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

ISSN 2377-8016 : Volume 2020/Issue 15 April 14, 2020

COVID-19 RESPONSE

Co-ops, Public Power Seek US Aid in Pandemic

IOUs Seek Aid on Credit

By Rich Heidorn Jr.

Public power and electric cooperatives are asking Congress to include them in future COVID-19 relief legislation, saying their utilities are facing a cash crunch because of unpaid utility bills.

Mohave Electric Cooperative's Ardie Lauxman and Donna Hill prepare meals for seniors in an Arizona coffeehouse that was converted into a community kitchen. | *Anita Gill*

"One in eight Americans depend on a not-for-profit electric cooperative to keep the lights on and empower their local economy," Jim Matheson, CEO of the National Rural Electric Cooperative Association (NRECA), wrote in a *letter* to congressional leaders March 6. "As Congress crafts the next legislative response to this crisis, I write today to request the inclusion [of] remedies to challenges currently facing electric cooperatives."

NRECA said "the vast majority" of cooperatives have temporarily suspended disconnections and waived late payment fees. The

Continued on page 5

MORE COVERAGE

Va. 1st Southern State with 100% Clean Energy Target

By Rich Heidorn Jr.

Gov. Ralph Northam | *NGA*

Virginia Gov. Ralph Northam (D) on Sunday signed into law landmark legislation committing the state to closing most of its coal-fired generation by 2024 and making it the first Southern state to adopt a 100% clean energy standard.

"These new clean energy laws propel Virginia to leadership among the states in fighting climate change," Northam said in a statement. "They advance environmental justice and help create clean energy jobs. In Virginia, we are proving that a clean environment and a strong economy go hand-in-hand."

The Virginia Clean Economy Act (*House Bill 1526* and *Senate Bill 851*) creates a CO_2 cap-and-trade program to reduce emissions from power plants and amends the Clean Energy and Community Flood Preparedness Act, which committed the state to joining the Regional Greenhouse Gas Initiative (RGGI).

The legislation is a stunning turnaround for

Continued on page 25

New Pa. Generator Hedging Gas Prices with Ethane

CPV Fairview Energy Center (p.26) | *Competitive Power Ventures*

Also in this issue:

©2020 RTO Insider LLC
10837 Deborah Drive ▪ Potomac, MD 20854 ▪ (301) 299-0375 ▪ info@rtoinsider.com ▪ www.rtoinsider.com ▪

RTO Insider

CAISO ERCOT ISO-NE MISO NYISO PJM SPP

Editorial

Editor-in-Chief / Co-Publisher
Rich Heidorn Jr. 202-577-9221

Deputy Editor / Senior Correspondent
Robert Mullin 503-715-6901

Art Director
Mitchell Parizer 718-613-9388

Associate Editor / D.C. Correspondent
Michael Brooks 301-922-7687

Associate Editor
Shawn McFarland 570-856-6738

CAISO/West Correspondent
Hudson Sangree 916-747-3595

ISO-NE/NYISO Correspondent
Michael Kuser 802-681-5581

MISO Correspondent
Amanda Durish Cook 810-288-1847

PJM Correspondent
Michael Yoder 717-344-4989

SPP/ERCOT Correspondent
Tom Kleckner 501-590-4077

NERC/ERO Correspondent
Holden Mann 205-370-7844

Subscriptions

Chief Operating Officer / Co-Publisher
Merry Eisner 240-401-7399

Sales Director
Marge Gold 240-750-9423

Account Executive
Kathy Henderson 301-928-1639

Marketing Director
Margo Thomas 480-694-9341

RTO Insider LLC
10837 Deborah Drive
Potomac, MD 20854
(301) 299-0375

2020 Annual Subscription Rates:

Plan	Price
Newsletter PDF Only	$1,450
Newsletter PDF Plus Web	$2,000

See additional details and our Subscriber Agreement at rtoinsider.com.

In this week's issue

FERC/Federal

CAISO/West

ERCOT

ISO-NE

MISO

PJM

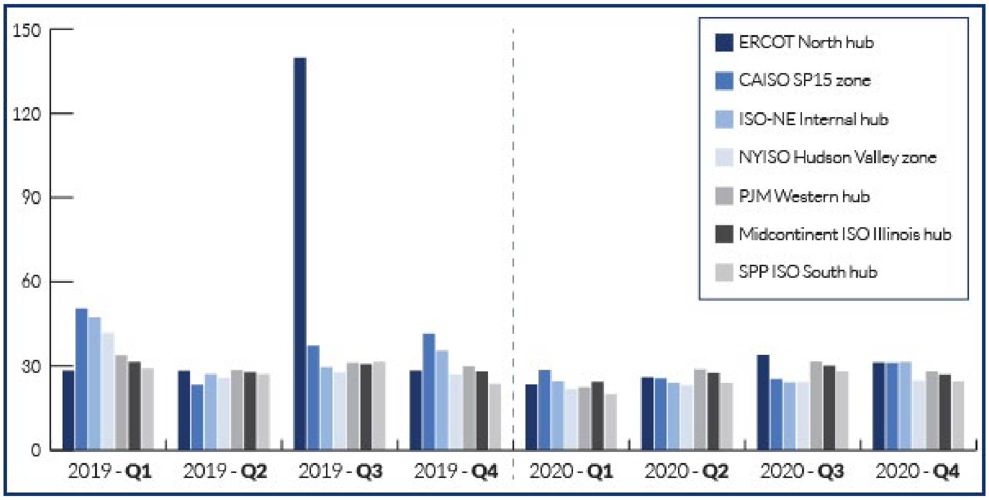
SPP

Briefs

FERC/Federal News

EIA: Renewable Capacity to Grow in 2020

By Michael Brooks



EIA predicts that RTO/ISO wholesale energy prices, which were already lower in Q1 this year because of a mild winter, will remain lower for the rest of the year because of the economic slowdown. | *EIA*

Renewable resources will account for the largest proportion of new capacity this year, the U.S. Energy Information Administration predicted, though their growth will be tempered by the economic slowdown caused by the global COVID-19 pandemic.

Renewable capacity will increase by 11%, with the power sector adding 19.4 GW of wind and 12.6 GW of solar by the end of the year, EIA said in its monthly Short-Term Energy Outlook *report* released April 7. Those figures are 5% and 10%, respectively, lower than what the agency predicted in its previous report, which was published March 11, the same day the World Health Organization labeled the coronavirus outbreak a pandemic and just as the economic crisis was beginning.

Throughout the report, EIA cautioned about the uncertainty of its projections because of the "rapidly changing economic conditions" resulting from state governors' stay-at-home orders and the mass closures of nonessential businesses. "Although all market outlooks are subject to many risks, the April edition of EIA's Short-Term Energy Outlook is subject to heightened levels of uncertainty because the impacts of the" virus, it said.

The agency predicted total electricity consumption to fall by 3% this year. The decline will mostly be driven by a 4.7% cut in commercial consumption. The industrial sector is expected to consume 4.2% less "as many factories cut back production." Even residential consumption is expected to fall 0.8%, "as reduced power usage resulting from milder winter and summer weather is offset by increased household electricity consumption as much of the population stays at home."

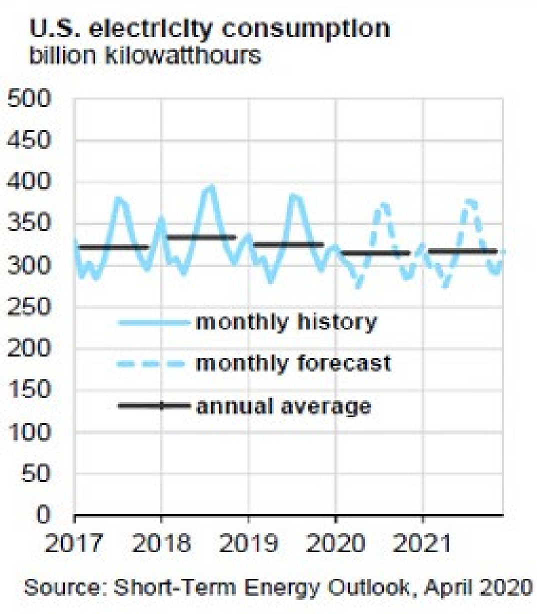
C&I prices are expected to dip this year before rebounding and surpassing those of 2019 in 2021. Residential prices will stay flat this year before following the C&I trend in 2021.

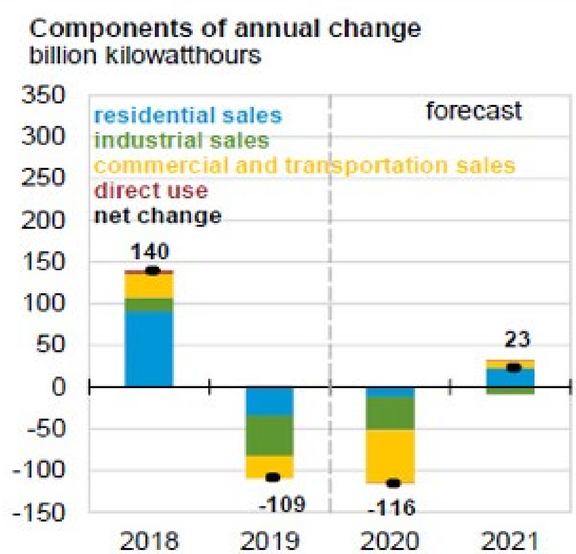
All U.S. grid operators will see a decrease in energy prices, according to EIA, but ERCOT will see the largest dip, with the North Hub average price falling 49.1% from $56.24/MWh in 2019 to $28.65, though its prices last year were inflated by an unusually hot summer. CAISO is second with a 27.5% drop, followed by ISO-NE (25.3%), NYISO (23.1%), SPP (13.2%), PJM (10.1%) and MISO (7.6%).

Carbon emissions will follow a similar trend. After decreasing by 2.7% in 2019, EIA predicted CO_2 emissions would further decrease by 7.6% this year "as the result of the slowing economy and restrictions on business and travel activity," before they increase by 3.6% in 2021.

Coal generation will fall by 20%, according to the report, while natural gas generation will rise by 1% as a result of low fuel prices.

"Although EIA expects renewable energy to be the fastest growing source of electricity generation in 2020, the effects of COVID-19 and the resulting economic slowdown are likely to have an impact on new generating capacity builds over the next few months," the agency said. ■





| *EIA*

FERC/Federal News

FERC Sets Tech Conference on Hybrid Resources

By Rich Heidorn Jr.

Duke Energy began testing a hybrid ultracapacitor-battery energy storage system (HESS) at its Rankin Substation in Gaston County, N.C., in 2016. The substation is connected to a 1.2-MW solar installation a mile away. | *Maxwell Technologies*

FERC will hold a technical conference July 23 on the "technical and market issues" raised by the growth of hybrid generation and storage resources.

The commission said the conference will run from 9 a.m. to 5 p.m. ET and will be held either in person at commission headquarters at 888 First St. NE, Washington, DC 20426 (with a WebEx option available) or solely via teleconference if necessary because of the COVID-19 pandemic.

The commission will issue a supplemental notice before the conference with the agenda and a decision on the venue.

Those interested in participating as panelists must *submit* a nomination form by 5 p.m. May 15. Individuals can register to attend at *https://www.ferc.gov/whats-new/registration/07-23-20-form.asp*.

More information is available from *Kaitlin Johnson* (202-502-8542) for technical questions and *Sarah McKinley* (202-502-8368) for logistical issues.

Commissioners may participate in the conference.

Commissioner Richard Glick called for a technical conference on hybrids at the Energy Storage Association's annual Policy Forum in February. Among the questions the commission needs to answer, he said, are how the addition of storage to an existing solar or wind project affects its position in interconnection queues and whether it is treated as a dispatchable or intermittent resource. "We need to learn what some of these issues are — what some of the barriers are — for hybrid technologies," he said. (See *Energy Storage: All Grown Up?*)

Hybrids have been an increasing topic of conversation in the RTOs.

PJM's Markets and Reliability Committee will be asked at its April 30 meeting to approve creation of a new senior task force to clarify how existing rules for intermittent and energy storage resources would apply to inverter-based solar-battery hybrids. The task force will also consider requirements needed to incorporate hybrids into PJM markets. There are more than 10,000 MW of co-located generation and energy storage hybrid resources in the PJM interconnection queue — more than 95% of the capacity is solar-battery hybrids. (See *PJM MRC Moves Forward on Storage, Hybrids*.)

NYISO began work in January on development of a model for market participation by front-of-the-meter energy storage resources paired with generation. The Hybrid Storage Model project will evaluate whether co-located storage resources can receive a single dispatch schedule. Co-located resources are currently required to be separately metered. (See *NYISO Prepares Hybrid Storage Market Participation*.)

In MISO, some stakeholders say hybrid resources are a more pressing matter than the RTO's storage-as-transmission assets proposal. (See *MISO Undecided on Amending Storage Plan*.)

CAISO is continuing a hybrid resources *initiative* it began last year. Developers in the state have proposed 25,000 MW of projects that pair storage with existing or new generation. (See *CAISO's 2020 Vision Anticipates Big Change*.) ■

FERC/Federal News

Co-ops, Public Power Seek US Aid in Pandemic

IOUs Seeks Aid on Credit

Continued from page 1

American Public Power Association (APPA) said a "large number" of public power utilities have suspended customer disconnects during the pandemic.

"The longer the pandemic goes on and customers can't pay their electricity bills, along with declining load, there could be negative effects on cash flows for utilities," APPA said in a *blog post* Wednesday.

Desmarie Waterhouse, APPA's vice president of government relations, said the organization is asking its members whether they are seeing load declines and "at what point in their billing cycle they are noticing an uptick in the number of customers who can't pay their bills."

"We are trying to gather information right now that would be helpful for us to make the case for some sort of additional funding that would be available to public power utilities," she said.

Matheson asked for federal funding to help co-ops maintain service during the current economic stress. "Some electric co-ops have limited reserve margins to sustain high rates of nonpayment. As a result of nonpayments and load falloff resulting from economic hardship, some not-for-profit electric cooperatives are facing significant operational shortfalls," he said. "Without federal assistance, co-ops may face severe financial distress."

LIHEAP Funding

Congressional leaders are *discussing* hundreds of billions of dollars in aid for hospitals, state and local governments, food stamp recipients and small businesses.

The $2 trillion CARES Act enacted last month included an additional $900 million for the Low-Income Home Energy Assistance Program (LIHEAP), but many ratepayers now out of work do not qualify, NRECA noted.

State LIHEAP directors are calling for an additional $4.3 billion in LIHEAP funding, according to the National Energy Assistance Directors Association (NEADA).

"Due to the depth of the crisis, this funding only scratches the surface of what families will need to stay afloat," NEADA *said*. Its estimate of need assumes an average grant of $325 to cover home energy costs for four months, plus $300 to provide window or room air conditioners for elderly and medically vulnerable households to keep their homes at a safe temperature.

Matheson said NRECA also would like Congress to provide vouchers to help needy families and small businesses to pay internet service providers. "Service is especially crucial during the pandemic for online school assignments, teleworking and telemedicine," it said. It also seeks more funding for the Department of Agriculture's Rural Utilities Service (RUS) ReConnect Broadband Loan and Grant Program to bring high-speed internet to rural areas.

NRECA also urged the Federal Emergency Management Agency to reimburse co-ops for past disasters. Some Florida co-ops are still awaiting reimbursements for rebuilding their systems after Hurricane Michael in 2018, NRECA said.

Financing

Financing is also a concern of NRECA, APPA and the investor-owned utilities represented by the Edison Electric Institute.

NRECA wants lawmakers to order the RUS program to allow co-ops to reprice or refinance RUS debt at current low interest rates without penalties. Co-ops hold more than $40 billion in RUS electric program loans.

The organization also is seeking an increase in the amount of lending available under the RUS Guaranteed Underwriter Program, which guarantees loans made to co-ops by private cooperative banks including the National Rural Utilities Cooperative Finance Corp. and CoBank.

APPA is seeking reinstatement of tax-exempt advance refunding bonds to allow public power utilities more flexibility in refinancing their debt. It is also seeking an expansion of the small issuer exception from $10 million to $30 million to allow smaller utilities to borrow directly from banks with tax-exempt debt.

IOUs Seek Help on Commercial Paper

Meanwhile, EEI — which *announced* on March 19 that its members had suspended disconnects for nonpayment — is seeking help to restore liquidity in utilities' commercial paper market.

EEI, the American Gas Association and the National Association of Water Companies asked the Federal Reserve to extend the *Commercial Paper Funding Facility* (CPFF) program announced last month to the A2/P2/F2 Tier 2 commercial paper market on which their members depend.

NRECA CEO Jim Matheson

"Liquidity is rapidly declining," they said, causing Standard & Poor's to downgrade the outlook for regulated utilities sector to negative.

"Utilities are highly creditworthy, are significant issuers in the A2/P2/F2 commercial paper market and rely on liquid, smoothly functioning markets for working capital and other short-term needs. However, our operating and holding companies are facing severe degradation of revenue and extraordinary increases in short-term funding costs due to the current Tier 2 challenges, creating a serious economic strain on the most essential of services," the trade groups said.

The trade groups asked the Fed to extend its CPFF purchasing to Tier 2 holding and operating companies in sectors designated as critical infrastructure under the Presidential Policy Directive on Critical Infrastructure Security and Resilience (PPD-21).

On April 7, FERC Chairman Neil Chatterjee and National Association of Regulatory Utility Commissioners President Brandon Presley *wrote* in support of the groups' request.

"We believe that extending CPFF purchasing would be a constructive step toward ensuring a properly functioning, critically important short-term debt market during this challenging period," they said. "Both their continued financial stability and their ability to continue to support the country's essential infrastructure are supported by ready access to short-term debt." ■

FERC/Federal News

Methane Levels Hit All-time High

ExxonMobil Announces New Capture Efforts

By Rich Heidorn Jr.

Emissions of heat-trapping methane hit a new high in 2019, according to preliminary *data* from the National Oceanic and Atmospheric Administration.

The agency reported globally averaged atmospheric methane levels hit 1,874.7 parts per billion in December 2019, an increase of almost 0.5% from a year earlier and the second-largest annual increase in the last 20 years. NOAA cautioned that its analysis was preliminary; final numbers are expected in November.

Methane is emitted by cows, sheep, microbes in wetlands, and oil and gas wells. While it remains in the atmosphere for only about a decade, much less than CO_2, it absorbs much more energy than CO_2. Thus, EPA says methane's *global warming potential* (GWP) is about 30 times that of carbon dioxide.

After almost leveling off between 2000 and 2005, methane emissions have increased sharply since 2006, a period in which U.S. natural gas production has *increased* by more than 70%, according to the Energy Information Administration.

Methane emissions from the oil and gas sector totaled almost 80 metric tons in 2017, 6% of global energy sector greenhouse gas emissions, *according* to the International Energy Agency.

Because methane is valuable, IEA says almost half of the emissions from drilling could be captured at no net cost.

"Emissions remain high despite initial industry-led initiatives and government policies announced recently," IEA said. "Implementing abatement options quickly and at scale remains a real challenge."

ExxonMobil Field Trials

ExxonMobil *announced* last week it is conducting field trials of eight methane detection technologies, including satellite and aerial surveillance monitoring, at nearly 1,000 sites in Texas and New Mexico.

"The field tests are evaluating effectiveness and scalability of a range of next-generation detection technologies that, in addition to satellites, use drones, planes, helicopters, [and] ground-based mobile and fixed-position sensors. All technologies and deployment methods will be used to detect leaks and identify potential solutions that can be shared with other oil and gas operators," the company said.

ExxonMobil is running field tests of SeekOps' methane detection technology, which uses drones. | *SeekOps*

"We are already seeing the benefits of some of these technologies," said Staale Gjervik, president of ExxonMobil subsidiary XTO Energy. "Through the trials, we have discovered methane sources that would otherwise not have been detected as efficiently or quickly under the current methods prescribed by regulations. The company is committed to immediately investigating and fixing methane emissions that are detected during the trial."

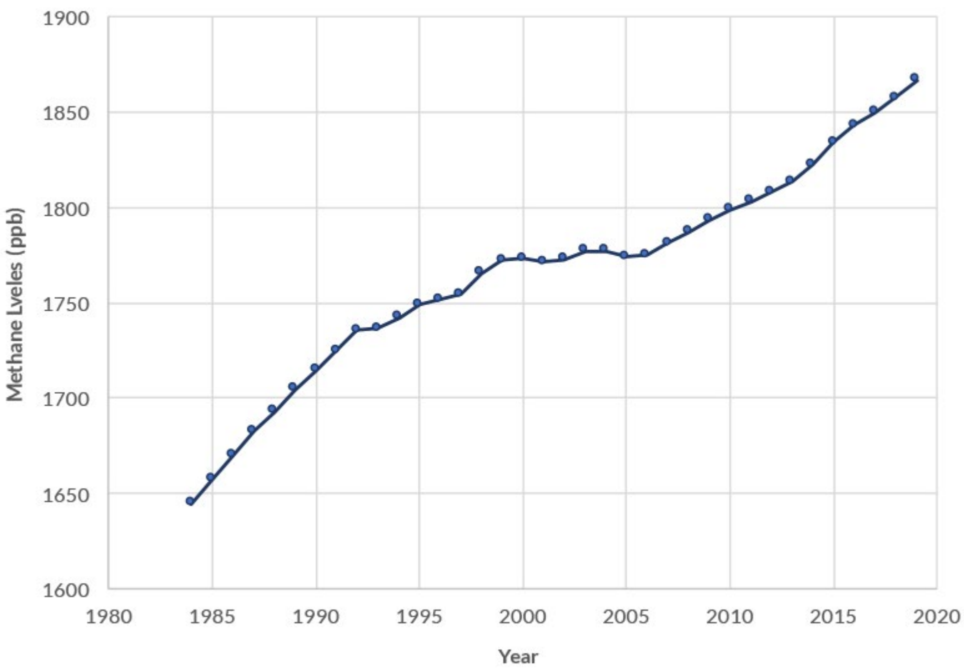
The company said it reduced emissions by almost 20% in its U.S. unconventional operations between 2016 and 2019. It has made a corporate-wide commitment to reduce methane emissions by 15% and reduce flaring by 25% by the end of 2020.

In March, ExxonMobil proposed a *regulatory model* for reducing emissions.

The Trump administration in 2018 reversed proposed regulations to reduce leaking, venting and flaring of methane at drill sites on *federal and tribal land* and a requirement that companies *monitor and repair* methane leaks.

Dry natural gas production *grew* by 10% to a record 92.2 Bcfd in 2019 but is expected to drop slightly in 2020 and 2021 because of low prices, EIA *said* last week in in its Short-Term Energy Outlook. The agency also said its forecasts are "subject to heightened levels of uncertainty" because the impacts of the COVID-19 pandemic on energy markets are "still evolving." (See related story, *EIA: Renewable Capacity to Grow in 2020*.)

The economic shutdown caused by the pandemic could reduce global carbon dioxide emissions by more than 5% this year, *according* to the Global Carbon Project. It would be biggest reduction since the end of World War II. ■



After almost leveling off between 2000 and 2005, methane emissions have increased sharply since 2006, a period in which U.S. natural gas production has increased by more than 70%. | *NOAA*

Court Won't Endorse Letter to PG&E Fire Victims

By Hudson Sangree

The judge overseeing PG&E's massive bankruptcy said he wouldn't approve a letter that lawyers for wildfire victims want to send asking the victims to hold off voting on the utility's Chapter 11 reorganization proposal.

Judge Dennis Montali | *Commercial Law League of America*

The victims' lawyers can send the letter independently, but a court endorsement would be inappropriate and would only cause confusion in a balloting process that's already complex enough, said U.S. Bankruptcy Judge Dennis Montali in a ruling issued April 7. Parties in bankruptcies are free to solicit support for their point of view.

"A massive undertaking for sending voluminous materials and soliciting votes on the plan is well underway," Montali said. "Hundreds, if not thousands, of members of the class have already voted.

"The TCC [Tort Claimants Committee] apparently does not want to upset those votes, but it is beyond doubt that confusion will reign if the court permits the proposed letter to go out, leaving countless fire victims confused even more than they might be now. Are their cast votes valid? Should they ask to withdraw them? And what happens if there is a pause, and voters do not recast their votes in time?

"The court is satisfied that agreeing to the TCC's request will cause more harm than good, and court approval of its proposal is ill-advised and must be rejected," the judge said.

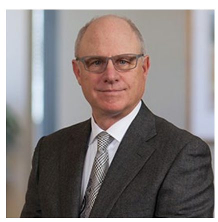
Lawyers in PG&E's bankruptcy case had argued earlier that morning about whether the court should approve a letter to more than 70,000 fire victims informing them of potential flaws in the $13.5 billion settlement that PG&E agreed to in December.

The main problem, the fire victims' attorneys told Montali, is that the $6.75 billion in PG&E stock promised in the deal may be worth far less because of the stock's volatility, exacerbated by the company's heavy debt load and the COVID-19 pandemic.

Utility stock is supposed to fund half the victims' $13.5 billion trust, but the dollar amount isn't guaranteed — only the percentage of

| © *RTO Insider*

PG&E shares allocated, lawyers explained. At the time the deal was reached, it was anticipated that the shares, amounting to a 21% equity stake in the company, would be worth about $6.75 billion.



Robert Julian | *Baker-Hostetler*

That may no longer be the case, victims' attorney Robert Julian told Montali. Another lawyer estimated the shares would be worth only $4.85 billion, he said.

Julian said he didn't necessarily agree with such a low an estimate. Even so, he said, the TCC no longer could support the settlement plan and wants fire victims to hold off on voting for PG&E's Chapter 11 reorganization proposal until the stock issue and other matters can be resolved. (See *Fire Victims Challenge PG&E Deal as Vote Looms*.)

He accused PG&E at one point of planning to postpone funding the trust with stock until the end of the year as a way to cushion current shareholders from the coronavirus impact. Victims were told previously that the trust would be funded in August, he said.

In his ruling, Montali said all the issues raised by the TCC were known when he approved PG&E's disclosure statement a month ago and should have been dealt with then. (See *PG&E Tries to Put Bankruptcy Plan in Layman's Terms*.)

'This Silly Letter'

The proposed letter, as it was filed with the court on April 6, would have asked fire victims to hold off voting for PG&E's Chapter 11 plan until May 1, but plaintiffs' lawyers backed off that request the next day and suggested April 25 as a deadline to try to negotiate the issues while keeping victims informed by mail.

"We want the truth to be told to the victims," Julian said.

Other creditor groups that settled with PG&E, including insurance companies and hedge funds, will receive all-cash payments, Julian noted. "Fire victims are the only ones standing with this risk of not getting paid or not getting what they bargained for," he said.

Stephen Karotkin | *© RTO Insider*

PG&E lawyer Stephen Karotkin called "this silly letter he wants to send out" a negotiating tactic by Julian and other victims' lawyers to see if they can get a better deal than the settlement agreement they reached months ago after lengthy negotiations.

"Enough is enough on this issue" of guaranteeing the value of PG&E's stock, Karotkin said.

PG&E's plan was recently outlined in a disclosure statement and sent to tens of thousands of creditors along with ballots for the creditors' — including fire victims — vote on the plan. At this point, any party is free to try to persuade other creditors to vote yes or no, Karotkin said.

CAISO/West News

Julian and the other TCC attorneys want the court to approve the letter as a shield against malpractice claims later on, he said. Karotkin didn't oppose the letter but argued strongly against the court adding its "imprimatur" by approving it before it is sent to victims.

"[Julian's] a big boy. Let him make a decision whether he wants to send it out," Karotkin told the judge.

'A Pot of Gold'

Montali said he would take a day or two to consider the arguments before issuing a written ruling, but he made his decision hours later.

With the courthouse closed because of the pandemic, the hearing took place during a teleconference frequently interrupted by technical glitches. Some participants were in New York, others in San Francisco. The judge, apparently calling from home, was disconnected twice.

The bankruptcy hearings, with dozens of participants, have continued by phone during the state's lockdown because of the tight deadline PG&E faces.

PG&E is trying to end its bankruptcy by June 30 to take advantage of a state wildfire insurance fund and to avoid a state takeover. Montali also on April 7 approved an agreement between PG&E and California Gov. Gavin Newsom that would allow the state or a third party to purchase the company if it doesn't complete its reorganization by the end of June. (See *PG&E Deal with Gov. Allows for Utility's Sale*.)

May 15 is the designated end for voting on the reorganization plan. The June 30 deadline prevents what would otherwise be an ordinary extension of the bankruptcy proceedings, Montali said. The pandemic has resulted in courts and government agencies extending many other deadlines, he noted.

The strict timeline that PG&E is under could be jeopardized by a growing grassroots movement among fire victims to reject the company's offer.

Recently, three members of the 11-member TCC, made of up of fire victims, resigned so they could openly criticize the $13.5 billion settlement proposal as a poor deal. One said the TCC's lawyers had breached their fiduciary duty to victims by failing to disclose its risks. (See *Fire Victims Challenge PG&E Deal as Vote Looms*.)

At the April 7 hearing, fire victim Will Abrams, a frequent self-represented litigant in the bankruptcy court, supported the TCC's letter and said some lawyers seemed to be telling victims to vote first and ask questions later.

"They're pitching this as 'there's a pot of gold and all you have to do is vote yes,'" Abrams told the judge.

Abrams was one of thousands who lost their homes in the Northern California wine country fires of October 2017 and the Camp Fire in November 2018. State fire investigators blamed most of the wine country blazes and the Camp Fire, the deadliest in state history, on failed PG&E equipment.

PG&E sought bankruptcy protection in January 2019 after the fires saddled it with an estimated $30 billion or more in liabilities to those who lost family members, homes and businesses.

Its bankruptcy is now estimated to cost close to $60 billion, making it among the largest in U.S. history. ■

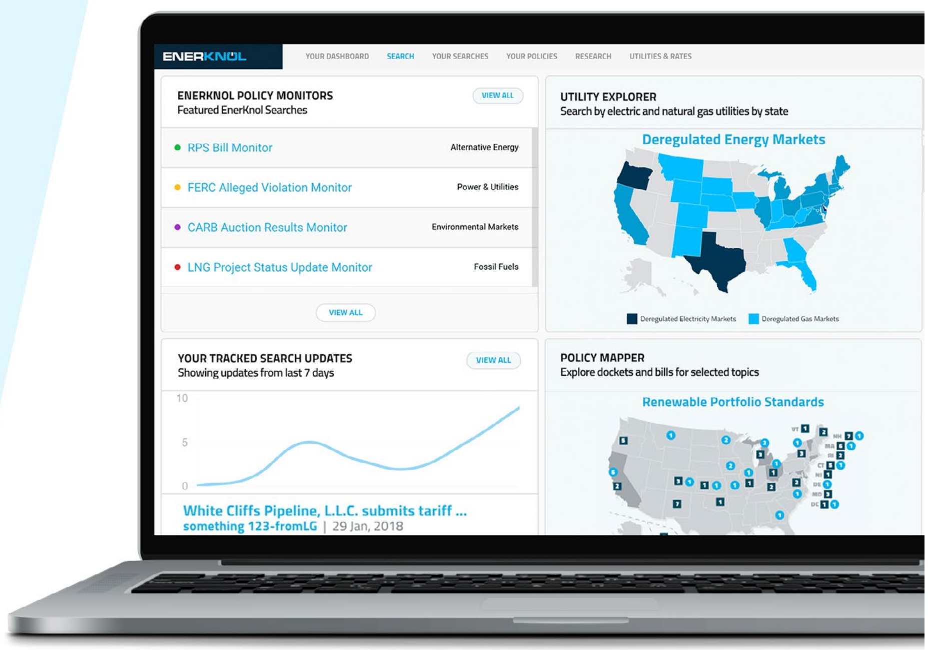
ENERKNOL

Our users don't have FOMO.

Don't miss out on real-time regulatory and legislative updates with EnerKnol, the comprehensive platform of US Energy Policy data.

START DISCOVERING TODAY

BEGIN YOUR FREE 7-DAY TRIAL AT ENERKNOL.COM



20+ Million Filings at Your Fingertips • One-Click Tracking

Automated Real-time Updates • Proprietary Research

ENERKNOL.COM

CAISO/West News

California Travels Down Electrification Road

Replacing Natural Gas Appliances Seen as Key to Decarbonization

By Hudson Sangree

The California Energy Commission boosted the state's efforts to electrify buildings and improve the efficiency of electric appliances last week when it approved electrification and green energy ordinances in seven cities and required that swimming pool pump motors — a significant energy user in homes and hotels — become more efficient.

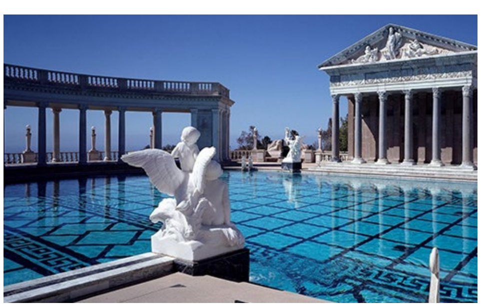
California has nearly 1.2 million swimming pools, more than one-fifth of all pools in the U.S., according to real estate data tracking firm Metrostudy. Replacing older burnt-out motors with high-efficiency ones eventually will save 451 GWh/year, the commission estimated.

"To put that amount of savings into perspective, that's enough electricity to power the entire fleet of trains operated by BART, the Bay Area Rapid Transit train system — serving San Francisco, Oakland and many of the cities on the way to San Jose — for a year," Noah Horowitz, the director of the Natural Resources Defense Council's Center for Energy Efficiency Standards, wrote in a blog post praising the move.

The new California rules bolster national energy efficiency standards for pool pumps that take effect in 2021, the NRDC said.

In its April 8 meeting, the CEC also approved municipal rules for building electrification and energy efficiency in new construction that exceed current state standards.

The communities include Cupertino, the Silicon Valley suburb where Apple has its headquarters. The city of 60,000 residents adopted an ordinance requiring that new buildings be all-electric. The nearby cities of Saratoga and Pacifica will require new single-family and many multifamily buildings to use electricity



The Hearst Castle's Neptune Pool | *California State Parks*

Pacifica is one of seven cities that adopted building electrification plans approved by the California Energy Commission. | *U.S. Army Corps of Engineers*

for heating and cooling systems and water heaters.

San Francisco, along with San Rafael and Mill Valley in Marin County, passed rules requiring new buildings and remodels to achieve high scores under green building certification programs, including Leadership in Energy and Environmental Design. Those requirements are expected to result in the installation of electric heating and cooling systems in place of those that use natural gas.

A Los Angeles ordinance approved by the CEC requires that all buildings install cool roofs for the "reduction of the heat-island effect."

Achieving Zero Carbon

The cities join a growing number of local governments instituting aggressive changes to reduce fossil-fuel emissions for residential and commercial structures. Last year, Berkeley became the first city to ban natural gas in new construction as other cities weighed similar measures. (See *West Coast Pushes for Building Electrification*.)

The Public Utilities Commission recently devoted $200 million to jump-start electrification efforts, for "the purpose of decarbonizing California's residential buildings in order to achieve California's zero-emissions goals," Commissioner Liane Randolph wrote in her proposed decision, which the commission adopted March 26.

The state's twin goals of greatly reducing greenhouse gas emissions and relying wholly on renewable and nonpolluting energy by mid-century are driving the electrification effort. Advocates see vehicles and buildings as areas where fossil fuels can be eliminated.

The cities that have adopted green building and electrification efforts are primarily located in wealthier and politically liberal coastal California. Residents of the state's more conservative interior have, in some cases, resisted such efforts. (See *Bakersfield Balks at Electrification with CPUC*.)

But the movement is expected to grow in coming years both through mandatory efforts and voluntary replacement of natural gas furnaces and water heaters with energy-efficient systems.

The Sacramento Municipal Utility District, for example, offers rebates of $1,500 to $4,000 to residents who upgrade to electric heat pumps for home heating and cooling and $2,500 rebates for those who install heat-pump water heaters. SMUD has also been encouraging the construction of all-electric homes.

"Customers with all-electric homes in SMUD's service area are well positioned for a renewable energy economy and can typically save $400 compared to homes that rely on gas for space heating and hot water," the utility said in a news release. "These homes will help community-owned SMUD meet its aggressive commitment to reach carbon neutrality by 2040 and surpass the state's greenhouse gas reduction goals of 80% by 2050." ■

ERCOT Stakeholders Dig into Real-time Co-optimization

By Tom Kleckner

ERCOT stakeholders have begun the arduous process of reviewing and commenting on the protocol changes the grid operator has drafted to add real-time co-optimization (RTC) to its energy-only market.

Members of the Real-Time Co-optimization Task Force and other interested stakeholders began walking through staff's initial set of protocol revision requests during a conference call Wednesday. The goal is to reach consensus and secure the changes' approval before the year is out.

The task is not without consequence for staff and stakeholders.

Staff have drafted seven Nodal Protocol revision requests (NPRRs) and two other changes, using language the RTCTF developed last year as a starting point. The task force's key principles were approved by ERCOT's Board of Directors in February. (See "Real-Time Co-optimization Team Finalizes Scope," *ERCOT Board of Directors Briefs: Feb. 11, 2020*.)

The revisions take up 549 pages, 248 alone for *NPRR1010*. The changes align the language related to the adjustment period (for trades, self-schedules and resource commitments) and real-time operations with the upcoming RTC terminology and operating environment.

"That'll be the pain point," predicted ERCOT's Matt Mereness, the task force's chair.

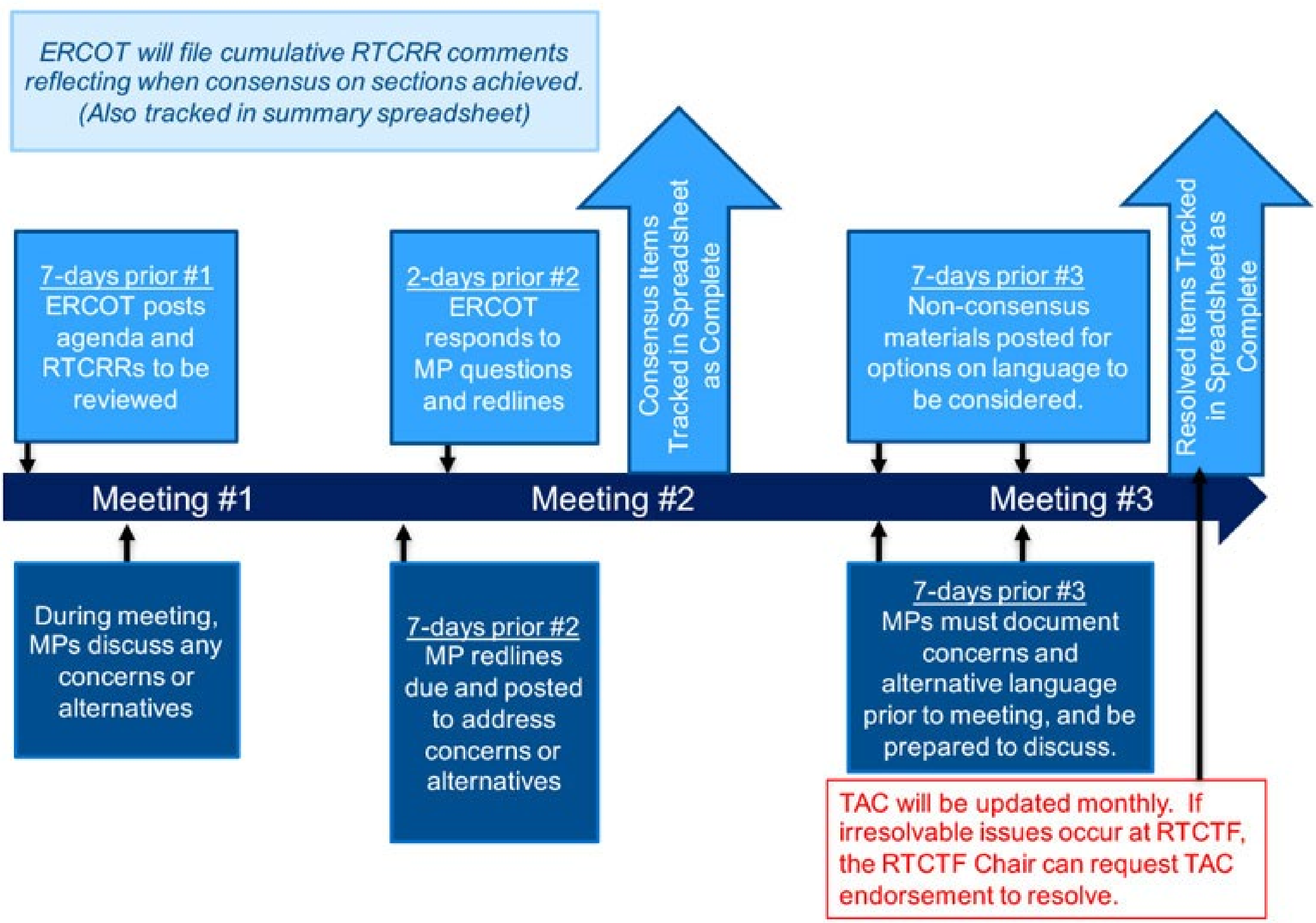
During the call, stakeholders debated the more efficient methods of reviewing the language.

Matt Mereness, ERCOT | © *RTO Insider*

Some called for going NPRR by NPRR, but others agreed with staff's recommendation to review the NPRRs by areas of common processes.

"To me, we would be a whole lot better off if we took [individual NPRRs] … and go through the whole darn thing top to bottom," consultant Floyd Trefny said. "The problem is when you break it up in all these pieces and try to put it back together again, it seems like it's going to fall apart. That's what concerns me."

Mereness responded by saying it would be "embarrassing" to say how many hours staff



The review process for ERCOT's real-time co-optimization work | *ERCOT*

ERCOT News

spent on devising the review process. ERCOT's approach, he said, would place the right subject-matter experts in the same room at the same time.

"We're seeing the efficiencies of the stakeholders having the right people in the room," Mereness said.

Comments Encouraged

Staff said they welcomed formal comments through the revision request process. They also encouraged market participants to send red-lined revisions to the task force for its consideration.

ERCOT has scheduled nine meetings for the group to finalize the revisions, culminating in a number of Technical Advisory Committee subcommittee meetings in October. The TAC would then be given a chance to endorse the NPRRs in November, with the board taking them up in December.

"For the task force's purposes, anyone at any time has the right to make comments," Mereness said. "We don't want to create so much structure that we can't move forward. TAC will be the place to get unstuck."

Mereness said ERCOT would "consider" adding changes if they save stakeholders money, but he wouldn't guarantee changes outside the team's scope would be accepted.

"We're laser-beamed in how to get real-time co-optimization in successfully," Mereness said. "We have to keep that laser-beam focus on getting through those 549 pages. If something is wrong, let us know. We've done our best to keep us in a good structural place."

The delivery schedule remains aligned with upgrades to ERCOT's Energy Management System, scheduled to go live in May 2024.

ERCOT is projecting it will cost $50 million to $55 million to add the RTC tool, which procures both energy and ancillary services every five minutes, to the market.

The nine revision requests the task force is working on:

- *NPRR1007*: Updates the protocols for the ERCOT system's management activities to address changes associated with RTC's implementation.
- *NPRR1008*: Updates day-ahead operations' protocols.
- *NPRR1009*: Updates transmission security analysis and reliability unit commitment to address RTC's changes.
- *NPRR1010*: Updates protocols to account for RTC's changes to the adjustment period and real-time operations.
- *NPRR1011*: Updates protocols on performance monitoring.
- *NPRR1012*: Updates protocols on settlement and billing for RTC's implementation.
- *NPRR1013*: Updates the protected information provisions, definitions and acronyms; market participants' registration and qualification; and market suspension and restart.
- *NOGRR211*: The Nodal Operating Guide revision request updates language related to supplemental ancillary service markets, ancillary service deployment, and ancillary service responsibilities and obligations.
- *OBDRR020*: The other binding document revision request updates the methodology for setting maximum shadow prices for network and power balance constraints to address changes associated with RTC's implementation. ■

ERCOT News

ERCOT Sees Little Effect on Demand from COVID-19

By Tom Kleckner

While the COVID-19 pandemic has dampened industrial output and electricity load in much of the nation, ERCOT continues to set the pace for increases in demand.

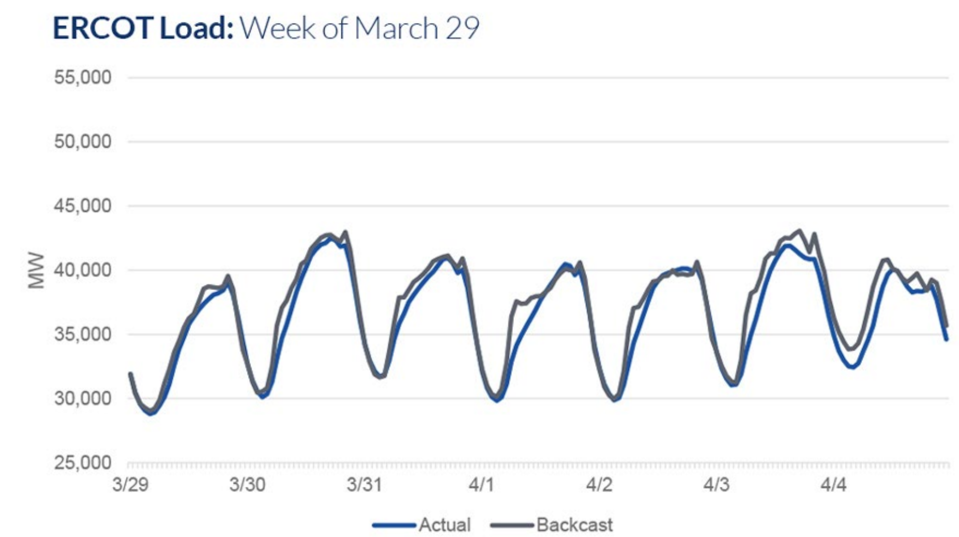
The Texas grid operator, which has enjoyed fairly consistent 2% load growth in recent years, *registered* a new demand record for April when the system peaked at 55,180 MW on Wednesday during the hour ending at 5 p.m. CT. The preliminary operational data broke the previous mark of 53,846 MW, set in April 2017.

An ERCOT spokesperson attributed the record to the state's higher-than-normal temperatures that pushed up demand during the day.

According to the National Weather Service, temperatures in the Dallas/Fort Worth Metroplex hit 97 degrees Fahrenheit on April 8, setting a daily record high. The low temperature of 71 F set a record for the highest minimum temperature for the date.

The monthly record was the first of 2020 after ERCOT set nine during the past two years. March's peak demand of 52,819 MW was down 13.1% from last year's March high of 60,756 MW.

The peak came as the nation's electricity demand *plunged* to a 16-year low during the first week of the month. The Edison Electric Institute and energy traders cited closed offices, reduced industrial activity and mild weather for slowing demand.

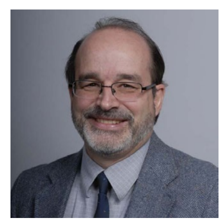


| ERCOT

The U.S. Energy Information Administration expects total U.S. power consumption to decline by 3% in 2020. (See related story, *EIA: Renewable Capacity to Grow in 2020*.)

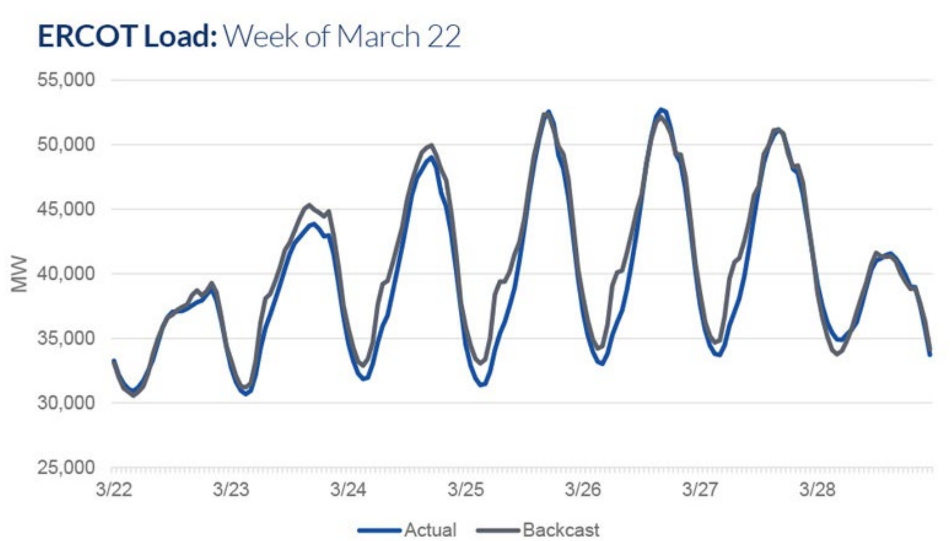
ERCOT began monitoring the pandemic's effect on load patterns in early March. Last week, the grid operator began providing weekly updates on the patterns on its Trending Topics *webpage* (under Presentations & Other).

It said there has been little effect on its daily peaks but that morning loads are 6 to 10% lower than what the forecast model would typically predict. (See "Texas Grid's Weekly Energy Usage Down 2% in March," *ERCOT Technical Advisory Committee Briefs: April 1, 2020*.)



Calvin Opheim, ERCOT | ERCOT

"The overall load reduction for the ERCOT region has leveled off over the past two weeks," said Calvin Opheim, ERCOT manager of load forecasting and analysis. He said energy usage was down about 2% for the weeks of March 22 and 29.



| ERCOT

ERCOT staff are using a backcast model in their analysis, comparing model results using actual weather versus actual hourly load. The difference between what actually occurs and what the model shows is referred to as a "model error." The model was last updated in January and does not reflect the pandemic's effect, making it a "pure model" for analyzing the difference between the model and actual outcomes. The pandemic is a component of the model error.

Before the pandemic, ERCOT had projected a record summer peak demand of more than 76,600 MW, a 3,500-MW increase over last year. It will release a final forecast in May. (See *ERCOT Sees Summer Repeat: Record Peak, Tight Reserves*.) ■

ISO-NE News

NEPOOL Markets/Reliability Committee Briefs

Fall 2019 Wholesale Costs down 38%

ISO-NE's wholesale market costs last fall declined 38% year over year to $1.5 billion, with both energy and capacity market costs decreasing significantly, the New England Power Pool Markets Committee heard April 7.

Energy costs dropped by 47% ($655 million) to $746 million because of falling natural gas prices, lower loads and higher nuclear availability because of fewer outages, the Internal Market Monitor *said* in its Fall 2019 Quarterly Markets Performance Report. Capacity market costs were down 24% from 2018, at $749 million.

Average day-ahead and real-time hub LMPs were $24.69/MWh and $24.98/MWh, 43% and 45% lower, respectively. Natural gas averaged $2.44/MMBtu, down 42% from the fall 2018 average price of $4.21/MMBtu.

"Really this is driven by an auction that occurred several years ago," said Dave Naughton, IMM manager of surveillance and analysis. "Fall 2019 was the second quarter of the Forward Capacity Auction 10 commitment period, with clearing prices of $7.03/kW-month for rest-of-system, compared to $9.55/kW-month the previous year."

[Note: Although NEPOOL rules prohibit quoting speakers at meetings, those quoted in this article approved their remarks afterward to clarify their presentations.]

Average hourly load was down 6% to 12,551 MW because of lower temperatures in September and higher temperatures in late November. New England pipeline demand fell by about 20% for the season.

Net commitment period compensation costs (NCPC) totaled $8.5 million, down 26% from the prior fall, and represented about 1% of total energy costs, consistent with the historical range, Naughton said. Economic payments made up 57% ($4.9 million) of the total NCPC, down 46% from the previous year, and the decrease was consistent with lower gas and energy prices.

Grid Study Procedures

The MC held a joint meeting with the Reliability Committee on April 7 and heard recommendations from the New England States Committee on Electricity (NESCOE) on how to proceed with a planned study on the future of the New England grid, the kickoff for which has been delayed until May because of the COVID-19 pandemic.

Heather Hunt and Ben D'Antonio of NESCOE *presented* preliminary staff suggestions on how best to assess the future state of the regional power system in light of state law requirements, as well as an overview of recent carbon-related studies. Day Pitney provided a compilation of recent ISO-NE *economic* studies and a list of *relevant* studies on the grid transition and carbon pricing.

NESCOE highlighted five studies and summarized their findings, starting with a September 2019 *report* by The Brattle Group funded by the Coalition for Community Solar Access, which found that "annual clean energy resource additions need to increase by a factor of four to eight times the current level to achieve 2050 carbon emissions reduction goals."

The second *report* covered deep decarbonization through increased coordination with Hydro-Québec and was funded by the utility and Sustainable Development Solutions Network. It found that "more interconnections between the Northeast and HQ may be a less expensive approach to decarbonization than an alternative with an even greater reliance on offshore wind and solar."

NESCOE also highlighted a *study* of deep decarbonization in California by E3, which it said found the least-cost electricity portfolio to meet California's 2050 economy-wide greenhouse gas goals includes 17 to 35 GW of natural gas generation capacity for reliability — compared with the state's current 29-GW natural gas fleet.

The fourth *study* cited was funded by NRG Energy, wherein Brattle examined the forward clean energy market design concept, finding that "broad competition will minimize the costs of achieving carbon goals."

Finally, D'Antonio brought up a 2018 *study* by the Northeast States for Coordinated Air Use Management on greenhouse gas mitigation in New England. The white paper found that immediate action is required and recommended electrifying end-use energy consumption.

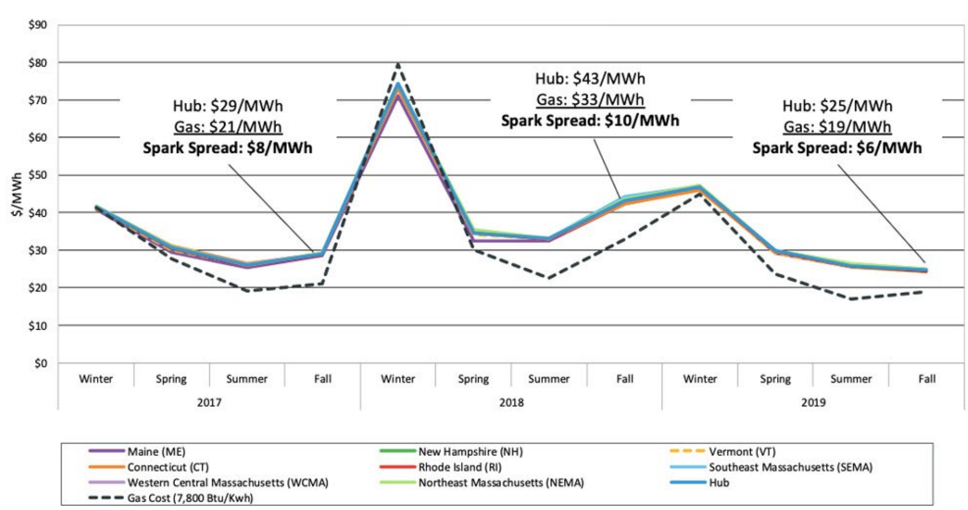
D'Antonio emphasized that he was sharing information and not endorsing any proposal or study.

New England will need to deeply decarbonize the electric grid in order to ensure that GHG emissions significantly decline from the electric generation sector as the grid experiences a significant increase in load, the study said.

"We really think it's important to know who your audience is when you do your reporting," D'Antonio said, adding that the planned grid study should reach a broader audience if NEPOOL and ISO-NE want to achieve economy-wide effects.

Opening the DA Offer Window

ISO-NE *proposed* to modify the submission



Lower gas prices and loads drove lower energy prices. The spark spread is the difference between the wholesale market price of electricity and its cost of production using natural gas. | *ISO-NE*

ISO-NE News

deadline for offers and bids in the day-ahead energy market from 10 a.m. to 10:30 a.m. to address feedback from stakeholders.

RTO staffer Dennis Robinson said this modification may afford some suppliers additional time to consider information before finalizing their day-ahead offers and bids.

In addition, ISO-NE will be addressing clean-up revisions in the Tariff, with a proposed effective date of Oct. 1.

"We may have to go back to the 10 a.m. time in 2024 as a result of [Energy Security Improvements] and the new day-ahead ancillary service products in the market, which could also impact the day-ahead market deadlines and time frames," Robinson said. "We might have optimization of energy storage resources or other changes by 2024 as well."

The MC will discuss the changes and vote on them at the May meeting ahead of a June vote by the Participants Committee.

Enhancing Info Policy

ISO-NE Corporate Counsel Tyler Barnett presented two proposed *enhancements* to Section 2.3 of the Information Policy in order to enable the RTO to take quicker action to protect the markets from default and improve communication with stakeholders on the status of defaulting participants emerging from bankruptcy.

The effective date of these revisions is proposed for October.

One proposed change would remove confidentiality restrictions applicable to defaulting participants to enable the RTO to act more quickly and efficiently when emergency judicial or regulatory relief is reasonably necessary, he said.

Another would permit the removal of a market participant from the weekly notification of defaulting parties sent to all market members when the participant's plan to emerge from bankruptcy has been approved by bankruptcy court and the participant is not otherwise in default.

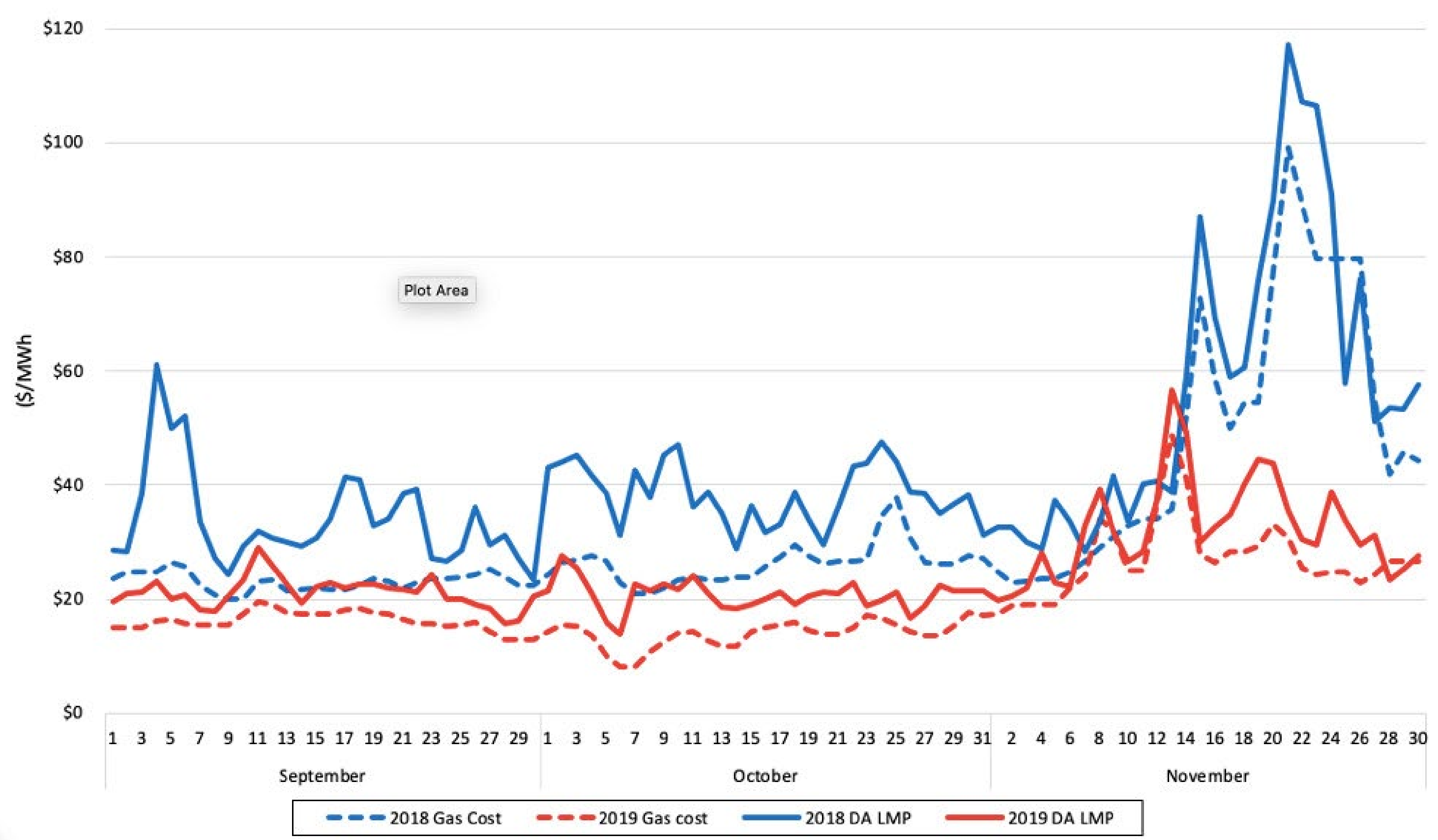
Court approval of a bankruptcy plan is a practical milestone to mark the end of bankruptcy, as business operations may resume prior to the case file being dismissed, Barnett said.

Accordingly, the weekly information policy notification will more accurately reflect a formerly bankrupt market participant's status in the markets.

"We're looking to avoid market confusion," Barnett said.

The RTO proposes additional discussion before a vote at the June MC meeting ahead of a vote by the PC at its summer meeting in late June. ■

— Michael Kuser



Very different gas and energy prices season-over-season | *ISO-NE*

PowerOptions CEO Navigates New Job amid Crisis

By Michael Kuser

Before joining energy aggregator PowerOptions as president and CEO in January 2020, Heather March Takle took steps to upgrade the company's IT functionality, especially communications.

Her decision meant the team of 10 employees was prepared to work remotely when the company started doing so March 8 in reaction to the worsening COVID-19 pandemic in Massachusetts and the rest of the country.

"COVID-19 has been quite a surprise and helped accelerate my learning curve," Takle told *RTO Insider* in an interview.

The largest energy-buying consortium in New England, PowerOptions purchases $200 million in energy each year to serve nearly 500 nonprofit and public entities in Massachusetts, Connecticut and Rhode Island.

The firm provides energy cost savings and predictability to hospitals, schools, museums and other clients. Takle also advocates for her clients as an end-user sector member of the New England Power Pool and participant in ISO-NE planning processes.

A Nonprofit Helping Nonprofits

PowerOptions grew from a quasi-public agency in Massachusetts and became a fully private nonprofit a decade ago under the leadership of Cindy Arcate, whom Takle replaced as head of the company. It is funded by membership dues and payments from its energy suppliers, which are chosen through competitive solicitations. Direct Energy supplies the natural gas; Constellation Energy supplies the electricity; SunPower is the developer for its large-scale solar program; and Select Energy is the developer for the small systems solar program. For the fiscal year that ended in June 2018, it reported revenues of almost $3.4 million and expenses of $3.5 million.

Takle, who previously held executive positions with Patriot Energy Group and Ameresco, was recruited from her own startup, 2ndPath Energy, which provided energy companies with strategic and development advice.

"Before coming in, I knew how strong the team was. ... The surprising thing was not realizing how much of an impact the members' missions would make on me," Takle said. "I knew it conceptually, at a high level. The premise of being a nonprofit serving other nonprofits in that mission-driven basis is part of what attracted me to the role."

In the first couple of months, her No. 1 goal was to meet as many members as possible.

"It's a member-driven organization, so I need to understand and hear from them, so I've gotten to meet maybe a third of our members, and it's really been fantastic to hear about their missions and to get pulled in," she said. "The team did warn me that I'd start opening my checkbook because I want to start donating after having all these conversations."

PowerOptions members include some of the organizations most affected by the coronavirus crisis, from shuttered schools to hospitals on the front lines. Some clients fall between the cracks in terms of defined missions.

"Senior living, for example. They're not health care institutions — the assisted living and the independent living [facilities] — so what they're dealing with is really difficult and tragic, and they're not getting a lot of support from the state governments because they're not designated as health care institutions," Takle said.

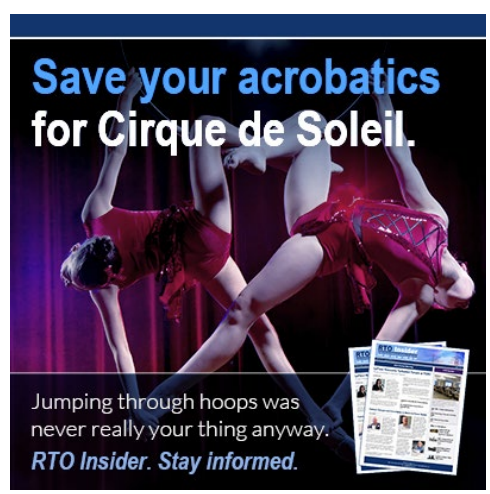
PowerOptions CEO and President Heather March Takle | *PowerOptions*

Outreach Campaign

The new CEO has led her small firm on a campaign since the pandemic started, trying to figure out how they can help its members.

"Because as a nonprofit ourselves we care, so we decided two weeks ago to do an outreach campaign and just get on the phone and start calling, including myself, and that's part of how I've been able to talk to a third of our members," Takle said.

Some of the discussions concern energy needs that are particular to the current environment but also touch on topics outside of energy.



ISO-NE News

"We're just trying to brainstorm how we can help. We haven't announced it publicly yet, but we've been able to put together a philanthropic fund to support our members. We're still in the detail planning stage of trying to figure out how that will get distributed out, but we're going to try to support our members in what little way we can.

"Some of that will be financial, but I spent the weekend trying to find sources of supplies for masks and sanitizer. For some of our members, it's not just the financial need, but for the ones on the health care side, it's a personnel and supply need.

"We're trying to be creative, because if it's anything I learned in my first couple of months with this team, it's that they will stop at nothing to support our members," Takle said.

The company is planning to host a webinar focusing on changes in the energy market driven by the pandemic, as well as just general energy industry dynamics, such as oil and gas pricing.

"It's been heartening to see, as usually happens in a crisis, the best of everyone, the creativity and the bonding that has come through, and the support for our members," Takle said.

Renewable Dreaming

Long-term dreams for the organization include doing for renewable energy what it has done for electric and gas for its members.

"[That] might require some really unique partnerships with organizations outside of the nonprofit community. As an example, the Associated Industries of Massachusetts might be one such partner, though we haven't discussed it with them. But we could be helping for-profits in that way, using the power of a consortium that's larger than PowerOptions in order to drive down pricing, an opportunity to source renewable energy for much more than our own membership," Takle said.

"Hopefully the message is well received that the ISO, NEPOOL and others remember that we're there speaking on behalf of the end-users, and that we'll be a consistent voice, one of the only voices there besides the attorneys general and the offices of consumer counsel.

"Of course, we're speaking on behalf of governmental and nonprofit entities, but that kind of covers commercial and industrial as well, which there aren't really specific voices for. We'll be carrying on that legacy that Cindy was well known for.

"We will continue to advocate on behalf of our members for their needs, which includes lower costs, as well as, in the future, an ability to access renewable energy at efficient costs," Takle said. ■

MISO News

COVID-19 Transforming MISO Load, Outage Schedules

By Amanda Durish Cook

The MISO footprint sank deeper into the COVID-19 twilight zone in early April, with demand flattening further and some maintenance outages frozen until some semblance of normalcy is restored.

As the coronavirus pandemic wears on, the RTO is experiencing lower loads that no longer follow a sharp uptick in demand in the morning or evening. MISO said the usual morning peak at about 9 a.m. has given way to a gentler bump in demand around noon that holds steady until the evening, when it gradually drops off. (See *MISO Deepens Insights into Pandemic Impact*.)

But MISO now says the slight morning and evening bumps have become even flatter in early April.

"The evening peak is now almost nonexistent," MISO Director of Central Region Operations Ron Arness told stakeholders on a Market Subcommittee teleconference Thursday. "As people started staying home more, we began to see a shift in our load profile. … But then as we got into further restrictions and less activity in more and more areas in the country, we started to see a bigger deviation."

MISO's deviation from its historical load trends currently stands at about 8% for the first week of April.

"We continue to track it," Arness told stakeholders. "We see that load continues to tweak down."

Arness said MISO South so far is the least impacted by different load shapes during the pandemic.

Independent Market Monitor David Patton said his analysis of the impacts are "on the same page" as MISO's.

Skeleton work crews at some generation and transmission sites continue to delay some planned maintenance outages, Arness reported. MISO continues to assert that outage delays and reschedules aren't a threat to reliability.

MISO said it has received 33 requests to move or cancel planned transmission outages since the pandemic took hold, representing about 10% of planned transmission outages. Arness said only some of those reschedules are related to COVID-19 restrictions. Half the outage reschedules will be moved to May and the first part of June; the other half have been canceled.

On the generation side, 30 generator outages representing about 16 GW will be moved from their original dates; all are pandemic-related. Arness said about a third of these will be rescheduled in the fall; another third are "still determining their reschedule plans."

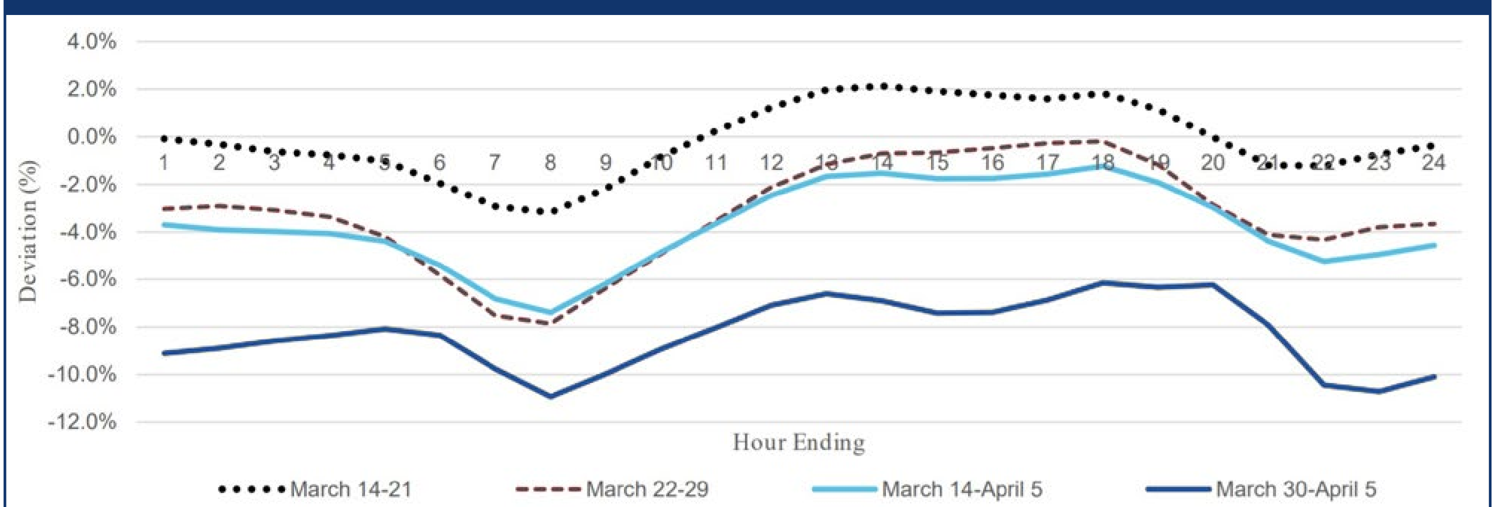
Arness said MISO is working with transmission and generation owners to reschedule outages, being careful to avoid clustering them around the summer peak.

"Again, we don't see any big alarms when the COVID-19 [emergency] lifts," Arness said, adding that MISO has seen "very few" reschedules to June.

"It is a dynamic situation, and we'll continue to monitor it," he added.

Stakeholders asked if MISO might become jammed up with outages come fall. Arness said he's discussing the possibility with the RTO's outage coordination team.

Stakeholders also asked if MISO would grant amnesty to members that violate the 120-day outage notice requirement because of the pandemic-related scheduling. Arness said members should contact their assigned outage coordinators to discuss their rescheduling needs. ■



MISO load deviations because of the coronavirus pandemic | *MISO*

MISO News

MISO Offers Concession on LMR Capacity Credit Plan

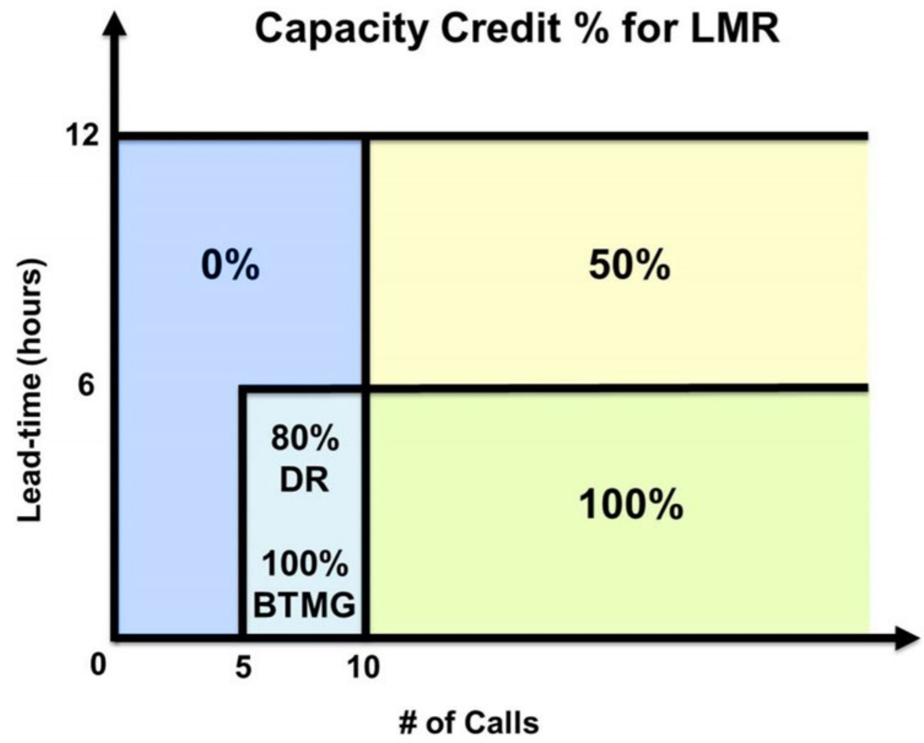
By Amanda Durish Cook

MISO is offering stakeholders a compromise on one of two resource adequacy proposals it will file with FERC next month, removing a provision that would eliminate capacity credits for slow-response load-modifying resources (LMRs).

Zakaria Joundi, MISO's recently appointed director of resource adequacy coordination, acknowledged he's entering his new role as the RTO completes a contentious proposal. Nevertheless, he called the LMR measure "a step in the right direction" for MISO.

But several stakeholders on a Resource Adequacy Subcommittee teleconference Wednesday blasted the filings as poorly supported and questioned their need. The proposals include measures to reduce capacity accreditation for LMRs based on their actual ability to mitigate reliability issues and require resources to procure transmission deliverability to their full installed capacity levels before receiving full capacity credits. (See *MISO Prepares Deliverability, LMR Accreditation Filings*.)

The proposals are set to take effect in time for the 2021/22 Planning Resource Auction.



MISO's new proposal for LMR capacity credit | *MISO*

LMR Accreditation Alterations

MISO said employing an LMR accreditation "based on lead times and call capacity" will lead to more reliable operations.

The RTO plans to base an LMR's capacity accreditation on the smaller of either an average of its actual availability over a three-year period or its tested availability. LMRs that can respond more often and with shorter lead times will receive a larger capacity credit, while those that can respond to 10 or more calls in a year will receive full capacity credit. (See *MISO Pursues Leaner LMR Accreditation*.)

But MISO said it will put a two-year hold on its plan to eliminate capacity credits for LMRs that cannot be ready to reduce load within six hours.

Instead, the RTO now proposes that LMRs with lead times greater than six hours but less than or equal to 12 hours receive a 50% capacity credit if they can respond to at least 10 calls in a year. MISO said the compromise should only be effective until 2023, when the RTO will again seek a 0% capacity credit for the long-lead resources.

MISO has previously said that LMRs needing more than six hours' notice don't help mitigate emergency conditions, when time is of the essence.

The proposal still calls for demand response resources to receive a 100% credit if they can be available within six hours or less to 10 calls or more in a year, while resources that can respond to five to nine calls would receive an 80% accreditation. Behind-the-meter generation (BTMG) that can deploy with notice of six hours or less and respond to five or more calls in a year would also receive a 100% capacity credit. MISO staff explained that BTMG accreditation requirements are more lenient because their credits are already reduced by a forced outage rate.

Stiffer Capacity Deliverability

MISO is holding firm on a provision that would eliminate capacity resources' ability to demonstrate full deliverability by way of unforced capacity (UCAP) levels, plucking full capacity credits from resources that use a UCAP-based determination. Instead, the gold standard in capacity deliverability would be resources that can procure firm transmission up to their installed capacity (ICAP) levels.

The RTO's Tariff requires capacity resources to demonstrate capacity deliverability by having network resource interconnection service (NRIS), which stipulates that the entire ICAP of the resources must be deliverable. However, the Tariff also allows resources to demonstrate deliverability by securing energy resource interconnection service (ERIS) and procuring firm transmission service up to their UCAP levels, which tend to be about 5 to 10% below full ICAP levels. MISO's Independent Market Monitor has contended that the RTO doesn't properly account for capacity deliverability because its loss-of-load expectation study assumes that all capacity resources are fully deliverable on an ICAP basis.

MISO has said that while it would not require planning resources to procure full transmission service up to their ICAP levels, resources that are only partially deliverable would not receive full capacity credits. The RTO said it would be fine for conventional generators to opt not to purchase additional transmission service and settle for fewer zonal resource credits.

MISO News

"There will be impacted entities," Joundi said of the stricter deliverability requirement. He conceded that it may be expensive for some resources to secure firm transmission service up to their ICAP levels.

Customized Energy Solutions' Ted Kuhn asked if MISO has determined a course of action if FERC rejects either the LMR capacity accreditation or ICAP deliverability proposals.

"Although it's a policy to never answer a hypothetical, this depends on the reaction from FERC," MISO Executive Director of Market Operations Shawn McFarlane said. He said the RTO would only rework the proposal if FERC indicates there's a "tremendously fatal flaw" in the LMR filing. It would, however, have enough time to pursue a "two-step" process with FERC, he said, meaning a refiling to correct small concerns, if the commission has them.

However, McFarlane said the proposals at this point aren't open to further stakeholder suggestions.

Opposition

Some stakeholders remain opposed to both measures, with most pushback against the LMR measure. Critics say MISO hasn't made a convincing argument that the LMR accreditation process needs more rules.

Customized Energy Solutions' David Sapper, representing MISO load-serving entities, said the RTO hasn't demonstrated that its proposals will make capacity more abundant or available.

"MISO has neither clearly defined a problem with LMR contribution to resource adequacy nor demonstrated benefits from its proposed solutions that outweigh expected high costs of the solutions," Sapper *said*.

He pointed out that it was only a little more than a year ago that MISO got permission to require its LMRs to offer capacity in less than 12 hours and in accordance with a seasonal availability report. (See *MISO LMR Capacity Rules Get FERC Approval*.)

"It's not clear why MISO is not letting the new processes work," Sapper said, adding that the RTO's six-hour lead time benchmark "will drive at least some" LMRs from the PRA.

Sapper advanced a motion that the subcommittee formally oppose the LMR filing — which it will put to an email vote.

McFarlane said the number of LMRs registering as capacity resources within the footprint only continues to increase, as do the number of emergency events. He said the uptick in both means MISO doesn't have the luxury of waiting longer to propose new rules.

Staff also said the first FERC filing regarding LMRs was always intended to be a stopgap as MISO worked on a fuller solution.

"We think the 50% accreditation, especially in the next PRA, is a drastic change," Michigan Public Service Commission staff member Bonnie Janssen said.

WPPI Energy's Steve Leovy said he remains dissatisfied with the solution and what he perceives as rigidness on MISO's part to change the proposal on stakeholder advice.

"We were careening towards a solution that I felt was pretty clear at the outset," Leovy said, adding that he remains concerned about "shocks to MISO's resource adequacy" as a result of the reductions in LMR capacity credits.

"What I've seen is a sharpshooter approach where [MISO] singles out a certain resource and just picks on it when there are other things it could do," Kuhn said. ■

MISO News

MISO Considers COVID-19 Queue Waivers

By Amanda Durish Cook

MISO on Friday gathered interconnection and transmission customers in a special teleconference to discuss potential waivers of its queue requirements because of the ongoing COVID-19 pandemic.

Senior Corporate Counsel Chris Supino told call participants that MISO is "willing to consider seeking waivers" from FERC of some generator interconnection and agreement requirements to give extra time to parties navigating the queue under the cloud of the pandemic.

Supino asked interconnection customers and transmission owners to tell their pandemic-related impacts to MISO. The RTO said it's exploring some deadline extensions related to satisfying site control requirements, temporarily relaxing deadlines around study deposits and extending time frames for facility studies.

"We understand it's hard to get out to the land and talk to landowners," Supino said of MISO's requirement that customers demonstrate 100% site control 90 days before proposed projects enter the first of the three-part definitive planning phase of the queue for study.

Supino also said interconnection customers have expressed concerns over the "general availability of consultants, advisers and legal teams" during social distancing mandates. The limited accessibility of third-party contractors could delay critical aspects of generation projects, some stakeholders said.

Other stakeholders are asking MISO to extend its usual three-year grace period for projects to achieve commercial operation in generator interconnection agreements.

Supino said MISO wants to keep the waivers "reasonably limited" to the next few months to prevent cascading impacts to the queue.

"We are looking to address requirements that are an issue for a large portion of our stakeholders, or at least a substantial group," he said. "We're not looking for one-off circumstances. I know that many different things can happen with a project, and there might be temptation … but we want to keep this focused on the issue at hand here."

Supino said customers who believe that special circumstances related to the pandemic are impacting their interconnection projects should "contact MISO to discuss their specific situation and why further waiver relief is needed." He said stakeholder feedback so far appears reasonable, focused on "pushing deadlines out," not weakening or rewriting queue requirements.

"We don't want to over-relax requirements or cause problems for customers, or impact the next queue cycle," he said, adding that MISO also doesn't want to put renewable projects in jeopardy of not receiving production tax credits.

MISO has several queue deadlines looming in the next 90 days, including: a June 25 application deadline for a new cycle of project proposals; proof of site control for MISO South projects in the 2020 cycle; the first decision point on whether to remain in the queue and risk monetary penalties for the 2019 batch of South generation projects; and the second decision point for Central and East projects that entered the queue in 2018.

Staff so far said they haven't fallen behind in the processing of applications or the study of interconnection requests. "We've successfully transitioned to most of our employees working from home," Manager of Probabilistic Resource Studies Ryan Westphal told stakeholders.

NextEra Energy Resources' John Dailey said interconnection customers beyond those entering the queue in June will be affected. He said interconnection customers planning to enter the queue over the remainder of the year had already been working on securing land.

WPPI Energy's Steve Leovy cautioned MISO not to tie temporary queue extensions to any federal or state declarations, as the stages of the pandemic are quickly evolving. He instead urged the RTO to examine the "general circumstances" of the crisis.

Clean Grid Alliance's Rhonda Peters thanked MISO for considering waivers and asked how quickly it could put them in place. Supino said that FERC has been processing pandemic-related waivers "very quickly."

PJM has already filed a queue waiver to extend study deposit due dates, feasibility studies and reviews of new service requests and processing. NYISO has obtained a waiver of its notarization requirements.

MISO will discuss possible queue waivers with the Planning Advisory Committee during its April 15 *conference call*. ■

Chris Supino, MISO | © *RTO Insider*

MISO News

MISO Exploring Emergency Pricing, Forward Market

By Amanda Durish Cook

MISO is gearing up for a forward market mechanism and improvements to its scarcity and emergency pricing as market-side solutions under its yearslong resource availability and need (RAN) project.

Emergency pricing is often "inconsistent" with system conditions, MISO has concluded. During a Market Subcommittee teleconference Thursday, Market Design Adviser Michaela Flagg said the RTO's shortage and emergency pricing has generally been inefficiently low.

In a now familiar refrain, Independent Market Monitor David Patton said MISO does not accurately price the "true value of energy when we're tight."

Suppressed prices during emergencies are prevalent in MISO South, Flagg said, because of a flaw in which the RTO's pricing engine does not account for congestion from flows crossing the transmission constraint between the South and Midwest subregions. Accounting for that congestion is just one avenue MISO may pursue, she said.

Other solutions may include updating MISO's value of lost load or changing the shape of the operating reserve demand curve.

"Prices should be high enough to reflect that MISO is running out of resources when it makes emergency declarations," the RTO *said*.

Flagg said MISO will complete an evaluation of its emergency pricing by June and a scarcity pricing evaluation by December. Proposed solutions will follow the evaluations.

Director of Market Design Kevin Vannoy said MISO could stimulate imports and avoid making emergency purchases if it raises prices during scarcity events.

Customized Energy Solutions' Ted Kuhn said MISO currently cannot compete for resources against neighboring RTOs, where prices can go as high as $8,000/MWh.

"At some point we're going to have to match up on emergency pricing or ask FERC to join the bus," Kuhn said at a Market Subcommittee meeting March 5.

Vannoy said MISO is also considering a forward market process that can guide commitment decisions before the day-ahead market is able.

Michaela Flagg, MISO | © *RTO Insider*

"We definitely see that resource commitments and margins are becoming more challenging with lower operating margins and system volatility," he said, noting that MISO's must-run coal units have entered a retirement trend and lower LMPs incent fewer commitments.

"We definitely need more information earlier on capacity sufficiency and earlier than the day-ahead market," Vannoy said, adding that long-lead units "are out of reach of the day-ahead market commitment."

He said MISO is looking for members to provide input on what they look for to make unit commitment and availability decisions.

"For the most part, owners with long-lead and high-start-up-cost resources were making those decisions based on their own optimizations and their view of the market. Those decisions are becoming more and more challenging," Vannoy said.

MISO is also experiencing an increase in emergency-only capacity as part of the overall portfolio, he said. Such resources require an emergency declaration before the RTO can access them.

But Madison Gas and Electric's Megan Wisersky said MISO could encourage the construction of the more flexible generation it wants, saying insufficient transmission buildout in the footprint is restricting utilities' ability to build new generation.

"It isn't for grins that you see the growth in load-modifying resources. We as load-serving entities have to do something, and it takes years in the interconnection queue and some unknown dollar amount for network upgrades," Wisersky said. "The easiest, fastest, cheapest thing we can do is put in demand-side resources."

Scarcity and emergency pricing and a forward market mechanism comprise the market-side improvements in MISO's multifaceted RAN effort. The changes under discussion include moving capacity resource accreditation and the capacity auction from an annual basis to a seasonal or subannual basis.

MISO Executive Vice President of Market and Grid Strategy Richard Doying said the RTO's annual resource adequacy design is also open to further changes.

"Is it worth conducting [the auction] four times a year, or is there something else to provide that platform for liquidity and trading?" Doying asked rhetorically.

"We can all see the portfolios evolving. We're not sure it's an imperative for this change," WPPI Energy economist Valy Goepfrich said. ■

Trader Challenges PJM FTR Forfeiture Rules

By Rich Heidorn Jr.

A financial transmission rights trader has filed a new challenge to the way PJM and its Independent Market Monitor prevent gaming, saying it is "so broad that it captures competitive market conduct and leads to less efficient market outcomes."

XO Energy, of Landenberg, Pa., asked FERC to order PJM to change its FTR forfeiture rule or abandon it and adopt "a structured market monitoring approach" like the one used by MISO (*EL20-41*). The company said it exited PJM's virtual market in December after getting hit with $4.3 million in forfeitures.

FTRs allow load-serving entities to hedge the risk of transmission congestion costs; they also allow financial traders to arbitrage day-ahead and real-time congestion.

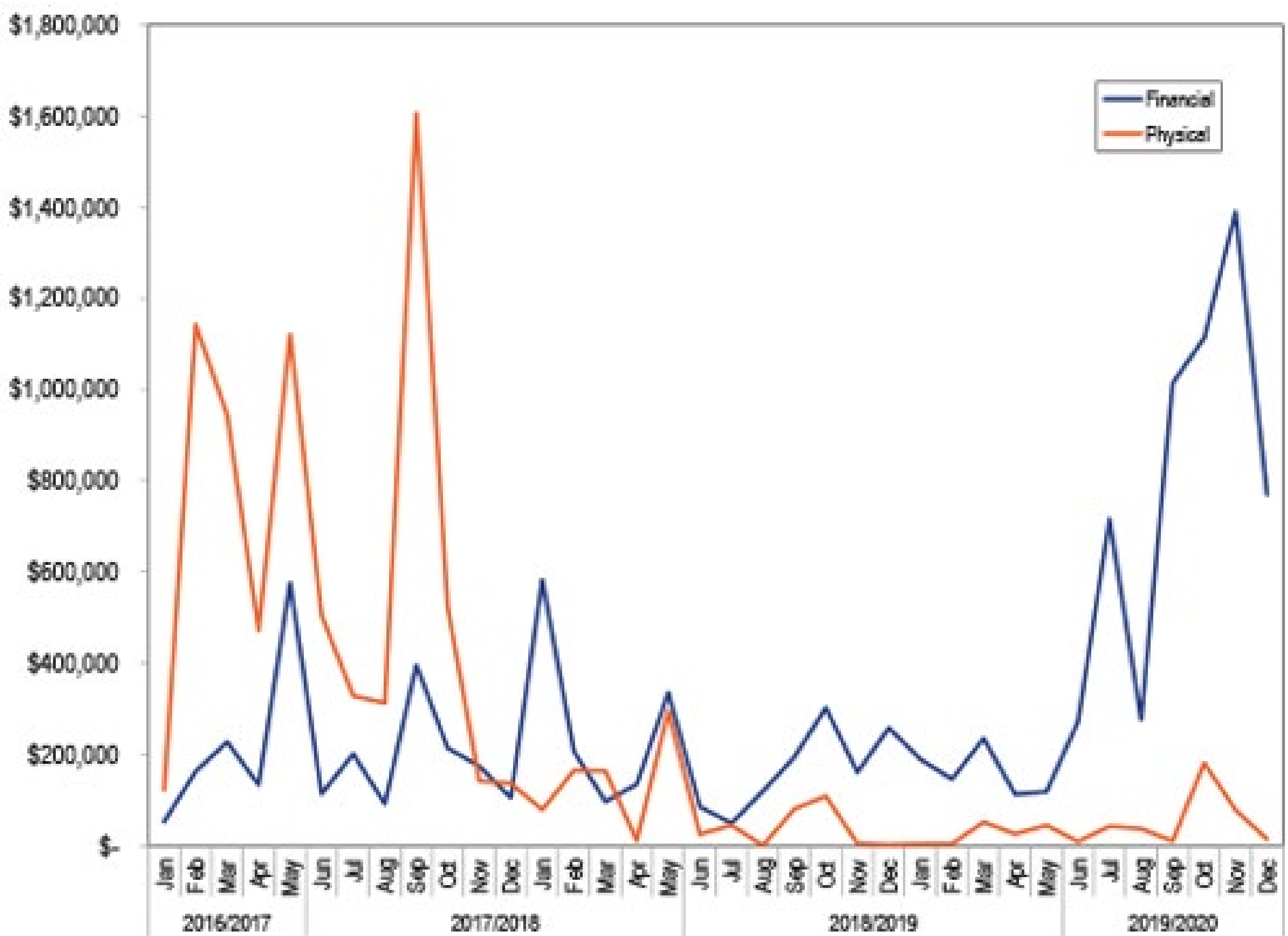
PJM implemented the forfeiture rule to prevent market participants from using virtual transactions to create congestion that benefits their FTR positions. The FTR holder forfeits the profit from its FTR when it submits an increment offer (INCs) or decrement bid (DECs) at or near an FTR location that results in a higher LMP spread in the day-ahead market than in real time.

In January 2017, FERC ordered PJM to change how it implements the forfeiture rule, saying the RTO's focus on individual transactions failed to capture the impact of a market participant's overall portfolio of virtual transactions on a constraint (*EL14-37*). (See *FERC Orders Portfolio Approach for PJM FTR Forfeiture Rule*.)

PJM filed Tariff revisions in April and June 2017 describing its new approach (ER17-1433). In September 2017, PJM began billing forfeitures based on its new approach, XO said, despite the fact that the commission has never acted on it.

Financial Leverage Test

To encourage legitimate hedging while preventing manipulation, XO said PJM's forfeiture rule should be changed to identify when participants that hold physical assets and engage in virtual transactions have a leveraged portfolio — when the net benefits to the participant's FTRs exceed the net losses of its virtual trans-



Monthly FTR forfeitures for physical and financial participants | *Monitoring Analytics*

PJM News

actions on a given constraint.

"A critical defect of the FTR forfeiture rule is that … it fails to consider whether a market participant has financial leverage, rendering the rule unjust and unreasonable," XO said. "If financial leverage does not exist, further scrutiny of a market participant's activity is unnecessary."

XO said the rule also must require the Monitor to determine the participant's intent.

"There is no such thing as a properly designed automatic forfeiture rule; any forfeiture rule should only relinquish profits from conduct that, if combined with sufficient credible evidence of intent, would constitute a potential violation," XO said. "In Order 670, the commission found that a fundamental component of any alleged manipulation claim is whether the market participant acted with sufficient scienter or intent.

"Although the presence of financial leverage can be easily determined, a comprehensive, fact-specific examination is necessary to identify sufficient evidence of intent."

Although PJM and CAISO use forfeiture rules, XO said MISO, NYISO, SPP and ISO-NE "use their market monitoring function to provide surveillance in lieu of a rule that oftentimes captures rational economic behavior."

XO complained that market participants lack access to the data on which forfeiture determinations are made and that the assessments are made more than two months after the activity in question. "The current FTR forfeiture rule has resulted in market inefficiencies by penalizing financial market participants whose virtual activity is profitable. In addition, market participants with physical positions are unable to hedge their physical load or generation positions."

PJM did not respond to questions about the complaint.

Monitor Joe Bowring said in an email that "the complaint rehashes old and discredited arguments in an effort to overturn a rule which efficiently and effectively protects the markets from manipulation. … It would be a waste of the commission's, PJM's and stakeholders' time to proceed."

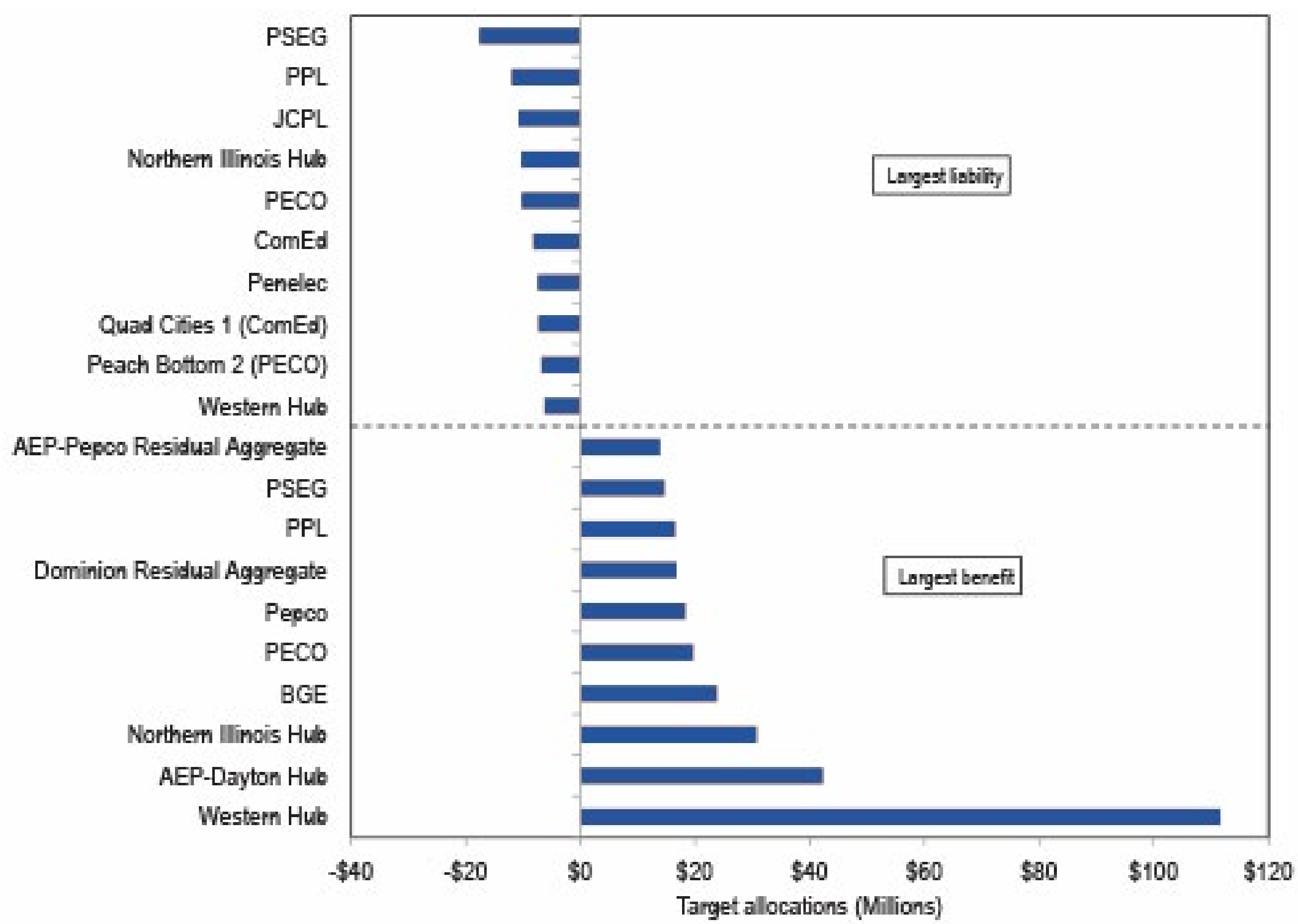
Leaving the Markets

In 2019, XO said, it forfeited $4.3 million, while its gross FTR revenue was only $1.4 million, resulting in a net loss of $2.9 million.

As a result, XO said it withdrew from the virtual market in December 2019. It said Exelon and NextEra Energy Marketing stopped virtual trading also. NextEra did not reply to a request for comment on the complaint Thursday. Exelon declined to comment.

Exelon raised concerns similar to XO's complaint in a *problem statement* in February 2018, and it backed a proposal to change the FTR impact threshold from PJM's "penny test" to one of FTR flows of 10% or more across a constraint.

The Markets and Reliability Committee declined to adopt the proposal in April 2019. (See "Load Interests Block FTR Rule Changes," *PJM MRC/MC Briefs: April 25, 2019*.) ■



Ten largest positive and negative FTR target allocations summed by sink: 2019/2020 | *Monitoring Analytics*

PJM News

Solar Subsidy Program Ending in New Jersey

By Michael Yoder

New Jersey is winding down a solar energy program that helped place the state near the top of solar production in the country.

The New Jersey Board of Public Utilities on April 6 announced it was *directing staff to close* the state's Solar Renewable Energy Certificate (SREC) registration program effective April 30.

The Clean Energy Act (*AB-3723*), which Gov. Phil Murphy signed into law in May 2018, set new clean energy standards in New Jersey, including a requirement that the BPU close the SREC program by June 2021 or when 5.1% of the kilowatt-hours sold in the state were generated by solar. The board said it expects to reach the 5.1% milestone by the end of April.

The BPU established the SREC program in 2004 to complement the state's existing solar rebate program. Since then, state officials said more than 3.25 GW of solar systems have been constructed throughout New Jersey, including more than 118,000 residential solar systems.

"While today marks the end of one chapter, it also marks the beginning of a new chapter that I believe will lead to a very successful solar future while also lowering costs for New Jerseyans," BPU President Joseph L. Fiordaliso said. "With a record year for solar in 2019, the New Jersey solar industry is strong, and I am confident it will continue to be healthy and profitable while playing a key role in fighting climate change and reaching the governor's goal of 100% clean energy by 2050."

The SREC program allowed New Jersey to become one of the leading solar energy producers in the country despite its relatively small land size and available space. According to data provided by the BPU, it's currently ranked seventh in the nation in installed solar capacity and ninth overall in clean energy jobs, with nearly 9,000 solar industry jobs throughout the state.

The Six Flags Great Adventure amusement park in Jackson, N.J., is mostly powered by a 23.5-MW solar project that began operation last summer. | *Six Flags*

The *most recent report* from New Jersey's Clean Energy Program shows that 447 MW of solar capacity commenced commercial operations in the state between Jan. 1 and Dec. 31, 2019, bringing its total capacity up to 3,190 MW through the end of the year. The state's previous record for the highest amount of installed solar capacity within a calendar year was in 2011, when 446.8 MW commenced commercial operations.

The BPU is replacing the SREC program in two phases, beginning with the Transition Incentive Program, which was approved in December.

Six Flags said its array — 11 MW of solar carports and 12.5 MW on 40 acres of ground-mounted solar panels — makes it New Jersey's largest net metered solar project. | *Six Flags*

The new program was designed to serve as a bridge between the SREC and a yet-to-be determined successor program by issuing fixed-price, 15-year Transition Renewable Energy Certificates (TRECs) to projects that entered the SREC pipeline after Oct. 29, 2018, but had not reached commercial operation as of April 30.

An *order issued March 10* by the BPU set the price at $152 per TREC, which a project earns after generating 1 MWh. By comparison, SRECs traded at a *weighted average price* of $208.99 in February, according to the BPU. The long-term successor program to SREC is currently under development by BPU staff.

Solar projects currently in the system that have yet to be finalized through the SREC were given a 90-day extension by the board because of permitting and inspection issues caused by the COVID-19 pandemic.

"Having leveraged the generous ratepayer subsidies of the past 20 years, the industry can now survive and thrive at a lower cost to ratepayers," the BPU wrote in its decision. "The board anticipates that New Jersey's solar market will continue to be a vital and dynamic one as it transitions to a new incentive mechanism, but it has nonetheless made every effort to ensure that this is so."

The Solar Energy Industries Association estimates solar investment in the state totals more than $10.1 billion and says prices have fallen 38% over the last five years. The trade group expects growth to slow, however, projecting 1.8 GW over the next five years, the 41st most in the nation. ■

Va. 1st Southern State with 100% Clean Energy Target

Continued from page 1

Virginia's energy policy, spurred by Democrats' takeover of the House of Delegates and the Senate in November. Last year's budget approved by Republicans, Northam noted, prohibited Virginia from joining RGGI.

The new law:

- Replaces the existing voluntary renewable portfolio standard program with a mandatory RPS that applies to electric utilities and licensed competitive suppliers. It requires Dominion Energy Virginia to be 100% carbon-free by 2045 and Appalachian Power by 2050.
- Sets an energy efficiency resource standard and requires a third-party review of whether energy companies meet savings goals.
- Establishes 5,200 MW of offshore wind as "in the public interest," up from 16 MW. It requires Dominion to prioritize hiring local workers from historically disadvantaged communities for the offshore project and to work with the state on apprenticeship and job training programs. Dominion must include an environmental and fisheries mitigation plan in its construction.
- Establishes that 16,100 MW of solar and onshore wind is "in the public interest" and expands net metering for rooftop solar. It sets an energy storage target of 2,400 MW by Dec. 31, 2035.
- Removes a provision declaring that planning and development activities for new nuclear generation facilities are in the public interest.

"By joining RGGI, Virginia will take part in a proven, market-based program for reducing carbon pollution in a manner that protects consumers," Northam said. The Department of Environmental Quality will create and run an auction program to sell allowances into a market-based trading program.

Revenues from the sale of allowances will be distributed by the Department of Mines, Minerals and Energy to low-income, disability, veteran and age-qualifying energy efficiency programs; additional energy efficiency measures for public facilities; coastal resilience efforts; and administrative costs.

The State Corporation Commission will be prevented from issuing a certificate for public convenience and necessity for any investor-owned utility to own, operate or construct a generator that emits carbon until the General Assembly receives the state Air Pollution Control Board's report on how to achieve 100% carbon-free electricity generation by 2050 and whether the legislature should ban new generation units that emit carbon. The report is due Jan. 1, 2021.

Utility applications to construct a new generating facility will include the social cost of carbon, as determined by the commission, as a cost adder. ■

Dominion Virginia Power's Chesterfield Power Station, which can produce 1,415 MW, has two coal-fired units and two combined cycle units. | *Dominion Energy*

PJM News

New Pa. Generator Hedging Gas Prices with Ethane

By Michael Yoder

The Marcellus Shale formation has turned Pennsylvania into the nation's No. 2 natural gas producer and made it a favorite spot for new gas-fired electric generation. Natural gas's share of the state's electric production more than doubled to 36% from 2010 to 2018.

But there is something different about the state's newest generating plant. If natural gas prices rise from their current low prices, Competitive Power Ventures' 1,050-MW *Fairview Energy Center* near Johnstown can add up to 25% ethane into its fuel mix — the first generation facility of its size in the world with that kind of flexibility, according to CPV.

Located on an 86-acre former brownfield site in Jackson Township, Cambria County, the General Electric-designed combined cycle plant successfully completed ethane testing in March and went into full combined operation this month.

Bill Lawson, senior engineer for new products at GE Gas Power, said customers have been seeking the ability to burn an array of gases to respond to fluctuating commodity prices. Lawson said GE *began looking several years ago* at shale gas and its byproducts, including ethane, that could serve in power generation.

"GE saw this trend developing early and focused technology development to broaden our fuel flexibility," Lawson said.

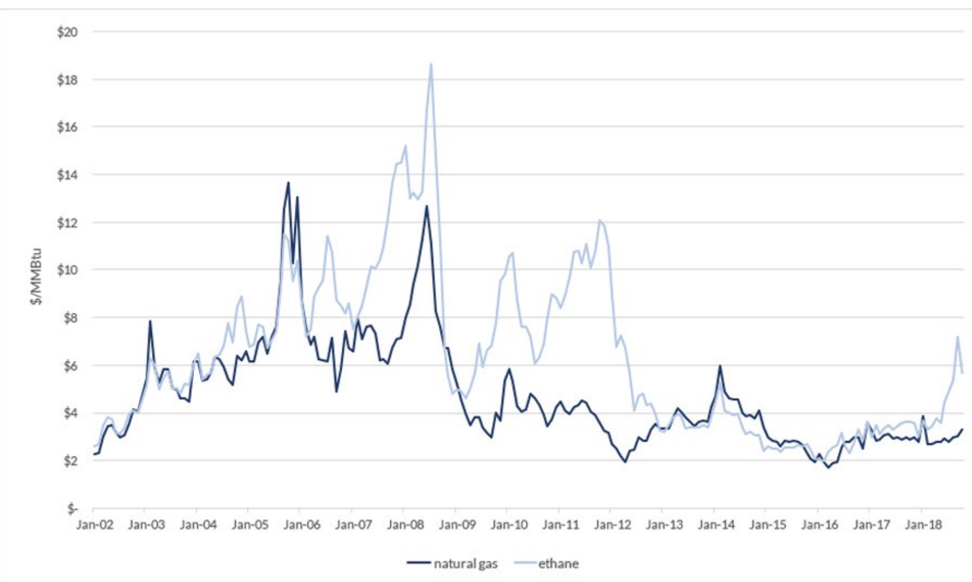
Price Trends

Ethane, commonly referred to as a natural gas liquid, is a hydrocarbon that can be found underground in shale and coal beds. In addition to being burned as a fuel, ethane also is used to produce ethylene, a chemical used in the manufacturing of plastics, automotive antifreeze and detergent.

According to the Energy Information Administration, ethane prices tracked crude oil spot prices until 2008 but began to diverge as U.S. production growth from shale gas and tight oil formations overwhelmed ethane consumption by the domestic petrochemical industry. By 2012, ethane prices closely tracked natural gas prices, staying within $1/MMBtu of the Henry Hub natural gas spot price on a heating-value-equivalent basis.

Since late 2017, EIA says, ethane demand has been growing because of increased petrochemical use and ethane export capacity. "As a result, ethane prices began to move away from their link to natural gas prices, and they are now bracketed by propane at the top and natural gas at the bottom of the range," EIA *said*.

Ethane spot prices fell 17% from January to March this year — while natural gas prices dropped 11% and international crude oil fell about 46% — because of the economic slowdown from the COVID-19 pandemic.



Monthly average of close-of-day spot prices for natural gas and ethane 2002-2018. Natural gas is priced at Henry Hub; ethane is priced at Mt. Belvieu non-LST (Lone Star Terminal). | *EIA*

Nearby Pipelines, Transmission

Natural gas for Fairview comes from the Enbridge Texas Eastern Transmission gas lines, about 1 mile north of the plant site. The ethane comes from Mariner East pipelines located on site. The plant also is adjacent to a 500-kV circuit that delivers its output to PJM, enough for 1 million homes and businesses.

CPV, which has ownership interests in 4.2 GW of generation in the U.S, partnered with Osaka Gas on the plant.

Jeff Ahrens, vice president of engineering and construction for CPV and the director of the $1 billion project, said the company wanted to incorporate ethane from an early stage in the plant's development. While CPV had experience with the equipment and engineering needed for natural gas generators, adding ethane presented new challenges.

"It's the first of its kind on this scale, so it required a lot of patience to make sure we did it right, make sure everything was designed correctly and look at all the different scenarios that the system needed to have to be reliable and safe for us," Ahrens said. "Every step was somewhat new."

Fairview was Ahrens' second project for CPV, following the St. Charles Energy Center, a 745-MW combined cycle plant in Waldorf, Md., that went into operation in 2017.

Ahrens said one of the biggest challenges was that ethane comes to the plant in liquid form and requires vaporization to mix with the natural gas.

Natural gas is more buoyant than ethane, Ahrens said, so designs had to be created to find the right way to mix the two. The result was a GE vaporizer as large as a truck to mix the two fuels.

Fairview took nearly three years of development before construction began, requiring a team of hundreds of GE and CPV engineers, manufacturers, logistics exports and transportation workers.

"It required a lot of research, understanding [and] getting the right team members together who either had some experience or knew people who had experience, like petrochemical guys in the oil and gas industries," Ahrens said. ■

SPP News

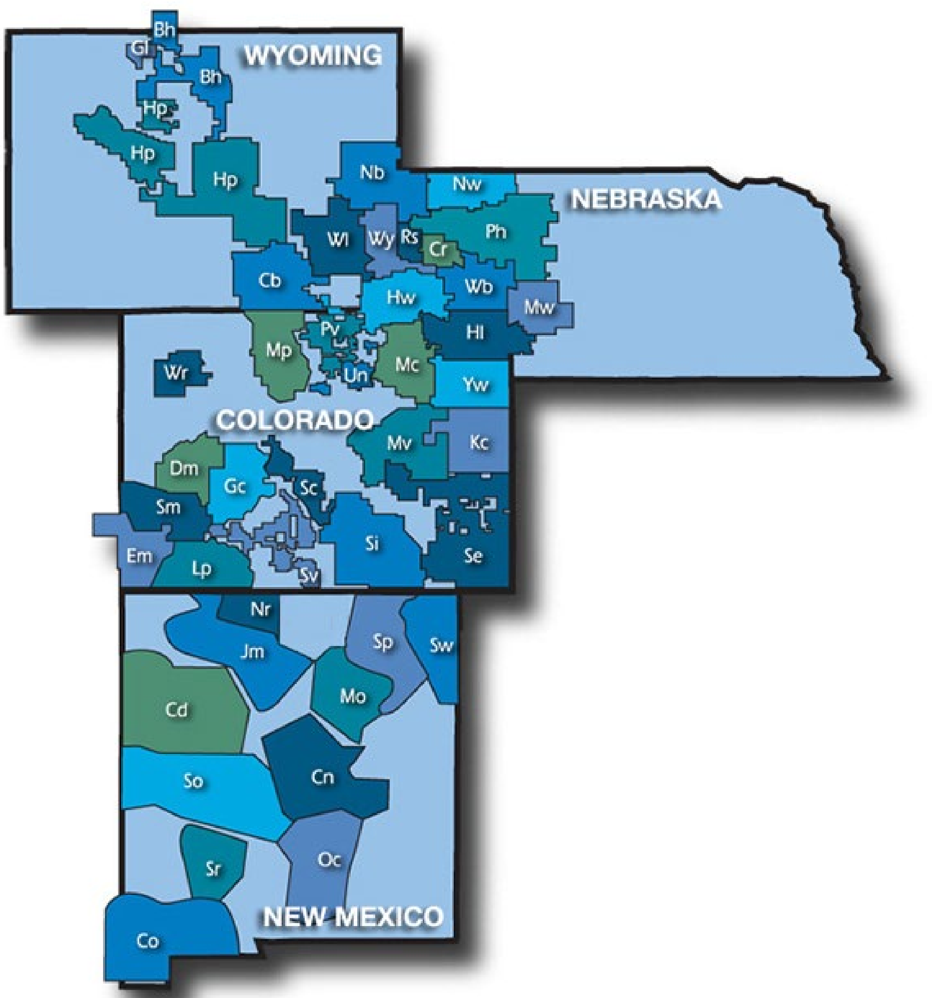
Tri-State G&T, Delta-Montrose Reach Withdrawal Deal

Delta-Montrose, headquartered in Montrose, Colo. | *Delta-Montrose*

Tri-State Generation and Transmission Association said Monday it has entered into a withdrawal agreement with Delta-Montrose Electric Association (DMEA), sticking to the terms of a 2019 settlement.

Westminster, Colo.-based Tri-State said DMEA will pay $88.5 million, including $26 million to purchase facilities, and forfeit another $48 million in patronage capital to leave the cooperative, effective June 30. The agreement is subject to certain conditions and approvals, including FERC's.

DMEA is a rural electric distribution cooperative that serves about 28,000 member-owners in western Colorado. The co-op sought to sever ties with Tri-State after determining it could obtain cheaper and environmentally cleaner energy supplies from other sources.



Tri-State's service territory includes 46 companies in the Rocky Mountains. | *Tri-State G&T*

Tri-State and DMEA last year agreed to part ways in a settlement agreement that allows for DMEA's purchase of certain assets and facilities, the termination of certain existing contracts between the two entities, and assignment by Tri-State of its wholesale electric service contract to a third-party provider.

Tri-State and DMEA will also enter into new contracts for the continued operation of transmission and telecommunications systems.

"The withdrawal agreement aligns with our settlement," Tri-State CEO Duane Highley said.

DMEA's forfeiture of the current balance of its patronage capital is not included in the payment. All Tri-State members have a patronage capital account, which represents each member's ownership in the co-op.

Tri-State, a member of SPP's Western Interconnection Energy Imbalance Service set to go live in February, has 46 members, including DMEA.

Kit Carson Electric Cooperative left Tri-State in 2016. Two other Tri-State cooperatives, United Power and La Plata Electric Association, are seeking termination-fee information through proceedings at the Colorado Public Utilities Commission.

The Tri-State board of directors on Friday approved a formula for standardizing the fee charged to members if they break their power-supply contract and leave the organization. ■

— Tom Kleckner

Company Briefs

DTE Energy Promotes Ruud to CFO

DTE Energy last week named David Ruud as senior vice president and CFO. Ruud, who is currently the senior vice president of corporate strategy and development, will assume his new role on May 4.

Ruud has served in several senior leadership roles during his 15-year career at DTE. He will replace Peter Oleksiak, who is retiring.

More: *The Monroe News*

ELCON Hires Travis Fisher as President and CEO

The Electricity Consumers Resource Council (ELCON) last week announced Travis Fisher, former economic adviser to FERC Commissioner Bernard McNamee, as its new president and CEO beginning April 16.

Fisher, who will replace interim President and CEO John P. Hughes, has more than 15 years of experience in energy policy. Prior to his work at FERC, Fisher was a senior adviser at the Department of Energy's Office of Electricity Delivery and Energy Reliability.

More: *ELCON*

GE Drops 2020 Guidance

General Electric last week withdrew its 2020 guidance in response to the uncertainty caused by the COVID-19 coronavirus pandemic and shared preliminary expectations for the first quarter.

GE now expects adjusted earnings per share in January-March 2020 to be "materially below" its forecast of 10 cents from March 4. This is mainly a result of non-cash and timing items in the Aviation, Renewable Energy and GE Capital businesses.

"Given the evolving nature of the COVID-19 pandemic, at this time, GE cannot forecast with reasonable accuracy the full duration, magnitude and pace of recovery across our end markets, operations and supply chains," the company said.

More: *Renewables Now*

Report Says National Grid Pipeline not Needed

A report by Synapse Energy Economics last week suggests National Grid's proposed 27-mile natural gas pipeline that would run from Sayreville, N.J., across the Raritan Bay to gas terminals in the Rockaway section of Queens is "an oversized, costly answer to a New York problem that does not exist." The project would transport fracked natural gas through New Jersey from Pennsylvania to energy markets in New York City.

"National Grid has not shown that it faces a supply-and-demand gap," the report says. "In fact, National Grid is expected to have a substantial surplus of supply capacity by 2034/35."

Synapse concluded National Grid overestimated the cost of incremental energy efficiency and did not account for the avoided costs of natural gas throughout and beyond the study period or the avoided costs of carbon emissions in its cost-benefit analysis.

More: *Bridgewater Courier News*

Sunrun Pulls 2020 Forecast, Cuts Jobs

Sunrun last week withdrew its 2020 financial forecast and announced cost-cutting measures in response to the COVID-19 coronavirus pandemic.

As of last week, Sunrun had laid off more than 100 workers and said it has cut $30 million of quarterly expenses relative to Q1 levels, largely through unspecified "labor-related cost actions." The company shared what it now sees as a "reasonable" downside scenario in 2020: two quarters in which volumes fall to half of what they had been in 2019 while losing $30 million per quarter.

In February, Sunrun told investors it expected to grow its installations by 15% in 2020. It had gotten off to a strong start, with 97.4 MW delivered in the first quarter (up 13%).

More: *GreenTech Media*

Tesla to Furlough Workers, Cut Salaries

Tesla last week told employees it would furlough all nonessential workers and implement salary cuts during a shutdown of its U.S. production facilities because of the COVID-19 coronavirus outbreak, though it hopes to resume normal operations by May 4.

Pay for salaried employees was reduced Monday and cuts will remain in place until the end of the second quarter. U.S. workers' pay will be cut by 10%, directors' salaries by 20% and vice presidents' salaries by 30%. Comparable reductions will be implemented abroad.

More: *Reuters*

Vestas Cancels 2020 Guidance

Wind turbine manufacturer Vestas canceled its 2020 financial guidance last week because of the COVID-19 coronavirus pandemic causing too much uncertainty to produce reliable numbers. The company said it will give updated guidance for the year when it believes it can do so with some degree of certainty. Its first-quarter financial results are due May 5.

"The situation changes daily, and my colleagues' ability to adapt and follow our extensive safety measures [has] been key to keeping performance in the first quarter in line with expectations. Unfortunately, the pandemic continues to spread, and with no clear prognosis on when key wind markets such as the U.S., Brazil and India will recover, we are suspending our guidance due to the poor visibility for the remainder of the year," said Henrik Andersen, Vestas group president and CEO.

More: *GreenTech Media*

Xcel Energy to Sell Mankato Energy Center

Xcel Energy last week announced it will sell its 760-MW, natural gas-fired Mankato Energy Center to Southwest Generation for $680 million. Xcel plans to use the profits to fund its corporate giving efforts, including support related to the COVID-19 pandemic.

Xcel purchased the plant in January for $650 million from Southern Power. Then, earlier this year, Southwest Generation offered to purchase it.

The sale is expected to close in the third quarter of this year and is not expected to have a material impact on short- or long-term earnings.

More: *Xcel Energy*; *Star Tribune*

Federal Briefs

3 Security Guards Test Positive for COVID-19 at EPA Headquarters

Three security guards at EPA headquarters in D.C. have tested positive for the COVID-19 coronavirus. The officers are in quarantine while staff try to identify all areas of the complex in which they worked or visited over the last two weeks.

So far, the areas are believed to include two main first-floor lobbies along with a lobby on the third floor, where EPA Administrator Andrew Wheeler and other senior managers have offices. Parts of the basement "specific to guard force operations" are on the list as well.

Nationwide, EPA has been notified of 23 cases of COVID-19 among staffers as of April 8.

More: *E&E News*

DOE Employee Dies of COVID-19

The Department of Energy last week confirmed that an employee in the agency's D.C. headquarters had died of COVID-19.

Energy Secretary Dan Brouillette said in a note to staff that the worker fell ill during the second week of March and had not returned to the building since then. The department will not release details about the employee because of privacy concerns.

Brouillette also said two additional employees have tested positive for the virus. One employee has been away from the building since Feb. 14, while the other has been out since March 30. Both are recovering in self-quarantine.

More: *E&E News*

Trump Wants to Cut TVA CEO's Pay Under COVID-19 Package

President Trump last week claimed he wants to cut the pay of Tennessee Valley Authority President Jeff Lyash "by a lot" as part of an infrastructure package being negotiated to spur the U.S. economy. Lyash is the highest paid federal employee in the U.S. with a base salary of $920,000.

Trump said Lyash "is paid a lot of money" to run the federally owned utility and that "when we want them to do something for us, they are not there for us." Meanwhile, TVA officials insist the corporation is not comparable to other government departments because it doesn't receive taxpayer funds and is supported entirely by the ratepayers who buy electricity in the Tennessee Valley.

TVA spokesman Jim Hopson said Lyash's pay is only about one-fourth of that paid to comparable CEOs of similarly sized investor-owned utilities, and the company is required under the governance reforms adopted by Congress in 2004 to pay all of its employees, including its CEO, salaries that are competitive with comparable utilities.

More: *Chattanooga Times Free Press*

State Briefs

CALIFORNIA

sPower to Build Battery Facility in LA County

Independent power producer sPower last week signed a deal with community choice aggregator Clean Power Alliance to build a $100 million, 100-MW battery to support the grid near Los Angeles.

sPower will own and operate the Luna Storage facility at the northern edge of Los Angeles County. It is equivalent to the largest battery in the world by capacity (Tesla-supplied Hornsdale plant in South Australia), although this project will have a considerably longer duration at 400 MWh.

More: *GreenTech Media*

KANSAS

Supreme Court Balks at Price Discrimination Against Home Solar

The state Supreme Court last week confirmed that regulators engaged in illegal price discrimination by allowing utilities to assess higher electric fees on residential customers who generated their own wind or solar power.

The court said the Corporation Commission improperly gave Kansas Gas and Electric and Westar Energy permission to charge residential power producers extra fees (in some cases more than $100 a month) in 2018. The Court of Appeals had sided with the commission and utilities, but the Supreme Court ruled in favor of Sierra Club, Earthjustice and Vote Solar. The decision means utilities can't charge customers who produce their own energy more than they charge other customers based on that distinction.

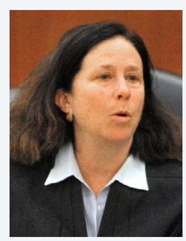
The justices remanded the case to the commission for further action.

More: *The Topeka Capital-Journal*

MAINE

NECEC Referendum Still on Track

Superior Court Justice **Michaela Murphy** on Monday ruled that Secretary of State Matthew Dunlap didn't abuse his discretion by declining to conduct a hearing on a petition to put the Public Utilities Commission's



approval of the New England Clean Energy Connect (NECEC) on the ballot in November.

Although Dunlap tossed out about 2,000 signatures previously counted as valid, opponents of the proposed $1 billion, 145-mile transmission line still have 66,117, above the minimum of 63,067 to trigger a ballot question aimed at stopping the project. The line would bring 1,200 MW of hydropower from Quebec to ISO-NE.

Dunlap examined the actions of eight notaries and determined three acted improperly, either by circulating petitions themselves and notarizing petitions for other circulators, or by not administering an oath to circulators in an authorized manner. He also disqualified signatures previously determined to be valid from one circulator whose petition was filled with errors.

The lawsuit against the petition, supported by project developer Iberdrola through a group called Clean Energy Matters, contended some notaries hired by opponents of the line violated state law by engaging in other campaign activities and that some of the signatures were forged.

Meanwhile, Iberdrola announced last week it has lined up more than $300 million in contracts for work on the project.

More: *The Associated Press*; *Portland Press Herald*; *Portland Press Herald*

NEW YORK

NYISO Sees Demand Reductions

NYISO last week released data showing it has seen a reduction in energy demand because of the COVID-19 coronavirus outbreak, specifically in the morning hours in New York City.

During the week of March 30 to April 3, consumption reductions in the city neared 18% during the 7 and 8 a.m. hours. The weekly demand ranged from 2 to 18% below average levels. The ISO has noticed the morning peak arriving later in the day, similar to activity on a snow day.

More: *NYISO*

Siting Board Approves Calpine Wind Project

The Board on Electric Generation Siting and the Environment last week approved the 124-MW Bluestone wind project that Calpine has proposed in Broome County.

The wind farm will consist of 27 turbines that will be installed on privately leased rural land in Windsor and Sanford and will interconnect into New York State Electric and Gas' transmission network.

More: *Renewables Now*

OKLAHOMA

PSO Seeks to Lower Customers' Bills

Public Service Company of Oklahoma last week announced that because it has been paying less than planned for natural gas, it intends to pass along the savings to customers starting in May. The adjustment will be provided through a monthly fuel costs assessment.

Residential customers that use 1,100 kWh/month will see a monthly decrease by more than $9 (24%). Larger commercial and industrial customers could see an adjustment that adds up to thousands of dollars in savings.

If approved by the Corporation Commission, utility officials said they expect the savings to show up on bills in May and last through the remainder of 2020.

More: *The Oklahoman*

TENNESSEE

COVID-19 Disconnection Policies All over the Board for Utilities

Although the Public Utility Commission issued an order for utilities to cease disconnections and shutoffs on March 31, the order only pertains to Appalachian Power, Entergy Arkansas and Kingsport Power, as there is no centralized authority and the majority of residents get their electricity from public power.

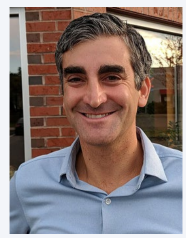
The state is mostly served by member-owned cooperatives and municipal utilities that are loosely regulated by the Tennessee Valley Authority. Late fees, payment plans, connections, disconnections and reconnection policies are all set locally, as each co-op and municipal company is structured differently.

Public utilities have been communicating but aren't required to act in the same way. The Knoxville Utilities Board chose to suspend disconnections, while the Lenoir City Utilities Board, which supplies West Knoxville, has not. Furthermore, some utilities might not even have a COVID-19 policy. Many companies have chose to handle each customer case-by-case.

More: *Knoxville News Sentinel*

VERMONT

Burlington Sets 'Green Stimulus Package'



Burlington Mayor **Miro Weinberger** last week said the city would be launching a "green stimulus package" to encourage environmentally friendly behavior when the economy reopens after the shutdown caused by the COVID-19 coronavirus pandemic.

The Burlington Electric Department will lead the initiative and seek regulatory approval for multiple temporary or limited-time programs set to start during the economic recovery.

As part of the program, the department will increase funding for weatherization programs for low- and middle-income rental housing, boost cold-climate heat pump incentives and expand electric vehicle incentives. It also will pay homeowners and renters to replace older appliances with newer energy-efficient refrigerators, freezers, washers and dryers.

More: *VTDigger*