should be prepared for an Advisory Committee vote to change the governance guide at the June 21 meeting in Branson, Mo., although no agenda items are yet listed for the meeting. A vote in favor of severing the Advisory Committee leadership from the Steering Committee leadership might trigger Steering to hold an almost-immediate election for new leadership, as the selection method of its current leadership would no longer be valid, Thomas said.

"Now, generally I think that it is a good idea, and I don't have any conflict with it. But it might be a problem if the people in those positions have [problems with their own removal]. To me, the juice isn't worth the squeeze [if there are problems]," Thomas said.

He said he didn't want the move to create any "dramatic" issues with a sudden change in leadership.

"It's a dangerous precedent to make it immediate, and just remove the people there," Huebsch said.

MISO spokesperson Mark Brown confirmed that some stakeholders have "initiated conversations about the idea of having separately elected Steering Committee leadership" but declined to identify who. He said MISO's Stakeholder Relations team has yet to receive any motions or agenda suggestions for the June Advisory Committee meeting.

— Amanda Durish Cook

MISO Reaffirms 2023 End Date for Market Platform

Continued from page 13

chain risk management, requiring verification of vendors, neighboring ISOs and market participants.

"We know the speed of change is not going to slow down," said Glitch, pointing to the seven versions of CIP standards rolled out since 2008.

Painting the Golden Gate Bridge

"At what point does this become painting the Golden Gate Bridge, where there's just so much stuff we can't keep up?" Dail asked.

Glitch said MISO is already preparing for its 2018 audit, which isn't slated to begin until the fall. "We're in a continual cycle because of the audit process."

More than 975 cyber assets and 59,500 pages of evidence will be scrutinized in the NERC audit next year, Glitch said — almost three times the volume examined in the 2012 audit. "The electric industry has undergone tremendous change to critical infrastructure standards," she said.

Director Michael Curran also asked if staff from NERC itself can keep up with the corporation's accelerated rate of new compliance standards and changes to existing standards.

"That's a loaded question," Glitch said. "I do see that they've made improvements over the last few years. From a MISO perspective, are they making all the improvements MISO would like to see? Perhaps not, but they are more open to suggestions."

"The answer I heard is 'No, they haven't kept up, but they're listening,'" Curran replied.

Ransomware Attack

During the meeting, MISO directors stressed the importance of cybersecurity in light of the massive, ongoing WannaCry ransomware attacks, which have been linked to North Korean IP addresses.

"NERC compliance does not equal security. Just because you're NERC-compliant does not mean you're not going to have an attack," Glitch said.

NYISO NEWS

NYISO 'Power Trends' Report a 'Tale of Two Grids' — or More

By Michael Kuser

NYISO's Power Trends 2017 report shows an electric system of flat peak demand adapting under pressure from both public policy requirements and changes in consumption patterns. However, stark regional differences make the ISO "a tale of two grids," CEO Brad Jones said in a media briefing on the annual report May 18.

"Not surprisingly, there are distinct differences between downstate and upstate in terms of power resources and consumer demand," Jones said. "We have high demand and a concentration of fossil fuel generation downstate, while upstate has an abundance of clean energy resources and very low demand."

The report, which is based on data from the ISO's 2017 Load & Capacity Data report, or "Gold Book," also highlights the emergence of distributed energy resources, which, in addition to serving the owners' needs, can also provide benefits to the larger wholesale market.

The report forecasts peak demand in New York to grow at an annual average rate of 0.07% from 2017 through 2027, a decrease from the 0.83% annual growth projected in 2014 and the 0.21% predicted in 2016. Absent the impacts of energy-efficiency programs and DER, the 2017 peak demand growth rate is 0.73%.

Energy Efficiency and DER Change the Grid

The report projects energy efficiency will reduce New York's peak demand by 230 MW in 2017 and by 1,721 MW in 2027 with annual energy usage cut by 1,330 GWh in 2017 and 2,533 GWh in 2027.

NYISO projects distributed solar resources in New York to reduce peak demand by 450 MW in 2017 and by 1,176 MW in 2027, and to lower annual energy usage by 1,845 GWh in 2017 and by 5,324 GWh in 2027. Other behind-the-meter resources may reduce peak demand by 233 MW in 2017 and by 375 MW in 2027, while possibly cutting annual energy usage by 1,584 GWh in 2017.

Pricing Carbon to Reduce Emissions

Jones said that at FERC's May 1-2 technical conference on how to integrate state policy with wholesale electric markets, "there was a consensus that did emerge at times from the diverse interests [on] the need to price carbon in the wholesale markets."

"This is good news, as we have already been looking at that very issue," Jones said. "A study is underway … and the Public Service Commission and the [Department of Environmental Conservation] have both expressed a willingness to consider those options with us." (See *Carbon Adder to Test FERC's Independence, IPPNY Panelists Say*.)

Since 2000, private power producers and public power authorities have added 11,733 MW of new generating capacity in New York, or approximately 30% of the state's current generation. The report says more than 80% of that new generation is in southern and eastern New York, where power demand is greatest.

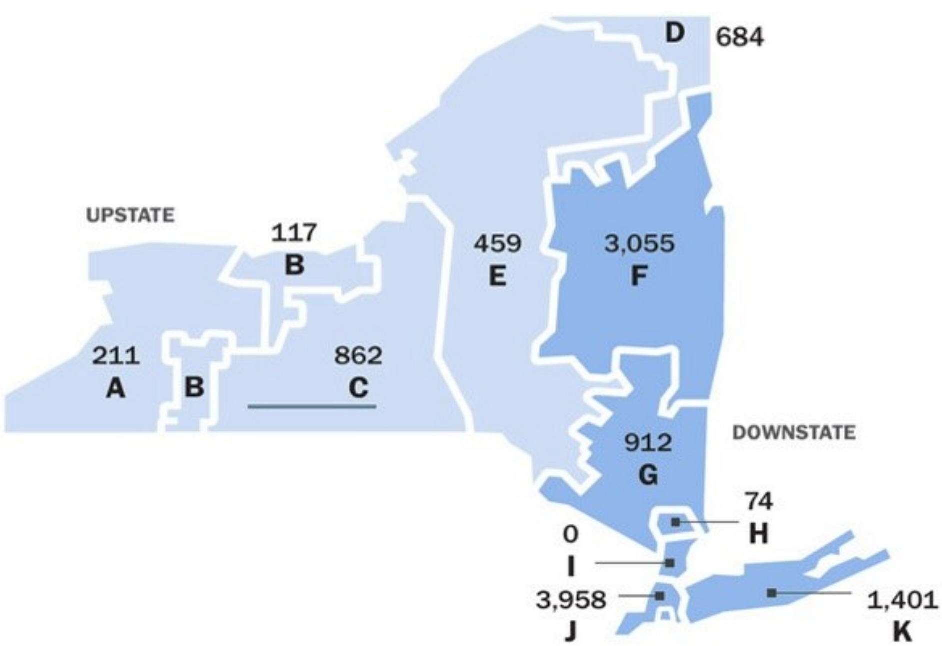
Jones said New York's wholesale market design, which includes locational-based pricing and regional capacity requirements, is encouraging investment in areas where the demand for electricity is highest. He also said that energy efficiency and market improvements have saved $7.8 billion in New York since 2000.

Divide Between Assessment and Planning

NYISO Executive Vice President Richard Dewey took over the report briefing for Jones, who had to leave. *RTO Insider* asked Dewey about recommendations to improve NYISO's energy market made the previous day by the grid operator's Market Monitoring Unit while presenting the 2016 State of the Market report to the Business Issues Committee. (See *Gas Price Spreads Made NYC Generation More Economic in 2016*.)

In suggesting improvements, how closely had the MMU worked with The Brattle Group, which is conducting the carbon-pricing study referred to by Jones?

"David Patton's [of Potomac Economics and head of the MMU] responsibilities under our Tariff and what he's attempting to provide in a State of the Market report is essentially an economic assessment of the market functions themselves and how efficiently they're working, how effective they are and how fair they are," Dewey said. "It's less about a forward projection of other forces that might cause us to want to upgrade either the rules within our market or how we operate the grid. It's probably premature right now to have a tight intersection between the State of the Market that David Patton does and some of this forward-looking work."

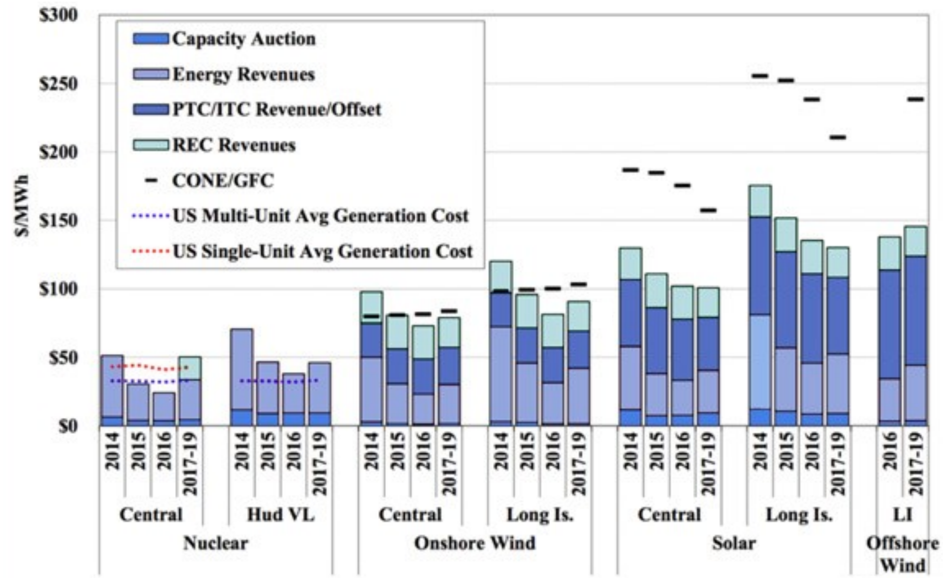


New generation in New York by zone, 2000-2017 (in megawatts). Total: 11,733 MW | *NYISO*

NYISO NEWS

Gas Price Spreads Made NYC Generation More Economic in 2016

By Michael Kuser



Long-term investment signals | *Potomac Economics*

RENSSELAER, N.Y. — Significant natural gas price spreads between Western and Eastern New York in 2016 led to New York City generation being "more economic than in recent years," Pallas LeeVanSchaick of Potomac Economics, director of NYISO's Market Monitoring Unit, told the ISO's Business Issues Committee on May 17.

LeeVanSchaick

In presenting the 2016 State of the Market report, LeeVanSchaick said natural gas prices on the Transco Zone 6 pipeline, serving New York City, averaged $2.19/MMBtu, roughly halfway between Millennium Pipeline's $1.46/MMBtu and Iroquois Zone 2 at $2.84/MMBtu.

Enhancing the Energy Market

The report makes several recommendations to enhance energy market performance, primarily to real-time market operations and capacity pricing. The real-time change would be to consider rules that would adequately compensate all resources that relieve congestion while factoring in performance and the marginal cost of maintaining reliability.

LeeVanSchaick said 92% of real-time congestion on 345-kV lines into the city occurred when reserve units were not believed to be available.

The report also recommends implementing location-based marginal cost pricing of capacity, which would save tens of millions annually and reduce volatility of prices and requirements.

Looking Forward

On long-term investment signals, LeeVanSchaick said the MMU does not estimate new environmental costs going forward, such as dramatic changes in Regional Greenhouse Gas Initiative costs. "We use price tails, old CAPEX [capital expenditures]," he said, repeatedly telling market participants that the report was based on publicly available data.

LeeVanSchaick was questioned on renewable forecasts that show a higher-than-market $240/MW cost of new entry for offshore wind off Long Island. LeeVanSchaick said the CONE assumed a 30-mile cable; a project closer to shore would reduce the projected estimate. The report also assumes for generators a "modest recovery of revenues going forward," based on forward prices.

Deficiencies in New Zone Creation Process

The report says that while the new capacity zone for the G-J Locality in Southeast New York (SENY) has greatly enhanced the efficiency of capacity market signals, the new zone took years to create after it was first needed. This delay saw capacity in Zones G, H and I fall by 21% from 2006 to 2013, even as the need for resources in the SENY interface became more apparent.

Indian Point nuclear plant

One problem with the process is it being based on the highway deliverability test criterion, which ignores the reliability issue that would justify the creation of a new capacity zone. This can lead to additional capacity being procured on the constrained side of a transmission bottleneck to meet the reliability needs of the load pocket. For example, a 1% increase in the local capacity requirements equated to a $1.30/kW-month increase in capacity prices given the 2013/14 demand curve for New York City.

The report cites the retirement of the Indian Point nuclear plant as a "salient example" of the problems that can arise from the shortcomings in the new zone creation process. If Indian Point retires in 2021, and it leads to resource adequacy violations for Eastern New York or the area south of the Upstate NY-Con Ed interface, the "process would not consider creating an additional zone for any time before 2025. In fact, it would not trigger the creation of a new zone at all if there are no highway deliverability constraints."

The report recommends NYISO adopt "a dynamic framework where potential deliverability and resource adequacy constraints are used to pre-define a set of capacity interfaces and/or zones."

Business Issues Committee Briefs

NYISO: Higher Gas Prices Still Relatively Low

RENSSELAER, N.Y. — NYISO reported Wednesday that natural gas prices rose 73% in April year-on-year but were still "historically low." Natural gas (Transco Z6 NY) in April cost $2.81/MMBtu, down from $3.49/MMBtu in March.

In his Market Operations Report to the Business Issues Committee, Rana Mukerji, senior vice president for market structures, reported an average year-to-date cost in April of $37.05/MWh, up 21% from $30.71/MWh in April 2016. Locational-based marginal pricing (LBMP) for April came in at $31.06/MWh; down from $34.97/MWh in March 2017 and higher than $27.96/MWh in April 2016.

Generation averaged 377 GWh/day in April, down from 419 GWh/day in March 2017 and 385 GWh/day in April 2016.

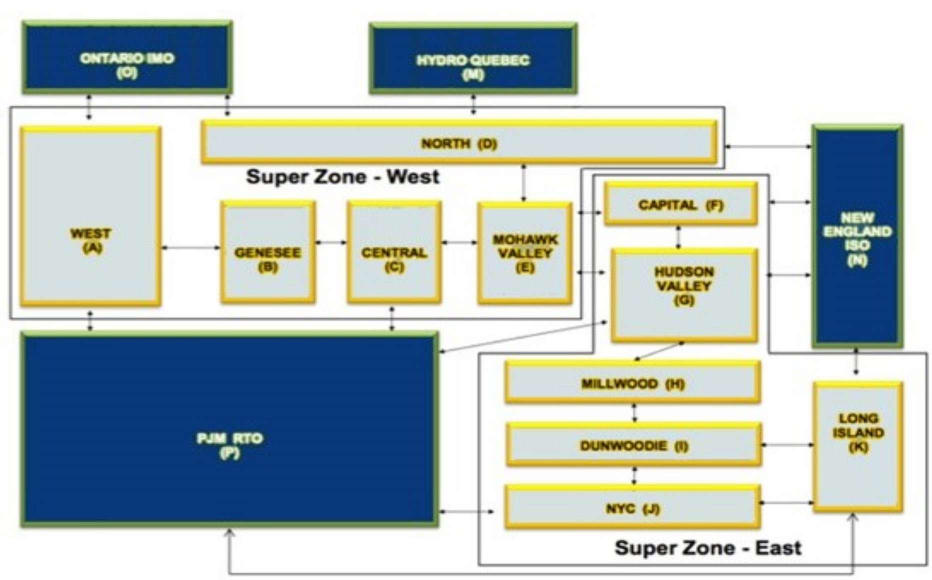
April distillate prices came in higher compared to the previous month and up 29.5% year-on-year, with Jet Kerosene Gulf Coast at $11.15/MMBtu, up from $10.69/MMBtu in March, and Ultra Low Sulfur No. 2 Diesel NY Harbor at $11.31/MMBtu, up from $10.90/MMBtu. Uplift rose in April to 12 cents/MWh (excluding NYISO cost of operations), higher than the 46 cents/MWh in March. The local reliability share was 20 cents/MWh, lower than 21 cents/MWh in March, and the statewide share was -8 cents/MWh, higher than the -67 cents/MWh in March. Total uplift costs with Schedule 1 components, including NYISO cost of operations, were higher than in March.

MISO Refunds Paid out to TOs

Mukerji also presented NYISO's monthly Broader Regional Markets Report, highlighting that the grid operator in May completed paying refunds totaling $16.3 million and $1.27 million in interest to transmission owners for the Michigan-Ontario phase angle regulator. FERC last September rejected a MISO/ITC Holdings proposal to allocate 30.9% of the cost of ITC's Michigan-Ontario PARs to New York, ruling in favor of NYISO and PJM. NYISO received the refund payment from MISO. (See *MISO not Allowed to Allocate Lake Erie PARs Costs to PJM and NYISO*.)

NYISO Complies with FERC Order 831

The ISO submitted an Order 831 compliance filing to FERC on May 8. The commission's November 2016 order requires NYISO to 1) cap each resource's incremental energy offer at the higher of $1,000/MWh or its verified cost-based incremental energy offer, and 2) to cap verified cost-based incremental energy offers at $2,000/MWh when calculating LBMPs.



NYISO LBMP zones | *NYISO*

Con Ed-PSEG Wheel Enters New Protocol

NYISO and PJM this month implemented a new protocol for the Con Ed-PSEG "wheel" to replace the agreement that expired after Consolidated Edison chose not to renew the contracts for the wheel. NYISO and PJM filed jointly with FERC on Jan. 31. FERC accepted the NYISO-PJM filing effective May 1, subject to refund and further FERC order. (See *NYISO Members OK End to Con Ed-PSEG Wheel*.)

Con Ed Gets Approval to Install 2nd PAR at Ramapo

The committee voted to recommend Management Committee approval of a tariff modification to fund Con Ed's replacement and operation of the Ramapo PAR #3500, destroyed in a fire last June. Con Ed, though opposed to what it sees as cumbersome Tariff and rate schedule filings, pledged to complete installation of the second PAR by early fall 2017.

The cost allocation is statewide across all New York load-serving entities, but the proposed rules would reimburse the LSEs with any monies eventually paid by PJM and its TOs, or refunded by Con Ed. Contingent on approval by the Management Committee, the Board of Directors would vote on the proposal in June or July. (See *NYISO, PJM Discuss PARs' Benefits, Cost Allocation*.)

NYISO to Eliminate Bond Fund Options

The BIC also voted to recommend Management Committee approval of a proposal to eliminate the bond fund options as an alternative to cash collateral. Sheri Prevratil, manager of corporate credit, said that historically there has been very low market participant use of the bond funds — on average, only $500,000, or 0.17%, of total cash collateral has been invested.

No other ISO/RTO offers bond funds for cash collateral investments. If the NYISO board approves it, the measure would be filed under Section 205 of the Federal Power Act, with revisions to Attachment K of the Market Administration and Control Area Services Tariff and Attachments U and V of the Open Access Transmission Tariff.

— Michael Kuser

PJM Annual Meeting 2017

PJM Annual Meeting Celebrates RTO's First 90 Years

By Rory D. Sweeney

PJM CEO Andy Ott (right) with former CEOs Phil Harris and Terry Boston. | © *RTO Insider*

CHICAGO — Nearly a century since its formation, PJM assured its members at its Annual Meeting last week that the future is as bright as it's ever been.

"It's been 90 years since three utilities — Philadelphia Electric, Pennsylvania Power and Light and Public Service Electric and Gas — decided that forming a power pool would be a more efficient way to meet reserve obligations and share power," PJM CEO **Andy Ott** said. "We've been delivering value to our members ever since."

Craig Glazer, PJM's vice president of federal government policy, breezed through the grid operator's first 70 years. He noted a *New York Times* article from 1928 that described the completion of PJM's original 220-kV transmission ring between the territories of PECO, PPL and PSEG as a "superpower system."

Former PJM CEOs **Phil Harris** (1992-2007) and Terry Boston (2008-2015) took it from there.

Harris described the transition from a coalition of regional utilities to an RTO independent of its founding companies. He joined PJM as a contractor in 1992 before being appointed CEO.

The utilities "realized they were going to be in competition one with the other and the solutions would change because there may be winners or losers among the companies," Harris said. "We wanted to develop something that's a team without losing the individuality" of each company, he said.

He described several "near misses" on opportunities that could have further transformed PJM. Among those was the creation of an even larger regional power pool that would allow the New York and New England systems to remain separate operationally but form a single market with PJM. One vote in opposition, from General Public Utilities, sank the idea, he said.

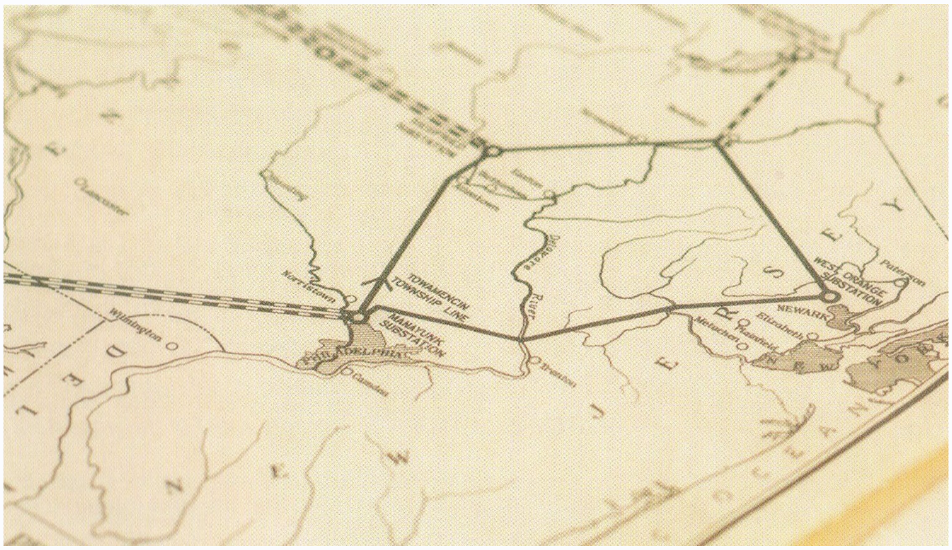
(Neither Harris nor any of the other speakers mentioned the circumstances under which he left PJM, resigning after a battle over the independence of the RTO's Market Monitor, Joe Bowring. See *State Regulators: FERC Probe into Bowring Allegations Fell Short*.)

While Harris focused on development of the RTO's structure, Boston's remarks focused on its employees. He described efforts to entice high-level candidates with advanced electrical engineering degrees to PJM's suburban Philadelphia headquarters. Now, more than 40% of PJM's workforce has advanced degrees, he said. He also won board approval for a three-year rotational program for recently graduated engineers to gain experience in all of PJM's departments before specializing in one.

Ott, who succeeded Boston in 2015, spoke of the support he's received from the executive team Boston assembled. Ott, who has been at PJM for all of the 20 years it has been an RTO, noted "it feels like only yesterday we were working 23-hour days" to implement locational marginal pricing.

"The markets have evolved significantly over the past 20 years, and I think they will continue to do so," he said.

PJM also honored its past and current board members, bringing Jean Kinsey (2007-



The original 220-kV "superpower system." | *PJM*

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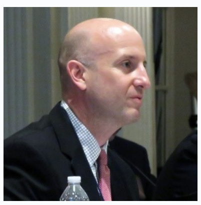
PJM Annual Meeting 2017

Consumer Advocates Push PJM Board to Make Markets More Inclusive

By Rory D. Sweeney

CHICAGO — Consumer advocates urged PJM's Board of Managers last week to do more to engage end-use customers.

"I think sometimes in wholesale energy market matters and maybe even before federal regulators, it seems like things get a little distant from those who pay the bills," said **Robert Mork** of the Indiana Office of Utility Consumer Counselor, and president of the Consumer Advocates of the PJM States, at the board's annual meeting with consumer and environmental advocates May 15.



"We do ask the board to help us communicate to the PJM staff how important it is to get those who are paying, the customers, involved in the process early on as opposed to later in the process," said **Greg Poulos**, CAPS' new executive director. "We have heard PJM talk about creating more opportunities for customers to be involved in their energy choices." (See related story, *Retiring CAPS Head Dan Griffiths Feted at Annual Meeting*, p.23.)

Incremental Auctions

Poulos pointed to PJM's incremental capacity auctions as an important entry point for demand response owners, who often can't secure resources three years into the future, as required for participation in the Base Residual Auction. He said that continual rule changes "really create a lot of chaos for customers who are willing to participate."

Nearly two dozen representatives from the state consumer advocate programs within PJM's footprint, along with D.C., took advantage of the sole opportunity each year to address the board. The advocates are organized through CAPS, but as Poulos explained, consensus on any issue can be hard to come by.

A prime example, he said, has been how advocates view subsidies for generation resources. It's a "critical question," he said, because it largely determines advocates' preferences on how PJM should respond to state energy-policy actions.

"They're on all sides of this issue: wanting very true markets or wanting very strong abilities for states to have state actions," Poulos said. "We are all over the place, and that's not a bad thing. … We need to make sure our members are educated."

CAPS representatives also pressed the board to be mindful of costs and better integrate renewables, DR and energy efficiency. **Dave Evrard**, Pennsylvania's assistant consumer advocate, noted the importance of including energy efficiency in PJM's load forecasting model to ensure the RTO doesn't purchase too much capacity. Poulos said PJM needs to ensure all cleared capacity is a physical resource and to protect against the "dramatic" price swings that can occur when capacity is replaced in incremental auctions.

"One of our concerns overall as a group that

Continued on page 21

PJM Celebrates 90 Years

Continued from page 19

2016), Carolyn Burger (1997-2005) and Richard Lahey (1997-2016) on stage to be recognized. Board Chair Howard Schneider, one of the original board members along with Lahey, acknowledged he will be retiring next year.

During a Members Committee meeting that completed the Annual Meeting, members re-elected incumbent board members Ake Almgren, Susan Riley and Charles Robinson to three-year terms.

PJM executives also provided reviews of the last year. Stu Bresler, senior vice president of operations and markets, said advanced technology has resulted in multiple enhancements, including transmission upgrades to reduce the risk of cascading outages and ways to measure "electrical distance" to ensure units located outside the RTO's footprint can be relied upon if tied to the system. He said PJM is focused on reducing the day-ahead solution time to less than 2.5 hours in 2017.

Vince Duane, senior vice president of law, compliance and external relations, said the RTO is "probably looking at a suite of responses" to accommodate state public policy initiatives in PJM's markets. The process is likely to be "politically challenging," he said, but

PJM's 1933 (left) and 1956 logos.

"there are ways to do it."

In a later discussion with *RTO Insider*, he said PJM's analysis on that is expected within a month. (See *PJM Stakeholders Offer Different Takes on Markets' Viability*.)

Bowring said that coal remains economical and "a significant part of capacity" going forward as fuel costs continue to vary. LMPs in the first quarter of 2017 averaged $30.38/MWh, 13% higher than in 2016 due primarily to higher fuel prices, he said.

"The relative output of coal and gas, as long as those coal units stay around and are profitable — and many of them are — is going to switch depending on the relative cost of fuel," he said.

Consumer Advocates Push PJM Board to Make Markets More Inclusive

Continued from page 20

comes up a lot is that consumers don't pay two times, three times or four times for these resources," he said.

Cost Containment

Evrard also called on PJM to include cost containment measures in its competitive transmission planning process. The RTO is in the process of instituting competitive bidding rules in time for an upcoming project consideration window but has acknowledged it won't have enough time to consider cost containment ideas.

"Consumer advocates look at cost caps and cost containment as essential consumer protection," Evrard said. "I realize there are myriad issues. … I don't discount those."

He indicated he's been paying attention to debates on the topic, including a campaign by several merchant transmission developers, including LS Power, to have cost containment be a deciding factor. (See *Who Decides? Panel Highlights Blurred Jurisdiction on Tx*.)

"I know there are some entities that have sort of proposed that cost containment shouldn't just be a consideration, but rather it should be elevated so if I come in with a project that has a specific cost-containment proposal, from the very beginning, I should enjoy some sort of preference," he said. "I don't know if the PJM consumer advocates want to go quite that far, but … we are very interested in what emerges from that."

PJM has yet to complete a competitively bid transmission project since FERC opened the process to competition with Order 1000. Its first attempt, a transmission line across the Delaware River that connects to the nuclear plants on New Jersey's Artificial Island, has been mired in controversy for years. While the board resumed the project in April, complaints remain about PJM's proposed method of allocating the costs to customers.

Representatives of Delaware, which stands to shoulder more than $260 million of the project's projected $280 million cost, have offered the loudest and most consistent opposition, arguing that their state — which has far fewer ratepayers than other PJM member states — will be disproportionately impacted. They say PJM's usual allocation method, which is based on resolving downstream power-flow issues, is not appropriate because the project is instead meant to resolve grid-reliability issues that are beneficial to all members.

Ruth Ann Price, Delaware's deputy public advocate, called it "trying to fit a square peg into a round hole" and said the problem needs to be addressed communally because "if it goes badly, we're all going to be blamed for this."

She thanked the board for its "sensitivity" in considering Delaware's perspective on the topic. The board suspended the project in August and called for a complete reanalysis by PJM staff. That analysis resulted in changes to the project's scope that cut the price tag nearly in half. LS Power was awarded the project in part because its bid included cost caps that provided "greater cost certainty," PJM said. In approving

"I think sometimes in wholesale energy market matters and maybe even before federal regulators, it seems like things get a little distant from those who pay the bills."

Robert Mork, Indiana Office of Utility Consumer Counselor

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PJM Annual Meeting 2017

Consumer Advocates Push PJM Board to Make Markets More Inclusive

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PJM's analysis, the board instructed staff to report on cost-allocation alternatives. (See *Board Restarts Artificial Island Tx Project; Seeks Cost Allocation Fix*.)

For future projects, Price said, the board should require more transparency about submitted bids and ensure customers receive essential information. "States should know to a reasonable statistical approximation what these projects mean in terms of costs to their residents," she said.

More transparency is also needed, she said, with incumbent TOs' supplemental projects. "PJM must take more responsibility, I believe, in ensuring stakeholders that these projects are necessary and fundamental to the wellbeing of the transmission system," she said.

No Fait Accompli

Among the calls for more engagement, there was also gratitude for the inclusion that already exists. Price praised PJM for facilitating CAPS members' involvement in transmission planning. "We welcome being a part of that process rather than be presented with a plan that is *fait accompli*," she said. "We would like to have more discussion about how the project flow works, and how our states can get more involved and more knowledgeable."

"We are so happy not to be ignorant of the implications of things that come before PJM and being in the position of just saying 'no' and then litigating — which 10 years ago, we were kind of in that position," said **Jackie Roberts**, director of the West Virginia Consumer Advocate Division.

She praised PJM officials for having a constructive relationship with the Independent Market Monitor, Joe Bowring's Monitoring Analytics. She said PJM CEO Andy Ott assured her during the formation of the Reliability Pricing Model capacity market that "'a strong Market Monitor gives my markets credibility and validity.'"

Roberts said, however, that advocates are "worried" about the renewal of the Monitor's contract when its current pact with

Mike Jacobs of the Union of Concerned Scientists and Jennifer Chen of NRDC. | © *RTO Insider*

PJM expires in 2019. In 2013, state regulators forced PJM to remove contract language that they said would undermine the independence and quality of the monitoring function. (See *PJM, Monitoring Analytics Sign New Contract*.)

"We're looking forward to an easy and unstressful contract consideration when his contract is up," Roberts said.

'Gross Mismatch' in Generation Sources

Several environmental groups also outlined their concerns during the meeting with the board. Jennifer Chen of the Natural Resources Defense Council said concern over subsidies for renewable generation should be tempered by the recognition that "that almost all resources get some level of subsidies or preferential treatment."

She said states have the right to express generation preferences through subsidies, and PJM can't be in the position to judge which ones should trigger a repricing mechanism or the minimum offer price rule. She said a "gross mismatch" exists between what generation sources consumers want, as indicated in polls, and what is procured through PJM's markets.

While some of the issue is in price formation, other causes could be operational. She questioned why transmission and injection rights couldn't be seasonal to better accommodate resources that perform differently throughout the year.

"We're in a good position to implement some changes and not be timid about it," she said.

Mike Jacobs of the Union of Concerned Scientists took issue with PJM's recently issued reliability whitepaper for suggesting that some technologies are unable to adapt to provide ancillary services such as frequency response, voltage control or ramping capabilities. (See *PJM: Increased Gas Won't Hurt Reliability, Too Much Solar Will*.)

"We shouldn't assume they are free and available from some providers and not from others," he said. "The paper has essentially predetermined its outcome."

Dan Griffiths, who retired last week as CAPS' executive director, ended the session on a positive note, saying he is confident the PJM markets will find a way to coexist with state policies. With 13 states and D.C., Griffiths said PJM has an advantage over single-state ISOs.

"The bigger [the RTO] is, the more it tempers state incentives to meddle in markets," he said. "We will work out the current problem, I know."

PJM Board Chair Howard Schneider (left) and CEO Andy Ott. | © *RTO Insider*

PJM Annual Meeting 2017

Retiring CAPS Head Dan Griffiths Feted

By Rich Heidorn Jr.

CHICAGO — The PJM Annual Meeting marked the swan song for longtime consumer advocate Dan Griffiths, executive director of the Consumer Advocates of the PJM States.

PJM officials and stakeholders feted Griffiths last Monday at the annual meeting between the PJM Board of Managers, environmental groups and state consumer advocates. Griffiths, who became CAPS' first executive director in September 2013, is being replaced by Greg Poulos, former director of regulatory affairs for demand response provider EnerNOC. (See *CAPS Hires EnerNOC Alum as Executive Director*.)

PJM CEO Andy Ott called Griffiths "a tremendous friend for many years."

"Thank you very much for all you've done to bring CAPS to a level that it's at," he said. "The fact that there's 22 [consumer advocates] here discussing these issues is a tremendous message of engagement. The desired outcome of these discussions is to make sure we understand each other, to communicate with each other and we move forward in a cooperative way."

Griffiths responded with praise for the PJM stakeholder process. "The collegiality — even for people that I almost always disagree with — is fantastic," he said. "I have never seen this anywhere else."

Metrics

Griffiths started his career in 1979 at the Pennsylvania Public Utility Commission, developing metrics for utilities' consumer services performance. He began specializing in electricity after restructuring in 1997, with several stints in private industry before returning to state government in 2000 as an assistant under then-Consumer Advocate Sonny Popowsky, a vacancy created when predecessor Denise Foster joined PJM. He retired from state government at the end of the Ed Rendell administration in 2010 as a deputy secretary of the Department of Environmental Protection's Office of Energy and Technology Deployment.

He later served as DR provider Comverge's delegate to the PJM stakeholder process. He was in that role when the newly formed CAPS selected him as its first executive director, using proceeds from Constellation Energy's settlement with FERC in a market manipulation case. (See *Consumer Advocates Name Director*.)


Dan Griffiths

Griffiths said the idea for CAPS began with conversations among him, Popowsky, West Virginia Public Advocate Jackie Roberts and Maryland Senior Assistant People's Counsel Bill Fields.

CAPS' biggest accomplishment during his tenure was helping state consumer advocates become engaged in PJM's stakeholder process, he said in an interview at the Annual Meeting on May 15. "The first purpose was to make them understanding enough so that they could make decisions, so that they could vote in the stakeholder process … and be able to make thoughtful filings as opposed to 'just say no' filings."

The engagement has been illustrated in the recent Capacity Construct/Public Policy Senior Task Force (CCPPSTF), he said.

"We had a one-hour meeting today to discuss it. We've probably had eight hours of phone calls … over the past several months to talk about it," he said. "The CAPS members — the state consumer advocates — really do have a drive to understand the policy now and be part of creating, rather than reacting to it."

Permanent Funding

The Constellation money would have run out next year, so PJM's decision to provide permanent funding — via a bill surcharge similar to that used to fund the state regulators' Organization of PJM States Inc. — was crucial to its future.

FERC approved an initial annual budget of $450,000 in 2016. In addition to paying for the executive director, the funding also is used to cover advocates' travel to PJM meetings. (See *FERC Approves PJM Funding of Consumer Advocates*.)

"We have ongoing funding and we've got [an] executive director who is outstanding: creative, ambitious, excellent in outreach and coalition building ... and articulate," Griffiths said. "And so I think that CAPS will be better after me. I think I'm leaving at the right time."

Griffiths said the 13 states (and D.C.) in CAPS understand the impact of PJM on their customers' electric bills.

"They wouldn't be here if their [state] offices didn't make a decision to dedicate resources to the PJM process. I think everybody understands now just how important that is. In a competitive state like Pennsylvania, you might have 70% of your electric bill that comes through the PJM process. You cannot mitigate that by doing things at the state level, no matter how much you want to. And even in ... [vertically integrated] West Virginia, 50% of their process is coming through the PJM process."

"Pennsylvania uses … about 138 million MWh. [Actually more than 146 million MWh in 2015, according to the PUC.] And if the pricing is [increased] by a buck, that's a $138 million hit to the Pennsylvania economy. … There are Market Monitors out there who think a few bucks here or there is like, 'Okay, that's fine.'

"It's not fine," Griffiths continued. "Consumers are hurt even by small pricing errors, and so it's important for [Independent Market Monitor] Joe Bowring to be able to continue to do his job and PJM to be vigilant about making sure that the prices are right. There's people [on the supply side] who have a natural incentive — they have a fiduciary responsibility — to make prices go up."

Asked what advice he had given Poulos, Griffiths responded: "There's all these pieces [that] work together. You cannot just [focus on] the markets because it seems like that's where [the money] is. If you have a [load] forecast that's one level and it could be 2.5% less — as we found over the last couple of years as PJM changed its forecasting process —that's 2.5% of a whole lot of money. You can't neglect any of this stuff because the scale is so huge and it interacts. Energy market performance affects capacity, offer caps. And so it just keeps rolling along."

Going Solo

Poulos, who previously worked as an assistant in the Office of the Ohio Consumers' Counsel, has been working for CAPS under Griffiths since the OPSI annual meeting in April. So is he ready to go it

Continued on page 24

PJM Annual Meeting 2017

Power Industry Leaders Debate Responses to Changing Grid

By Rory D. Sweeney

From left to right: Marc Gerken, American Municipal Power; Larry Stalica, Linde Energy Services; Thad Hill, Calpine; John Schultz, Direct Energy; and Chris Crane, Exelon. | *© RTO Insider*

CHICAGO — The times, they are a-changing — again. How will companies respond?

Executives from a utility, an independent power producer, a large industrial customer, a municipal power company and a power retailer met in a panel discussion at PJM's Annual Meeting last week to answer that question. Unsurprisingly, their answers differed based on their role in the markets.

"We are in an energy transition. … Every company in this room is going to have to figure out how to participate in an energy transition, and if we don't, we're going to get run over," said Larry Stalica, president of Linde Energy Services. "I believe there's enough smart people in this room to figure out how to get from Point A to Point B."

Linde, whose industrial and medical gas production facilities are big power users, became its own load-serving entity in March 2003. "We realized that these wholesale markets were going to be the key to controlling our costs and making our business successful," he said. "So we wanted our voice heard."

His call for leadership was echoed by Marc Gerken, CEO of American Municipal Power. "Don't be afraid to break something down that isn't working," he said. "That's good leadership."

"Don't be afraid to break something down that isn't working. That's good leadership."

Marc Gerken, American Municipal Power

He went on to criticize PJM's consistent tinkering with its market designs. "We get sometimes troubled with all of the changes in the market constructs. It's tough to follow; it's tough to keep track of; so we think that there needs to be a little more discipline on that," he said. "We are a very transmission-dependent utility. We don't own a lot of transmission [so] we really feel that PJM needs to focus on the reliability aspect. We think that's your mission."

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Retiring CAPS Head Dan Griffiths Feted

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alone?

"Absolutely not," he laughed during an interview Wednesday, describing the last several weeks of Griffiths' tutelage as "drinking from a firehose."

"But I'm in a really good position. He was so helpful with all the information. He has such a wealth of knowledge, even about the stakeholder process."

"He was a true champion for consumers. That is very clear. He's done a great job of advocating on behalf of the advocates and consumers. At the same time, he was a true friend and colleague to all [in the stakeholder process]," Poulos continued. He taught "the value of being a part of the community and making sure you participate and get to know everybody."

On some issues, such as the cost and transparency of transmission expansion projects, CAPS is likely to have a unified position. But Poulos said there are times when his role will be less a lobbyist than a facilitator, providing information for individual state advocates.

In preparing for FERC's May 1-2 technical conference on tensions between state actions and wholesale markets, "it was very clear that we at CAPS did not have a position and could not have a position," he said. Some advocates "wanted to [accommodate] state actions and others want a true market where state actions aren't considered."

Off to Europe

Griffiths left the annual meeting early last Tuesday to begin a month-long trip to Austria, Switzerland and Italy with his wife, Maureen Mulligan, a retired solar energy and energy-efficiency activist.

He hasn't closed the door to returning to the industry in some fashion but has no plans. "I cannot come back here and work for anybody on the supply side … because their interests are so different than [consumers] and I think people … would think I was being hypocritical," he said.

"I talked to folks a little bit about [doing] things outside PJM but I'm not dying to travel. I've done a lot of travel in my years. You know, after a while there's no glory in travel. It's just the torture you go through to do your job."

PJM Annual Meeting 2017

Power Industry Leaders Debate Responses to Changing Grid

Continued from page 24

Gerken said the competitive transmission process created by FERC's Order 1000 allows incumbent transmission owners to pad their balance sheets with trumped up costs for supplemental projects. And "we're just supposed to trust them," he said.

Calpine CEO Thad Hill said his company has had to "waste" energy in the middle of the day when oversupply causes prices to go negative. "I kid you not," he said. "I think we're better than that."

Direct Energy President John Schultz said weak demand could result in "incumbent market participants really fighting over a shrinking pot" of revenue.

Chris Crane, CEO of Exelon — which is battling court challenges to zero-emission credits for its nuclear plants in New York and Illinois — called on industry members to collaborate on issues, rather than litigate them.

The industry took a wrong turn two decades ago when it decided to divorce environmental and market policy, he said, resulting in renewable energy subsidies that diminish market efficiency.

"It has put us in a very difficult situation where, instead of working together to try to find ways to satisfy the environmental desires of the states, we find ourselves in court fighting over" the impact of state environmental policies on the energy markets, he said.

Gerken and Stalica | © *RTO Insider*

"Not a place that we should be. It's a degrading situation. What we should be doing is working together on what's the market design that [can accommodate] a state [that has] environmental programs that they desire. How do we come up with the market design that is managed at the ISO level that can incorporate that to be fair and equitable? That's where the focus needs to go." (See *PJM Stakeholders Offer Different Takes on Markets' Viability*.)

He also questioned those who contend end-use customers want more control over their energy usage, as distributed energy resource proponents claim.

"That is where we have to decide — as we're designing the systems of the future — how much is a trend and how much is a fad," he said. "We have the job of protecting the customer as things go forward.

"We're at a place ... where things are changing pretty quickly," Crane said. "As participants in the market, we need to come together. ... I would much rather be having conversations with my counterparts here on what we can do constructively to fix the larger problem so we're not having to put one-on-one Band-Aids on this marketplace."

"Instead of working together to try to find ways to satisfy the environmental desires of the states, we find ourselves in court..."

Chris Crane, Exelon

PJM NEWS

MRC Preview

Below is a summary of the issues scheduled to be brought to a vote at the Markets and Reliability Committee on Thursday. The Members Committee held its monthly meeting last week at PJM's Annual Meeting. (See related coverage, *PJM Annual Meeting Celebrates RTO's First 90 Years*, p.19.)

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

Markets and Reliability Committee

2. PJM Manuals (9:10-9:40)

Members will be asked to endorse the following manual changes:

A. Manual 3: Transmission Operations. Revisions developed in response to a periodic review.

B. Manual 6: Financial Transmission Rights. Revisions developed in response to FERC rulings impacting the annual auction revenue rights/FTR process: stage 1 replacements and balancing congestion; FTR forfeitures; and residual ARRs (EL14-37, EL16-6, ER16-121-001). (See *FERC Orders Portfolio Approach for PJM FTR Forfeiture Rule*, *FERC Accepts PJM's FTR Plan, Rejects Rehearing Requests*.)

C. Manual 14D: Generator Operational Requirements. Revisions to develop requirements for solar generation facilities, in compliance with FERC Orders 828 (Requirements for Frequency and Voltage Ride Through Capability of Small Generating Facilities), issued July 21, 2016, and Order 764 (Integration of Variable Energy Resources) issued June 22, 2012. (See *FERC Issues Ride-Through Requirement for Small Generators*.)

D. Manual 36: System Restoration. Revisions developed in response to a periodic review.

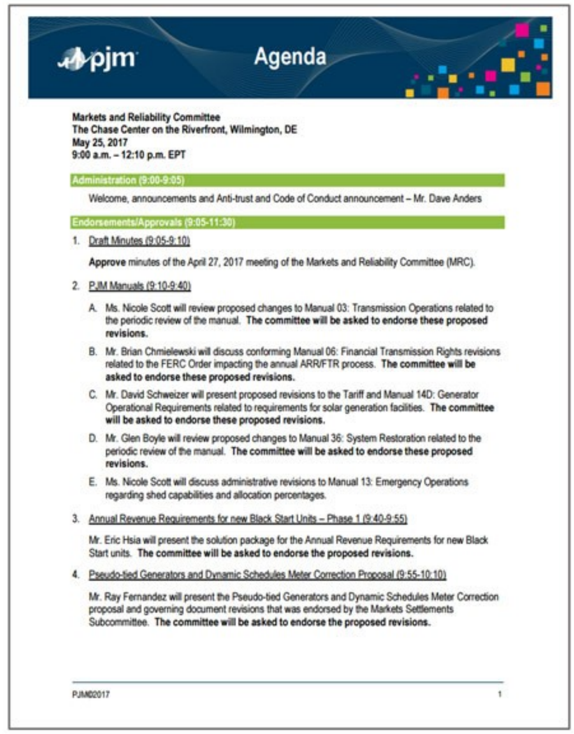
E. Manual 13: Emergency Operations. Attachment E updated with 2017/18 load forecast and Mid-Atlantic load shed allocation information; Attachment F updated with 2017/2018 load shed capabilities and allocation percentages. The data in the attachments affects only transmission owners and has been validated by them.

3. New Black Start Unit Annual Revenue Requirements (9:40-9:55)

Members will be asked to endorse manual and Tariff revisions regarding the annual revenue requirements for new black start units. (See "PJM to Review Black Start Prior to New RFP," *PJM Market Implementation Committee Briefs*.)

4. Monthly Meter Correction (9:55-10:10)

Members will be asked to endorse manual revisions to allow for monthly correction of meters for pseudo-tied units and dynamic schedules. (See "Meter Correction Initiative OK'd," *PJM Market Implementation Committee Briefs*.)


Markets and Reliability Committee
The Chase Center on the Riverfront, Wilmington, DE
May 25, 2017
9:00 a.m. – 12:10 p.m. EPT

Administration (9:00-9:05)

Welcome, announcements and Anti-trust and Code of Conduct announcement – Mr. Dave Anders

Endorsements/Approvals (9:05-11:30)

1. Draft Minutes (9:05-9:10)

Approve minutes of the April 27, 2017 meeting of the Markets and Reliability Committee (MRC).

2. PJM Manuals (9:10-9:40)

A. Ms. Nicole Scott will review proposed changes to Manual 03: Transmission Operations related to the periodic review of the manual. **The committee will be asked to endorse these proposed revisions.**

B. Mr. Brian Chmielewski will discuss conforming Manual 06: Financial Transmission Rights revisions related to the FERC Order impacting the annual ARR/FTR process. **The committee will be asked to endorse these proposed revisions.**

C. Mr. David Schweizer will present proposed revisions to the Tariff and Manual 14D: Generator Operational Requirements related to requirements for solar generation facilities. **The committee will be asked to endorse these proposed revisions.**

D. Mr. Glen Boyle will review proposed changes to Manual 36: System Restoration related to the periodic review of the manual. **The committee will be asked to endorse these proposed revisions.**

E. Ms. Nicole Scott will discuss administrative revisions to Manual 13: Emergency Operations regarding shed capabilities and allocation percentages.

3. Annual Revenue Requirements for new Black Start Units – Phase 1 (9:40-9:55)

Mr. Eric Hsia will present the solution package for the Annual Revenue Requirements for new Black Start units. **The committee will be asked to endorse the proposed revisions.**

4. Pseudo-tied Generators and Dynamic Schedules Meter Correction Proposal (9:55-10:10)

Mr. Ray Fernandez will present the Pseudo-tied Generators and Dynamic Schedules Meter Correction proposal and governing document revisions that was endorsed by the Markets Settlements Subcommittee. **The committee will be asked to endorse the proposed revisions.**

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5. Primary Frequency Response (10:10-10:30)

Members will be asked to endorse a PJM-proposed problem statement and issue charge to investigate potential changes to generator primary frequency response requirements. The proposed inquiry is in response to a 2012 NERC report that found only 30% of online units provide primary frequency response. and only 10% of them sustain it. (See *FERC: Renewables Must Provide Frequency Response*, "Stakeholders Push Back on Paying for Frequency Response," *PJM Markets and Reliability and Members Committees Briefs*.)

6. Long-Term FTRs (10:30-10:50)

Members will be asked to endorse a proposed problem statement and issue charge to consider ways to incorporate upgrades approved in the Regional Transmission Expansion Plan in the network model used for FTR auctions. PJM is proposing the initiative out of concern that clearing prices for long-term FTR auctions may not fully reflect future system capabilities.

7. Incremental Auction Senior Task Force (IASTF) Update (10:50-11:00)

Members will be asked to approve an updated charter for the IASTF, which was created in response to a problem statement by Direct Energy that was approved by the MRC in November 2016. The revisions reflect an increase in scope resulting from a problem statement by NRG Energy on replacement capacity that was approved in March 2017. The revisions set a target for completing work and making recommendations to the MRC by January 2018. (See "Stakeholders Approve Variety of Actions," *PJM Markets and Reliability and Members Committees Briefs*.)

8. Pseudo-tie Pro Forma (11:00-11:30)

Members will be asked to endorse several items related to creating a *pro forma* pseudo-tie agreement, including the agreement, a pseudo-tie reimbursement agreement and associated Tariff and Operating Agreement revisions. (See *Pseudo-Tie Feud Rises as Patton, NYISO Protest PJM Proposal*.)

— Rory D. Sweeney

FERC News

DC Circuit Reverses FERC on BPA Refund Case

By Wayne Barber

A three-judge panel for the D.C. Circuit Court of Appeals on Friday reversed a 2015 decision by FERC that prevented a Washington state generating plant from recouping funds from the Bonneville Power Administration even though the commission had ruled that it was entitled to the money.

In 2008, FERC had invoked Section 205 of the Federal Power Act to order TNA Merchant Projects, owner of the 520-MW Chehalis natural gas-fired generator, to refund a portion of the rates it had charged BPA for providing reactive power service. FERC had concluded that Chehalis' rates were not just and reasonable.

"Several years later, FERC had second thoughts," Senior Judge Harry Edwards said in the opinion (*TNA Merchant Projects vs. FERC*, No. 13-1008). "It determined that Chehalis should not, after all, have been required to pay these funds and held that Chehalis ought to recover funds with interest."

But BPA, the customer to whom Chehalis had paid the refund, had no interest in voluntarily returning the money. Chehalis sought relief from FERC, seeking an order requiring repayment.

"FERC, however, in a perplexing decision, held that it could not order recoupment because the commission's refund authority does not extend to exempt public utilities such as the intervenor Bonneville," Edwards wrote, in an opinion joined by Senior Judge David Sentelle and Judge Nina Pillard.

"We hold that FERC erred when it held that it lacked the authority to grant the order requiring recoupment," the court said. Section 309 of the Federal Power Act permits FERC to "perform any and all acts ... [as may be] necessary or appropriate to carry out [the act's] provisions," the court said.

The FPA "clearly affords FERC the authority necessary to make Chehalis whole," the court said. FERC has considerable latitude "when it is prescribing remedies for violations of the FPA and attempting to undo harms caused by its own mistaken or unlawful acts," the court said.

The court remanded the case back to FERC to determine whether it should "apportion" its recoupment order. "FERC amply explained why recoupment is justified in this case, but in assessing the equities, the commission did not consider whether something less than full recoupment might be warranted," the court explained.

TNA sold the Chehalis plant to PacifiCorp in 2008 but retained the right to litigate the case.

2005 Rate Filing

The case had its genesis in 2005, when Chehalis filed a proposed rate schedule for providing BPA with reactive power service. In April 2008, FERC concluded that Chehalis' rates were excessive and ordered it to make refunds to BPA for billings from August 2005 through September 2006, approximately $2 million.

FERC changed course in October 2013, saying that "its precedents on this point had not been entirely clear and thus stated that its determination … was a prospective policy, inapplicable to Chehalis," the D.C. Circuit said.

In a July 2015 rehearing order, FERC said it believed that recoupment would be appropriate because "Chehalis should not be penalized given the need for clarification" of its policies on reactive power. FERC went on to conclude — incorrectly, the court held — that while it would be "appropriate" for Chehalis to recoup the funds, FERC lacked authority to order BPA to pay.

A BPA spokesman said it was reviewing the order to determine whether to seek rehearing.

"In the meantime, it is worth noting that FERC's original ruling that the charged rate was unjust and unreasonable was never challenged and has not been overturned," spokesman Mike Hansen said. "BPA estimates that the rate in question was over 250% of what a just and reasonable rate should have been. If the court's ruling stands, the matter returns to FERC to 'balance the equities' between Bonneville's rate payers … and TNA Merchant."

Q1 a Good Start for Most in RTO Insider Top 30

By Peter Key

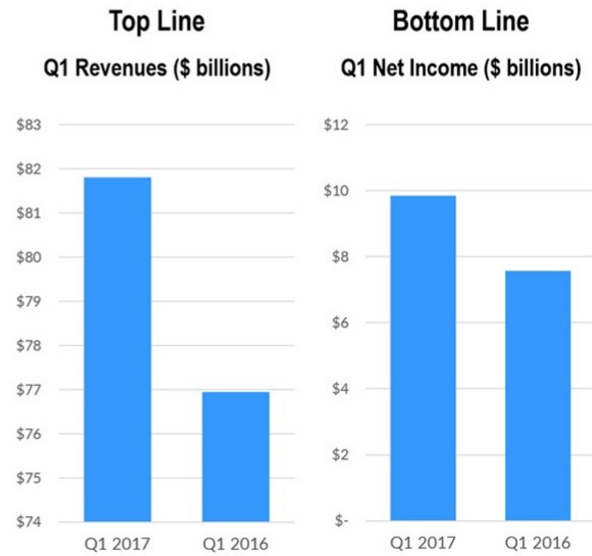
The *RTO Insider* Top 30 got off to a good start in 2017, with more than two-thirds of companies posting year-over-year revenue and net income increases in the first quarter. All but three were profitable in the quarter.

Collective net income for the Top 30 rose 30% to $9.84 billion on a 6.3% increase in revenue, to $81.81 billion.

NRG Energy and Exelon, which are on opposite sides of the debate over subsidies for nuclear plants, had notable —though notably different — quarters.

NRG was the worst performer in the quarter, losing $203 million after earning $47 million a year earlier. Its revenue fell 14.6% from $3.23 billion to $2.76 billion. The other companies recording losses were Calpine, which lost $52 million and has reportedly hired investment bankers to shop the company, and Great Plains Energy, which lost $9.6 million during a quarter in which its bid to acquire Westar Energy was rejected by Kansas regulators. (See *Westar Shares Fall as Kansas Regulators Block Great Plains Deal*.)

CEO Mauricio Gutierrez attributed three-quarters of NRG's earnings decrease to the roll-off of expensive hedges that it executed after the so-called "polar vortex" of 2014, lower capacity revenues in the East and a few one-time items. (See *Generation Woes Drive Down NRG Q1 Earnings*.) The company's revenue drop was largely attributed to a fall in its generation revenue to $1.34 billion from $1.7 billion.



Company filings

NRG is among the entities suing to stop the subsidies for Exelon's nuclear plants in New York and Illinois. FirstEnergy, which had the second-largest decrease in revenue and fourth-largest decrease in net income among the Top 30, is hoping Ohio joins the states offering subsidies to nuclear generators, but the company said it is planning to divest its merchant generation regardless. (See *First Energy Hopeful on State, Federal Support*.) FirstEnergy's revenue fell 8.2% to $3.55 billion in the first quarter, while its net income dropped 37.5% to $205 million.

Exelon posted the largest increase in net income among the Top 30, earning $981 million versus $123 million in Q1 2016. Contributing were its Pepco Holdings Inc. subsidiary, which earned $140 million in the first quarter after losing $309 million a year ago, and Exelon Generation, which posted net income of $423 million, up from $310 million a year earlier. Exelon Generation

Continued on page 29

Report: Vistra Energy Suggests Takeover of Dynegy

Continued from page 1

generation arm, has 16,760 MW of capacity in Texas. Houston-based Dynegy operates about 31,400 MW of generation in the Northeast, Mid-Atlantic and Midwest (including almost 1,800 MW from plants in which it shares ownership).

A Luminant-Dynegy combination would own almost 46,400 MW alone, surpassing NRG Energy, which claims to be "#1 in competitive generation" with 45,909 MW of net capacity in 29 states, including 1,120 MW of nameplate wind and solar.

The takeover would expand Vistra's footprint beyond Texas, which saw record low wholesale prices last year. However, to do so, it would have to absorb Dynegy debt said to be about $9 billion, much of it incurred in recent years.

Dynegy entered the ERCOT market in February 2016, when it completed an acquisition of ENGIE's U.S. power plants for $3.3 billion with private equity firm Energy Capital Partners. (See *Dynegy, Energy Capital to Buy 8.7 GW in $3.3B Deal*.)

ERCOT represents 15% of Dynegy's capacity, which is dominated by PJM (43%). A combined Luminant and Dynegy would own almost 21.5 GW in ERCOT — about 45% of the company's total — while reducing PJM's share of the total to 29%.

Both Dynegy and Luminant have dealt with Chapter 11 bankruptcy in recent years. Dynegy filed and emerged from bankruptcy protection in 2012 after a failed takeover bid by private-equity firm Blackstone Group. Vistra is the new name for the generation and retail spinoff of Energy Future Holdings, which has been in bankruptcy court since 2014. (See *TXU Energy, Luminant Rebrand as Vistra Energy*.)

Vistra's restructuring eliminated more than $33 billion in EFH debt, putting the company into a position where it could suggest an acquisition to Dynegy. According to the *Journal*, Vistra had only $4.5 billion in debt as of March.

Both companies also have retail businesses. Dynegy has about 963,000 residential customers in Illinois, Ohio and Pennsylvania, while Vistra's TXU Energy provides energy to approximately 1.7 million residential and business customers in Texas' deregulated market.

Vistra shares, which started trading on the New York Stock Exchange on May 11, dropped as low as $14.50 Friday but recovered to close at $15.04, down 21 cents (-1.4%). Dynegy shares opened Friday at $9.24 and finished at $9.12; the company's stock has lost almost 75% in value since June 2014, when it stood at $36/share.

Meanwhile, shares of IPP Calpine, which owns 25,908 MW of generation, have risen by more than a third since the *Journal* reported May 10 that it was considering a sale.

The *RTO Insider* Top 30

Rank	Company	Market Cap ($ billions)	Revenue Q1 2017	% change vs. 2016	Net income Q1 2017 ($ millions)	% change vs. 2016
1	NextEra Energy	$64.25	$3.97	4%	$1,591.00	143%
2	Duke Energy	$58.35	$5.73	7%	$717.00	3%
3	Dominion Energy	$49.43	$3.38	16%	$632.00	21%
4	American Electric Power Co	$33.79	$3.93	-3%	$594.20	18%
5	Pacific Gas and Electric	$33.49	$4.27	7%	$579.00	426%
6	Exelon	$32.47	$8.76	16%	$981.00	698%
7	Berkshire Hathaway Energy	N/A	$4.17	3%	$563.00	14%
8	Sempra Energy	$27.72	$3.03	16%	$441.00	25%
9	PPL	$26.52	$1.95	-3%	$403.00	-16%
10	Edison International	$25.48	$2.46	1%	$392.00	28%
11	Consolidated Edison	$24.54	$3.23	2%	$388.00	25%
12	Xcel Energy Inc	$23.28	$2.95	6%	$239.28	-1%
13	Public Service Enterprise Group	$22.26	$2.59	-1%	$114.00	-76%
14	WEC Energy Group	$19.25	$2.30	5%	$356.90	3%
15	Eversource Energy	$19.05	$2.11	2%	$261.34	6%
16	DTE Energy	$19.02	$3.24	26%	$394.00	64%
17	Avangrid	$13.63	$1.76	5%	$239.00	13%
18	Entergy	$13.58	$2.59	-1%	$86.05	-63%
19	Ameren	$13.49	$1.51	6%	$102.00	-3%
20	CMS Energy	$12.91	$1.83	2%	$199.00	21%
21	FirstEnergy	$12.53	$3.55	-8%	$205.00	-38%
22	Centerpoint Energy	$11.84	$2.74	38%	$192.00	25%
23	Pinnacle West Capital	$9.43	$0.68	0%	$23.31	424%
24	Alliant Energy	$9.06	$0.85	1%	$103.00	4%
25	NiSource	$8.02	$1.60	11%	$211.30	13%
26	Westar Energy	$7.37	$0.57	1%	$63.48	-8%
27	OGE Energy	$6.83	$0.46	5%	$36.00	43%
28	Great Plains Energy	$6.15	$0.57	0%	$(9.60)	N/A
29	NRG Energy	$4.97	$2.76	-15%	$(203.00)	N/A
30	Calpine	$4.96	$2.28	41%	$(52.00)	N/A
	TOTAL		**$81.81**	**6%**	**$9,842**	**30%**

Q1 a Good Start for Most in RTO Insider Top 30

Continued from page 28

realized a $226 million (after-tax) "bargain purchase gain" on its acquisition of the James A. FitzPatrick nuclear plant from Entergy.

Pacific Gas and Electric posted the second-largest gain in net income, earning $579 million, compared to $110 million in 2016. Much of the difference was because of one-time expenses the company incurred in the first quarter of 2016: $381 million (pre-tax) that it had to pay out for a wildfire caused by one of its power lines and disallowed capital charges of $87 million (pre-tax) imposed on it by the California Public Utilities Commission for the San Bruno gas pipeline accident.

NextEra Energy had the fourth largest net-income gain in the quarter, earning $1.6 billion from $654 million in the same period last year. A large portion of that came from the sale of its FiberNet telecom subsidiary for $1.5 billion.

Company Briefs

Duke Energy to Add Electrification Stations to NC Truck Stop

Duke Energy

Duke Energy will spend $300,000 to add 24 electrification stations at a North Carolina truck stop that are projected to save 25,000 gallons of truck fuel annually.

The project, which is part of a 2015 settlement between Duke and EPA, also will include four plugs that will provide standby power for refrigerated cargo to avoid having to run diesel compressors.

Annually, the project is expected to reduce carbon dioxide emissions by almost 500 tons, and volatile organic compounds and nitrogen oxide emissions by more than 2 tons.

More: Trucking Info

Mercedes-Benz, Vivint Partner on Residential Solar, Storage

Mercedes-Benz is partnering with Vivint Solar to combine the auto manufacturer's 2.5-kWh energy storage batteries with the residential solar installer's rooftop to make a combined product for homeowners.

A fully installed 2.5-kWh battery system, paired with a solar energy system, will cost about $5,000, a Vivint spokesperson said. A 20-kWh home energy storage system — made of several connected batteries — will cost about $13,000.

The product, which will compete with what Tesla offers, will be rolled out in California in the second quarter.

More: CNBC

Entergy's Indian Point Unit 3 Returns to Service

Entergy's Indian Point Unit 3 nuclear power plant returned to service Thursday after a scheduled $100 million refueling, maintenance and inspection outage. The planned shutdown began March 13.

More: Entergy; Patch

Chinese Parent Opposes Suniva's ITC Petition

Shunfeng International Clean Energy has submitted a letter to the International Trade Commission supporting free trade in the face of a petition by its subsidiary Suniva seeking protection from solar imports to the U.S.

Suniva, which Shunfeng acquired a 63.13% interest in in 2016, recently filed for Chapter 11 because of declining market prices in the photovoltaic industry.

A report by IHS Markit estimates Suniva's Section 201 trade complaint could cut U.S. PV demand by 60% over the next three years.

More: pv magazine; Renewables Now

Relatives of Ghost Ship Victims Sue PG&E for Deadly Fire

Relatives of people who died in the Dec. 2 Ghost Ship warehouse fire in Oakland, Calif., added Pacific Gas and Electric as a defendant in their wrongful death lawsuits last Tuesday.

The suits, consolidated in Alameda County Superior Court, claim PG&E should have known that the electric hookups in the warehouse where 36 people died were hazardous and illegally installed.

PG&E issued a statement saying it had no reports of electric theft or any other anomalies from the warehouse or the adjacent premises.

More: The Mercury News; The Associated Press

Entergy Names Rod West as Group President of Utility Operations

West

Entergy has named Rod West group president of utility operations, effective July 1. He succeeds Theo Bunting, who is retiring after 34 years of service.

West, who will report to CEO Leo Denault will be responsible for the operational and financial performance of the regulated utilities, including electric and natural gas distribution, and customer service operations. He also will oversee the utility's engagement with state and local regulators, and regulated retail commercial development and innovation.

West previously served as a member of Entergy's Office of the Chief Executive since 2010, when he was named executive vice president and chief administrative officer.

More: Entergy

Federal Briefs

EPA to Allocate $12M for Workforce Buyouts, Early Retirements

EPA plans to allocate $12 million of funds that were carried over from the previous fiscal year to "reshape" its workforce with buyouts and early retirements, according to a memo by its acting chief financial officer.

Another $800,000 of the carried over funds will be used for travel expenses for Administrator Scott Pruitt's security detail; $1.4 million for cloud-computing services and other data storage; and $2 million for consolidating the agency's physical footprint.

An advance copy of EPA's fiscal 2018 budget proposal, which the Trump administration is set to release next week, indicates that the agency's budget will be cut by 31% compared with its current level of funding.

More: The Washington Post

BPA Scraps I-5 Corridor Reinforcement Project

Saying that it could meet demands on the grid without it, the Bonneville Power Administration announced last week that it will not build its proposed I-5 Corridor Reinforcement Project.

The project — an 80-mile, 500-kV transmission line that would have stretched from

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FEDERAL BRIEFS

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Castle Rock, Wash., to Troutdale, Ore. — had morphed from a $346 million proposal in 2009 to a projected cost of $1.2 billion last year.

BPA Administrator Elliot Mainzer said that to manage congestion, BPA will now be looking at battery storage, reducing demand from big customers and managing generation more effectively during peak demand periods. It will also be taking measures to free up space on existing lines.

More: Bonneville Power Administration; The Oregonian

Senate Hearing for FERC, DOE Nominees Scheduled

The Senate Energy and Natural Resources Committee announced it will consider President Trump's nominations for FERC on May 25. The hearing is scheduled for 10 a.m. in Room 366 at the Dirksen Senate Office Building in D.C.

Trump has nominated Neil Chatterjee, energy adviser to Senate Majority Leader Mitch McConnell (R-Ky.), and Pennsylvania Public Utility Commissioner Robert Powelson to the commission. The committee will also consider Dan Brouillette, Trump's nominee for deputy energy secretary. Brouillette, currently head of public policy for USAA, has previously served as chief of staff for the House Energy and Commerce Committee and congressional liaison for the Energy Department during the George W. Bush administration.

More: Senate ENR Committee

2 GOP Governors Urge Trump to Remain in Paris

Perry

Two Republican governors have written to Energy Secretary Rick Perry urging him to ensure the U.S. doesn't drop out of the Paris Agreement.

In a letter Wednesday, Vermont Gov. Philip Scott and Massachusetts Gov. Charlie Baker said remaining in Paris would demonstrate the "leadership" needed to help states reduce their carbon emissions and would allow the U.S. to maintain its "global economic leadership."

More than a dozen governors and just as many state attorneys general have urged President Trump not to abandon the agreement.

More: Reuters

Report: Trump May Drive Away Renewable Energy Investors

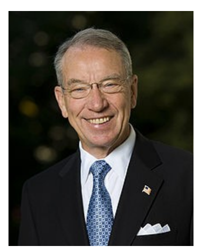
The Trump administration may drive renewable energy investors away from the U.S., according to a report by accounting firm Ernst and Young.

The "Renewable Energy Country Attractiveness Index," released this week, examines a country's need for renewable energy, government incentives, natural resources and government policy to determine its potential for renewable energy growth.

Last year, the U.S. headed the list following its extension of the wind production tax credit. This year, the U.S. ranks behind China and India because of investor concerns that the new administration will abolish federal clean energy incentives and tax credits, according to the report.

More: FuelFix

Grassley Attacks Credibility of Perry's Electric Grid Study



Grassley

Sen. Chuck Grassley (R-Iowa) on Wednesday attacked the credibility of a study of the electric grid's reliability commissioned by Energy Secretary Rick Perry.

In a letter sent to Perry, Grassley said the 60-day study appears to be "geared to undermine" the wind energy industry and "hastily developed." He wanted to know which grid reliability organizations and experts were involved in the study, the cost to taxpayers and whether the report would be open for public comment.

According to Grassley, wind makes up 36% of Iowa's electricity, and the state's largest utility, MidAmerican Energy, is on track to generate 90% of its electricity from wind in a few years. Grassley said MidAmerican has the ninth lowest electricity rates in the country.

More: Reuters

Report: New Residential Solar Capacity down in Q1

Residential solar capacity additions in the U.S. fell 11% from the fourth quarter of 2016 to the first quarter of 2017, according to a forthcoming report from GTM Research and the Solar Energy Industries Association.

The "Q2 2017 U.S. Solar Market Insight" report found a 22% drop in new residential solar capacity in California. Because California makes up about 45% of the U.S. residential solar market, the state's decline affected the industry's performance nationwide.

Year-over-year, the U.S. saw a 17% drop in new residential solar capacity. California saw a 31% drop from 284 MW to 196 MW.

More: Greentech Media

Conn. Sues EPA over Pa. Plant Emissions

Brunner Island power plant | *Talen Energy*

Connecticut sued EPA last week claiming nitrogen oxide emissions coming from the Brunner Island power plant — located 175 miles away in York County, Pa. — are hindering the state's ability to meet federal clean air act standards.

In 2015, Connecticut's ozone levels exceeded eight-hour maximums 22 times, and in 2016 the number rose to 31, according to the state Department of Energy and Environmental Protection. There have been no exceedances so far this year. However, the worst ozone days tend to happen in summer.

Brunner Island, which is operated by Talen Energy, has no controls for nitrogen oxide emissions, said Thomas Schuster, a spokesman for the Sierra Club. Delaware filed a similar complaint with EPA last year.

More: PennLive

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Federal Briefs

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Oil-Fired Plants Provide 3% of US Generating Capacity

Utility-scale generators that reported petroleum as their primary fuel made up only 3% of total U.S. electric generating capacity at the end of 2016, according to data from the Energy Information Administration.

The generators produced less than 1% of total electricity generation last year. More than 68% of the 36.4 GW of U.S. petroleum-fired generating capacity is located in 10 states: Florida, New York, Massachusetts, Connecticut, Virginia, Hawaii, Pennsylvania, Maryland, Missouri and Iowa.

More: *U.S. Energy Information Administration*

Clean Power Plan Supporters Want to Send Rule Back to EPA

Supporters of the Obama administration's Clean Power Plan want to end a stay the Supreme Court placed on the rule last year and send it back to EPA to consider changes.

Kicking the regulation back to the agency would "properly place the responsibility on EPA to follow statutory rulemaking procedures if it wishes to delay implementation or make other changes to the rule," a coalition of environmental and health groups told the D.C. Circuit Court of Appeals last week.

EPA told the court the case challenging the rule, which the Obama administration had previously been defending, should be halted indefinitely so the new administration could focus on completing its current review of the plan.

More: *The Hill*

State Briefs

ARIZONA

Proposal Hikes Charges, Decreases Credits for Future Solar Customers

In the second phase of a rate case decided in February, Tucson Electric Power recently proposed cutting solar export rates, mandating time-of-use rates and increasing a monthly meter fee for its future solar customers.

TEP proposed a solar export rate of 9.7 cents/kWh, compared with the current reimbursement of about 11.5 cents. The monthly meter fee, which is presently $2.05, would increase to $4.32.

New solar customers would have to choose either a two-part time-of-use rate under which usage rates go up during hours of peak demand, or a three-part time-of-use rate that includes a usage-based demand charge based on a period of highest hourly usage during the month.

More: *Arizona Daily Star*

Deal in Works to Keep Navajo Generating Station Open

Navajo Nation President Russell Begaye told coal miners last week that a deal to keep the Navajo Generating Station running through 2019 would come this week.

Begaye said he and Salt River Project, one of the plant's owners and its operator, reached a temporary lease-extension agreement and that he hopes to find new owners to run the plant for at least an additional nine years. The plant and Kayenta Mine, which supplies it, faced the possibility of closure this year because the utility owners concluded it is more economical to buy electricity from natural gas-fired power plants.

SRP has scheduled a meeting Thursday for board members to consider the lease, which also must be approved by the Navajo Nation Council.

More: *The Arizona Republic*

ARKANSAS

Wastewater from Nuclear Plant Flowing into Drinking Water

University of Arkansas

The University of Arkansas has begun disposing wastewater from the SEFOR nuclear plant into the Fayetteville sewer system, where it will flow into a treatment plant and eventually into Beaver Lake, which is the area's main source of drinking water.

The water was tested by an outside laboratory and the state Health Department, which found it to be two and one-half times below the limit for radioactive materials.

The department and the Beaver Water District said the dilution of the water throughout the various systems, coupled with its low radiation level, make it safe to drink.

More: *KHBS*

CALIFORNIA

Chamber of Commerce Appeals Cap-and-Trade Ruling

The California Chamber of Commerce filed an appeal last week to the state's highest court asking it to overturn an appellate court decision in April upholding the legality of cap and trade.

The lawsuit argues cap and trade is a tax on businesses, which would have required a two-thirds vote in the Legislature to create.

More: *Capital Public Radio*

NORTH CAROLINA

Regulators Give Duke 60 Days to Answer Questions on Lee

State regulators are giving Duke Energy 60

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State Briefs

Continued from page 32

days to answer more than a dozen questions regarding plans for its proposed Lee Nuclear Station given the financial troubles surrounding the Westinghouse Electric nuclear projects in Georgia and South Carolina.

Toshiba subsidiary Westinghouse, which filed for Chapter 11 in March, is the designer and principal contractor for the reactor planned at Lee.

The Utilities Commission requested information including an assessment of Toshiba's financial situation and its potential impact; descriptions of contracts Duke entered with Toshiba and its affiliates, including termination clauses; and an estimate of delays caused by Toshiba's situation. Regulators also inquired whether the license issued by the U.S. Nuclear Regulatory Commission is contingent on Duke's use of Westinghouse's AP1000 reactor.

More: Charlotte Business Journal

OHIO

Critics Say AEP's Proposed Rate Hike Hurts EE, DG

A proposal by American Electric Power to more than double fixed charges for its state utility customers has received backlash from critics who say it would discourage energy efficiency and distributed generation.

AEP is proposing to increase the current fixed rate from $8.40/month to $18.40/month by 2018, saying the increase will be accompanied by reductions in other charges, and the average ratepayer's bill will only go up by a couple of dollars per month. An evidentiary hearing in the case is scheduled to start on June 6.

Samantha Williams, an attorney with the Natural Resources Defense Council, said loading the upfront fees makes it harder for customers to see tangible savings from their energy efficiency and rooftop solar investments.

More: Midwest Energy News

Hearings Suspended on Bill to Subsidize FirstEnergy Nukes

A bill that would allow FirstEnergy to subsidize its nuclear plant fleet has stalled after the chairman of the House Public Utilities Committee suspended further hearings and a vote.

House Bill 178 would have added $300 million to FirstEnergy's annual income for the next 15 years.

William Seitz, a Cincinnati Republican who chairs the committee, said the committee heard 10 hours of testimony from both proponents and opponents, and that he did not sense a "keen desire" by House members to vote. Seitz did not anticipate more hearings soon "unless something cataclysmic should happen."

More: The Plain Dealer

VERMONT

Regulators Want to Limit Wind Project Noise to 'Library' Levels

The Public Service Board has proposed limiting noise from future wind projects to sound levels that it characterized as quieter than a library, stream or refrigerator — and sent the new standards.

Under the proposed standards, sent last week to legislators for final review, sound measured 100 feet from nearby homes would be limited to 39 decibels at night and 42 during the day. The board had initially proposed a nighttime limit of 35 decibels.

Wind advocates said the 39-decibel limit is not achievable. However, Sen. Chris Bray, chair of the Senate Committee on Natural Resources and Energy, said rules substantially similar to the board's proposal are already in effect in several European countries.

More: VTDigger

VIRGINIA

Gov. Wants to Fill 'Void' Left by Trump on Cutting Carbon Emissions


McAuliffe

Gov. Terry McAuliffe issued an order last week asking regulators to craft rules aimed at power sector carbon emissions by Dec. 31.

In signing Executive Directive 11, McAuliffe asked regulators to propose a rule for the state air pollution control board that would enable the state to participate in a multistate cap-and-trade program, such as the Regional Greenhouse Gas Initiative for northeastern states.

McAuliffe said it is critical that states "fill the void" left by the Trump administration on cutting carbon emissions.

More: Reuters

New York Geared for 2017 Summer Load

Staff of the New York Public Service Commission said Thursday that the state's utilities have 41 GW of capacity for the summer, more than enough to meet a projected summer peak of 33.2 GW.

"We have plenty of reserves, and prices are going to be moderate," Mike Worden, director of the office of electric, gas and water, said in delivering the New York 2017 Summer Preparedness Report at the commission's May 18 meeting.

The report forecast capability this summer to be 123.6% of demand. The total capability requirement, including the 18% installed reserve margin, is 39,150 MW.

Commissioner Diane Burman asked Leka Gjonaj, chief of bulk electric systems, if the peak load forecast would change if the economy grew more than expected. He replied that NYISO includes econometrics in its forecasts and they would adjust those values to reflect higher growth rates if necessary.

"Peak loads continue to decline, and while we can't line up the reasons one-on-one … we can point to several things that have contributed to it," Worden said. "Contributing factors include more energy efficiency, more conservation and more distributed generation, and the positive REV [Reforming the Energy Vision] policies that the commission has enacted over the last three years."

— Michael Kuser