



OKLAHOMA PUBLIC POWER

A publication of the Municipal Electric Systems of Oklahoma

April 2019

MESO Prepares for the 2019 Public Power Conference

More than 250 people are expected at the 2019 MESO Public Power Conference beginning April 14 at the Embassy Suites by Hilton Norman Hotel & Conference Center in Norman, OK.

"We hope our members are looking forward to another great annual conference," said MESO General Manager, Tom Rider. "We believe we've put together a strong set of informative sessions."

In addition to five learning tracks — Customer Service, Generation, Human Resources, Lineworker, and Superintendent, the conference will feature three general session speakers: Sam Choi, Manager for Emerging Technologies and Renewables, Orlando Utilities Commission; Wally Haase, General Manager, Navajo Tribal Utility Authority; and, Mike Woodruff, retired law enforcement professional.

Kriz-Davis returns as the Platinum Sponsor. CLEAResults, and Garver are Gold Sponsors, and Clifford Power Systems is the Silver Sponsor. There are eight Bronze Sponsors and an additional 37 sponsors who are also exhibiting at the conference.

"Sponsors — those who invest in Public Power in Oklahoma — play an important role in our association," Rider said. "Their on-going support make many of MESO's activities possible."

"This year's sponsors cover the spectrum of products and service that benefit public power."

GRDA and OMPA join MESO as presenting partners for the 2019 MESO Public Power Conference.

NOTICE TO MEMBERS

At the Annual Meeting of the Association (12 noon, Monday, April 15), members will be asked to take action on amending the association's by-laws. If approved, the amended by-laws are the first step in moving MESO to the Oklahoma Municipal Alliance and expanding our services and programs to other municipal departments.

The proposed by-laws were distributed to all members by mail and electronic copies were sent to city managers, city clerks and electric superintendents. If you did not receive the amended by-laws, please email Deborah Gonzales at deborah@meso.org or call her at 405-528-7564 ext. 1.

The meeting is part of the MESO Public Power Conference and will be held at the Embassy Suites Hotel in Norman. Lunch is provided to conference participants. Interested individuals who want to attend with or without lunch should email Deborah Gonzales at deborah@meso.org for more information. All questions about the transition are to be directed to Tom Rider, General Manager at tom@meso.org.

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UPCOMING MESO & AMERICAN PUBLIC POWER EVENTS

June 7-12, 2019

American Public Power Association National Conference
Austin, Texas

MESO Job Training & Safety Sessions

- May 21-22, 2019 – Hot Stick Line School (Advanced), Edmond
- June 18-20, 2019 – Basic Lineman School, Fairview
- July 25, 2019 – Metering School, Edmond
- October 16-17, 2019 – Tree Trimming Class, Claremore

ON-GOING PROGRAMS:

MESO Electric Supervisor Development (ESD) Sessions

- Tuesday, June 4, 2019
 - Tuesday, August 6, 2019
 - Tuesday, October 1, 2019
 - Tuesday, December 3, 2019
- MESO Training Center, Okla. City

The Supervisor Course

- May 7, 2019
 - June 4, 2019
- MESO Training Center, Okla. City



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Storage, Renewables Gain Against Gas-fired Generation

From the American Public Power Association

March 28, 2019

By Peter Maloney

The costs of two technologies that were considered prohibitively expensive only a couple of years ago have fallen dramatically, according to a new report from BloombergNEF.

The levelized cost of electricity, or LCOE, for lithium-ion batteries and for offshore wind has fallen 35% and 24%, respectively, since the first half of last year, according to BloombergNEF (formerly known as Bloomberg New Energy Finance).

"Batteries co-located with solar or wind projects are starting to compete, in many markets and without subsidy, with coal- and gas-fired generation for the provision of 'dispatchable power' that can be delivered whenever the grid needs," according to the BNEF report.

In February, Arizona Public Service announced that two energy storage projects totaling 150 MW (300 MWh) were winners in its solicitation for dispatchable resources.

"Solar PV and onshore wind have won the race to be the cheapest sources of new 'bulk generation' in most countries, but the encroachment of clean technologies is now going well beyond that, threatening the balancing role that gas-fired plant operators, in particular, have been hoping to play," Tifenn Brandily, energy economics analyst at BNEF, said in a statement.

In the report, BNEF compared the LCOE of stand-alone batteries, rather than batteries co-located with wind or solar resources, because gas-fired peaking plants and batteries offer the same type of services, that is, they can start up quickly and run at low load factors, Brandily clarified in an email.

After demand response, short-duration batteries are the cheapest option for meeting narrow peaks in demand in all major economies except in the United States where cheap shale gas still gives gas turbines an edge, Brandily said. "But we expect the steep cost declines for batteries will overturn this situation by 2021."

(see STORAGE, page 8)



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Laverne City Superintendent Selected for Mike Nunneley Scholarship

Mary Chris Barth, City Superintendent from Laverne, was selected to receive the first Mike Nunneley Scholarship and will be able to attend the 2019 MESO Public Power Conference.

Barth joined Laverne in August 2018 after more three decades in a leadership role with the United States Postal Service. She has operated Registered Hereford ranch with her husband for 36 years.

"When we looked at Mary's application, it was easy to appreciate how she was taking on a long list of challenges and opportunities," said Tom Rider, MESO General Manager. "We hope you have an opportunity to meet her at the conference and that she can find value by attending."

The Mike Nunneley Scholarship will be awarded annually to a deserving governing body official, appointed official, or staff member from an Oklahoma Public Power community who has not attended a past MESO Public Power Conference.

MESO's Board of Directors established the Mike Nunneley Scholarship to recognize and honor Mike Nunneley. He served the public power communities of Granite and Mannford, promoting not only public power but also the value of professional management for Oklahoma's cities and towns. Mike was committed to the continuing professional education of municipal officials at all levels of government.

GRDA Receives "Reliable Public Power" Provider Status

The Grand River Dam Authority has been recognized across the public power electric utility industry for its reliable and safe delivery of electricity.

GRDA was one of 48 public power utilities to earn the Reliable Public Power Provider (RP3)® designation from the American Public Power Association (APPA) for providing reliable and safe electric service. APPA made the announcement during its annual Engineering & Operations Technical Conference in Colorado Springs on April 1.

According to APPA, the RP3 designation, which lasts for three years, recognizes public power utilities that demonstrate proficiency in four key disciplines: reliability, safety, workforce development and system improvement. Criteria include sound business practices and a utility-

wide commitment to safe and reliable delivery of electricity.

"It is a great honor for GRDA to receive the RP3 designation because it recognizes organizational achievement in areas that we have made a priority over the last several years," said GRDA President/Chief Executive Officer Dan Sullivan. "All of these areas are at the very heart of our mission and this recognition is a reflection of our dedicated workforce to achieve reliability for our customers."

Headquartered in Washington, D.C., APPA is the national association for the nation's 2,000 not-for-profit, community-owned electric utilities and represents public power before the federal government. Collectively, these utilities serve 49 million people across the United States.

Association Report Shows Plunge in Proposed Coal Generation

*From the American Public Power Association
March 11, 2019*

By Paul Ciampoli

A new report from the American Public Power Association said that in 2019, less than 100 megawatts of coal capacity is being proposed, a dramatic decrease from a 2018 Association report that showed that there were 11,000 MW of new coal capacity being proposed.

The report, "America's Electricity Generation Capacity 2019 Update," which was prepared by Paul Zummo, Director, Policy Research and Analysis, at the Association, analyzes prospective generation capacity in four categories — under construction,

permitted, application pending, and proposed.

While the 2018 report showed that there were approximately 11,000 MW of new coal capacity being proposed, "this year less than 100 MW of coal capacity is being proposed."

The 2019 update noted that the amount of coal being retired continues to increase, while almost no new coal-fired power is being deployed.

Currently, the U.S. has just over 1.2 million MW of generation capacity. The largest fuel source is natural gas, accounting for nearly 44 percent of all generation capacity. Coal, with a share of just over 22 percent of capacity, represents the second largest source of generation capacity. Nuclear, hydro, and wind

(see ASSOCIATION REPORT, page 10)

Tonkawa Declared Our Local Power Champion

OMPA General Manager Dave Osburn presented the City of Tonkawa with an Our Local Power Champion award at the city's council meeting in March.

The award is meant to recognize the extra effort Tonkawa provided in promoting the Our Local Power campaign. That effort can be seen on the city's water tower, which was redone during 2018 and painted to include the Our Local Power logo.

The Our Local Power campaign began in the fall of 2018 as a way to market the value municipal-owned utilities bring to the communities they serve. It is meant to be a multi-year marketing effort, including all of the 62 municipal-owned utilities in Oklahoma.

For more on the campaign, go to www.ourlocalpower.org.



City Manager Kirk Henderson; Mayor Ken Smith; OMPA's Dave Osburn, and Nancy Skipper, Clerk-Treasurer.

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MESO Members — from Edmond, GRDA, and Ponca City — Recently Participated in the American Public Power Association Lineworkers Rodeo in Colorado Springs.



NOTE: We thank Shayla Alvarez, Mark Gambill, and Clint Hodge for photos. We have too many to include in this publication, however many more can be seen on the MESO Facebook page.

National Conference Scholarship Program Named after Former Chairman Charles Lamb

The OMPA Board of Directors voted at its March meeting to name its annual APPA National Conference scholarship program after former chairman, Charles Lamb, who passed in December.

The program is in its third year. It is intended to pay to send a representative of an OMPA member city or town to the APPA National Conference, which this year will be in Austin, Texas on June 7-12.

Wynnewood Mayor Tabitha Hayes has been chosen as this year's recipient.

Lamb was the longest-serving Chairman in OMPA history, holding that title for 17 years. He also was the second-longest-serving member of the Board of Directors in the Authority's 33-year history.

The Mayor of Edmond, Lamb was a well-known advocate of Public Power. He was instrumental in the development of the Competitive Utility Program (CUP), served on the American Public Power Association's (APPA) Policy Maker's Committee, and was a recipient of the Spencer Vanderlinden Public

Official Award, which recognizes elected or appointed local officials who have contributed to the goals of APPA and Public Power.

In 2013, Lamb also became the first ever two-time recipient of the Municipal of Electric Systems of Oklahoma's (MESO) Ray Duffy Personal Service Award, honoring his efforts to lead Oklahoma's efforts in promoting the value public power brings to individual communities.

The APPA National Conference is an opportunity for those in a leadership position at a public power utility to learn more about the issues facing public power, network with peers, and take home valuable information and ideas on how their locally-owned utility can better serve their community.

The person selected for the scholarship program must make a commitment to attend the conference and two pre-conference seminars, as well as provide a verbal report to the Board of Directors regarding their experience.

Storage

(continued from page 3)

In the U.S., the LCOE of a new gas turbine is between \$74/MWh and \$272/MWh, depending on how the plant is used, and for a combined-cycle gas turbine the LCOE is between \$38/MWh and \$76/MWh, depending on the plant's load factor, BNEF found.

In its calculations, BNEF assumes that the price of natural gas in the U.S. rises from \$2.9 per million British Thermal Units in 2019 to \$4.8 per MMBtu in 2050.

BNEF did not include the value of federal tax credits in its analysis of wind and solar projects. The tax credits can make the LCOE of co-located systems lower, but it would also distort the competitive balance between technologies, Brandily said.

"Without subsidies, we expect a PV+storage system, say, with 100 MW PV and 25MW/100MWh of storage to be competitive on a LCOE basis by 2024 against a new combined-cycle turbine plants burning cheap shale gas," Brandily said.

For projects starting construction in early 2019, the BNEF report pegs the LCOE for onshore wind and photovoltaic solar projects at \$50/MWh and \$57/MWh, respectively, down 10% and 18%, from a year ago.

The report puts the LCOE for lithium-ion batteries at \$187/MWh, a 35% decline since the first half of 2018. Meanwhile, the LCOE for offshore wind projects has dropped to below \$100/MWh, compared with more than \$220/MWh five years ago, as a result of auction programs and much larger turbines that have spurred "sharp reductions" in capital costs, the report says.

The cost decline for offshore wind over the past six months is "the sharpest we have seen for any technology," Elena Giannakopoulou, head of energy economics at BNEF and lead author of the report, said in a statement.

BNEF said its analysis shows that the per MWh LCOE for onshore wind, solar PV and offshore wind have fallen by 49%, 84% and 56%, respectively, since 2010 and that the LCOE for lithium-ion battery storage has dropped by 76% since 2012.

LCOE measures the all-in expense of producing a megawatt hour from a new project and includes the costs of development, construction and equipment, financing, feedstock, operation and maintenance. BNEF bases its LCOE analysis on actual projects starting construction and on proprietary pricing information from suppliers.

Three OMPA Board Members Re-elected to Another Term

Three members of the Board of Directors were re-elected at the Annual Meeting in March.

The three were Janice Cain of Altus, Dixie Johnson of Perry and Kimberly Meek of Duncan. Edmond's Warren Porter, who was appointed to the Board in February, was also confirmed by the Electors.

All of the members of the 11-person Board of Directors are chosen by electors, who are representatives from each of OMPA's 42 member cities and towns. Board members serve staggered, three-year terms.

Cain is currently the City Manager at Altus, and has more than 30 years in service to municipal government across numerous stops. She was City Manager at Lindsay for six years and Marlow for 15 years, in addition to being the Assistant City Manager at Duncan for three. This is her second stint on the OMPA Board, having previously served from 2010-13 when she was at Marlow. In 2008, Cain received APPA's Larry Hobart Seven Hats Award, which recognizes managers who perform a variety of duties in communities serving 2,500 or fewer meters.

Johnson was appointed to the Board in December to fill a vacancy left by now State Sen. Chuck Hall. Johnson has been Perry's clerk since 2011, and has worked for the city since 2002. She has been the city's coordinator for the Competitive Utility Program (CUP), a best-practices program for OMPA utilities.

members. Johnson also has served on OMPA's Energy Services Committee, the Our Local Power Committee and the CUP Oversight Committee.

Meek has been City Manager at Duncan since August of 2016. Previously, she served in the same capacity at the City of Guymon from 2012-2016. She has a background in finance, having served as the City Clerk/Finance Director at Guymon and the City of Poteau. She has been on the Board since October.



Janice Cain



Dixie Johnson

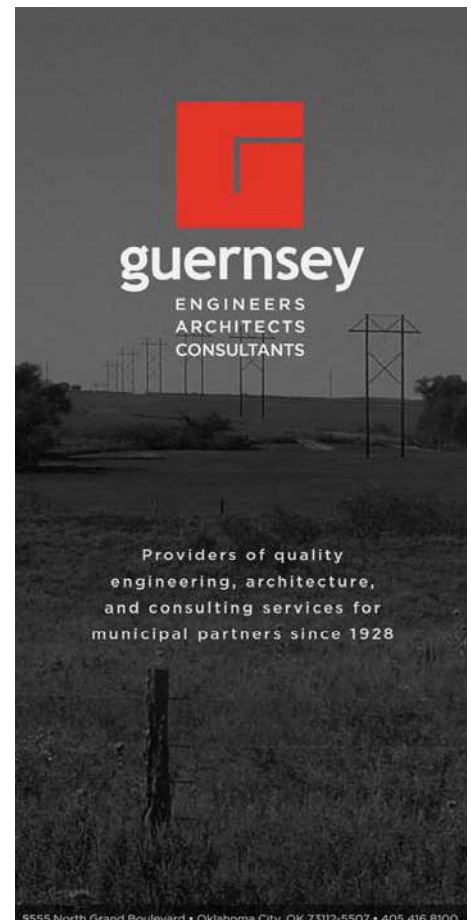


Kimberly Meek

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Association Report

(continued from page 4)

together account for just over one-quarter of capacity. Solar currently constitutes nearly three percent of all capacity.

The report said that approximately 330,000 MW of new generation capacity is under development in the U.S. — 85,718 MW under construction or permitted, and 244,120 MW proposed or pending application.

Almost half of the capacity currently under construction or permitted to begin construction will be fueled by natural gas. Solar and wind together account for 44 percent of near-term potential capacity additions.

Natural gas, solar, and wind projects account for 92% of all capacity under construction, accounting for 33,853 MW of the total of 36,669 MW under construction, the report said.

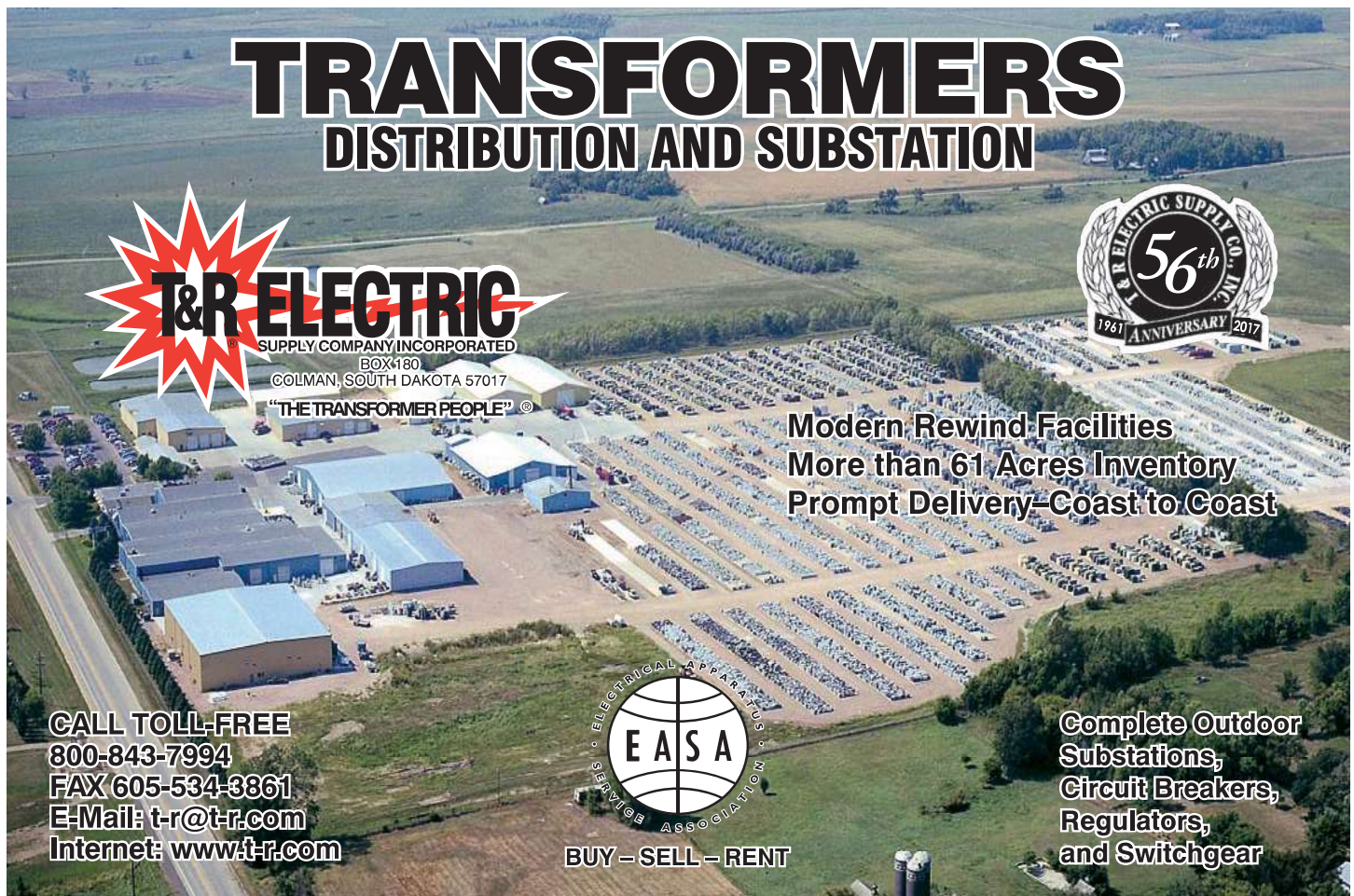
Regionally, the Southeast currently has the most generation, with 25 percent of the nation's total capacity, however the Western region is slated to

add the most generation in the long-term, projecting 83,359 MW of new capacity.

"The overall capacity mix continues to change at a gradual pace. Economics and efficiency continue to spur the development of natural gas. Declining capital costs and environmental mandates have also led to continued development of wind, solar, and other forms of renewable generation capacity," the report said.


Approximately 46,500 MW of current operating capacity is scheduled to retire by 2023, over half of which is coal. Almost all planned natural gas retirements are powered by steam or gas combustion turbines. Nearly 10,000 MW of nuclear capacity is also slated to be retired, the report said.

Also, more than 41,000 MW of planned capacity additions were canceled in 2018. The report noted that Since 2008, over 550,000 MW of planned capacity additions were ultimately canceled, well above the capacity that was added. Wind represents nearly 28 percent of this canceled capacity.




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