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Published April 27, 2020
Hello!

Like each of our annual reports, this one chronicles the latest chapter in the ongoing story of Southwest Power Pool. However, it carries extra significance to me, as it is the last report I will introduce, having announced my planned retirement effective in April 2020.

I typically use this space to reflect on the prior year. Given the circumstances, I hope you’ll indulge me in looking a bit further back. Together, we have accomplished so many remarkable things that SPP is hardly recognizable as the same organization whose leadership I inherited from John Marschewski 17 years ago, but for the fundamental mission and values that have remained steadfast all these years.

When I assumed this role in 2003, SPP was an organization of fewer than a hundred employees operating in just eight states. We were not a regional transmission organization (RTO). We had not yet directed the construction of any of the $10 billion worth of transmission infrastructure that would become the backbone of our regional grid over the subsequent decade. A major limiting factor preventing that transmission build-out was the question of who would pay for it. The answer to that question would require the collaborative efforts of our Regional State Committee (RSC), which did not yet exist. SPP had not yet implemented its first wholesale electricity market. The billions of dollars of benefits that would eventually come from our energy imbalance and day-ahead markets were all unrealized at that point in our history.

Abraham Lincoln said of the past that it “is the cause of the present, and the present will be the cause of the future.” What has brought us so far — the cause of our present in Lincoln’s terms — is the ability of the SPP organization to effectively integrate diverse perspectives, people, and systems and to organize around a clear mission and commitment to the greater good of our region. Considering the foundation of both where we’ve come from and where we are, I’m tremendously excited about the future.

In 2019, we continued to demonstrate our talent for integration — positioning us for a bright future. We’ve added new leaders to our board of directors who bring new thinking to current challenges and to some challenges we haven’t even predicted yet. We’ve integrated new customers and expanded our service territory, enabling us to bring value to new parts of the country. The work of the Holistic Integrated Tariff Team represents one of the most significant efforts in our organization’s history to grapple with the highly interconnected, highly interdependent and complex issues facing our industry. And these are just a preview of the 2019 activities that you’ll read about in the pages to come.

All things considered, the organization is firmly positioned to undertake the challenges and opportunities ahead of us, and I couldn’t be more pleased with the degree of engagement regularly demonstrated by our members, RSC representatives and other stakeholders. It’s with great pleasure that I present this 2019 annual report, chronicling a remarkable year in the evolution of SPP and example after example of the value of integration.

It’s been a tremendous privilege to serve SPP and to work with you, our stakeholders, these many years. I look forward with great anticipation to observing the successes still on the organization’s horizon.

Take care,

Nick Brown, President and CEO, Southwest Power Pool
The annual report, like a high school yearbook, provides an opportunity to review the past year — its key activities, challenges and accomplishments. For SPP, 2019 was another busy and successful year. Nick Brown’s companion letter does an excellent job of providing a detailed recap not just of 2019, but also his tenure as president and CEO of this remarkable organization.

2019 is the last full year of leadership provided by Nick Brown, who has served 17 years as president and CEO, and Carl Monroe, who has served 15 years as executive vice president and chief operating officer. It also marked the final year of service from three distinguished directors who represented more than 50 years of combined service: Jim Eckelberger, Harry Skilton and Phyllis Bernard.

The leadership of these individuals largely defined and shaped SPP into what it is today, differentiating SPP in:

- The level of real engagement of its board, members, regulators, stakeholders and staff working collaboratively to address the complex challenges of our industry.
- The investment to develop a robust, reliable highly interconnected transmission system.
- The facilitation of the integration of renewable energy into its supply mix, resulting in 2019’s record of 76.94% of its total energy delivered coming from renewable resources.
- Its benefit-to-cost value for members.
- Achieving the lowest-cost wholesale energy.

This is their legacy, and it is the foundation from which SPP begins a new chapter in 2020 — a new chapter that begins with new leadership at the top of our organization provided by two highly capable and respected individuals from within SPP: Barbara Sugg as SPP’s new president and CEO, and Lanny Nickell as SPP’s new executive vice president and COO. Barbara and Lanny have the benefit of an extraordinary leadership team, and we all benefit from a high quality, dedicated group of employees.

At the board level, we have added three exceptional members: Susan Certoma and Darcy Ortiz, both of whom joined the SPP board at the beginning of 2019, and Bronwen Bastone, who joined at the beginning of 2020. These individuals bring diverse experience, fresh perspectives and new energy to what I believe to be an eminently well qualified, committed and effectively engaged board.

Accordingly, SPP will be launching a comprehensive strategic planning effort in 2020 to help determine key strategic initiatives critical to SPP’s members and stakeholders. At the same time, SPP will be progressing with several existing critical initiatives that will also define and shape SPP’s future, including:

- Implementation of the recommendations from the Holistic Integrated Tariff Team.
- Development of the benefits for both SPP’s existing and prospective members associated with a western expansion.
- Strategically addressing the seams issue knowing that today it represents an unnecessary boundary that negatively impacts reliability and value for stakeholders on both sides of the seam.
- Rethinking transmission planning to effectively incorporate the many variables that affect the optimized integration of new generation resources with appropriate transmission development.
- Sustaining and enhancing the value provided to SPP’s members and end-use customers with a renewed focus on effective communications and operational cost management.

I couldn’t be more pleased with where we are today nor more excited about where we are going. And I am absolutely convinced that our differentiated approach to engagement and collaboration with our members, regulators and other stakeholders will sustain and build on SPP’s impressive list of unmatched successes.

Larry Altenbaumer, Chair of the Board, Southwest Power Pool
INTEGRATING NEW LEADERSHIP

In our 78-year history, SPP has seen tremendous growth and change under the guidance of excellent leaders. It speaks to our relationship-based business model that we also have tremendously low turnover at the highest levels of our organization.

We recently marked a new chapter in SPP’s leadership team, however. In 2019, president and CEO Nick Brown and chief operating officer Carl Monroe both announced their retirements effective in early 2020. Both are visionaries who helped SPP evolve from a team of four people to a thriving organization of over 600 professionals. Brown and Monroe will leave lasting legacies and big shoes to fill, but SPP proudly announces that two of our own will take over their mantles.

On April 1, 2020, Barbara Sugg assumed the role of president and CEO after serving SPP for more than 20 years and most recently as senior vice president of IT and chief security officer. On Jan. 28, 2020, Lanny Nickell, SPP’s senior vice president of engineering, became executive vice president and chief operating officer.

Sugg’s and Nickell’s previous roles were filled by long-term SPP staff. As of February 2020, Director of Planning Antoine Lucas became vice president of engineering, and Director of Cybersecurity Sam Ellis became vice president of IT and chief information security officer.

Also leaving SPP after many years of distinguished service are directors Jim Eckelberger, Harry Skilton and Phyllis Bernard.

Jim Eckelberger served as an SPP director for 18 years, board chair for 14 years and director emeritus for one year. His strategic leadership was instrumental in guiding SPP through a period of rapid growth. Eckelberger maintained an unwavering focus on our responsibilities to maintain reliability excellence while providing low-cost energy to ratepayers. He provided valuable leadership to the Strategic Planning Committee, Corporate Governance Committee, Holistic Integrated Tariff Team and Value and Affordability Task Force.

Harry Skilton served as an SPP director for 18 years, vice chair of the board for 14 years and director emeritus for one year. He maintained a steadfast focus on SPP’s fiduciary responsibilities, continually challenging us to operate as efficiently and cost-effectively as possible. Skilton served as chair of the Finance Committee for 14 years and as a member of the Strategic Planning Committee, Value and Affordability Task Force, Regional Allocation Review Task Force and Markets and Operations Policy Committee.

Phyllis Bernard served on the SPP board and contributed to the organization’s success for 16 years. She made a significant contribution to the electric utility industry by helping develop alternative dispute resolution standards for use by RTOs. Bernard’s experience as a litigator, mediator and appellate administrative judge helped SPP build consensus on complex issues. She chaired the Human Resources Committee for six years and served as a member of the Oversight Committee and other groups that contributed to SPP’s evolution.
In July 2019, SPP president and CEO Nick Brown announced his retirement effective April 2020. Brown joined SPP as an engineer in 1985 and was elected president and CEO in 2003. Under his leadership, the organization earned the Federal Energy Regulatory Commission’s (FERC) regional transmission organization (RTO) designation in 2004, launched an energy market in 2007, built a new corporate campus in 2012, launched the Integrated Marketplace in 2014, has directed nearly $10 billion in transmission upgrades, was named the Best Place to Work in Arkansas, and has grown its service territory from eight to 17 states, most recently with the launch of contract-based reliability coordination service in the Western Interconnection.

“Nick is a tremendous leader,” said Larry Altenbaumer, chair of SPP’s board of directors. “He’s made an indelible mark on this organization and will leave it with momentum carrying us toward a successful future. It’s nearly unprecedented, the degree of success and evolution SPP has experienced on Nick’s watch. Whoever is selected to succeed him will have big shoes to fill but will find the organization in great shape on day one.”

Carl Monroe, SPP’s executive vice president and chief operating officer, announced his retirement effective in the first quarter of 2020. Monroe joined SPP in 1997 and as COO since 2004 has been responsible for our 24/7 operations.

“It has been the opportunity of a lifetime to work at SPP and a privilege to work alongside such bright, talented and caring people in the interest of a worthwhile shared mission,” Monroe said.

Monroe was instrumental in the expansion of SPP’s service territory several times over the years. “Carl helped shepherd our evolution from an entrepreneurial startup to one of seven RTOs. We wouldn’t be where we are today without his leadership,” Nick Brown said.
Stakeholders took integrated, holistic looks at SPP

In 2019, three groups of diverse stakeholders completed thorough assessments of different facets of our organization. Each group had a different focus, and all have helped prepare SPP for the future.

Holistic Integrated Tariff Team made 21 recommendations for improvement

The Holistic Integrated Tariff Team (HITT) evaluated SPP’s portfolio of services and industry trends to identify opportunities for improvement and make recommendations. President and CEO Nick Brown called their efforts “one of the most significant projects SPP has undertaken in 30 years.”

The SPP board created the HITT in March 2018 to complete a comprehensive review of our cost-allocation model, transmission planning processes, Integrated Marketplace and real-time operations. The board appointed 15 stakeholders to the team representing members, state regulators and the board. The HITT spent more than a year discussing and debating issues, keeping in mind the highly integrated nature of SPP’s processes and how changes to one area could impact others. In July 2019, the board approved the HITT’s 21 recommendations that will:

- Ensure reliability for a changing generation mix and new technologies.
- Align transmission planning and cost allocation with SPP’s market and consolidated balancing authority.
- Enhance the Integrated Marketplace to reliably deliver low-cost energy to customers.

“Our industry is changing more rapidly than we’ve ever seen, and through these policy recommendations, SPP is preparing for the electric grid of the future while ensuring all members receive fair and equitable benefits from SPP,” said Tom Kent, Nebraska Public Power District COO and chair of the HITT.

Value and Affordability Task Force made 13 recommendations for improvement

The Value and Affordability Task Force (VATF) brought together a diverse cross-section of SPP stakeholders to assess how and whether SPP provides its customers value at reasonable and affordable costs. Board chair Larry Altenbaumer said the VATF “reinforced the foundational attributes that distinguish SPP from other RTOs.”

In January 2019, the SPP board created the VATF to seek opportunities to increase SPP’s value and improve affordability while maintaining and protecting its mission. The board appointed 11 directors and stakeholders to the team. In reviewing our performance and processes, the team focused on the value of SPP and transmission, organizational group efficiencies, new and expanded services, transmission study costs, budget and business processes, IT costs, staffing and benefits.

The VATF defined affordability as “the degree to which a member can justify the financial, human-resource and time-related costs of SPP’s services, relative to viable alternatives.”
They defined value as “the tangible and intangible benefits of SPP’s services weighed against associated costs and transmission investments.”

The VATF identified 13 recommendations, such as developing a budget process roadmap and reducing meeting costs. Staff and organizational groups will implement the recommendations with oversight from the Strategic Planning Committee.

“SPP’s core values of collaboration, continuous improvement and efficiencies were on full display as we worked closely with our board and stakeholders to review potential areas for improvement,” said Barbara Sugg, as senior vice president of IT, chief security officer and VATF staff secretary. “We are proud of the transparency of our efforts to improve affordability and maximize value.”

**Schedule 1A Task Force updated SPP’s cost recovery processes**

The Schedule 1A Task Force considered the mechanism by which SPP collects administrative fees from stakeholders to fund its operating costs. Brown said their work provides “an elegant solution that will modernize and future-proof our rate design.”

In 2018, the MOPC created the Schedule 1A Task Force to update the rate structures we use to recover operating costs. SPP’s existing recovery approach was implemented when we solely provided transmission service. Our operating and capital costs increased with the addition of our markets. These increases warranted a review of SPP’s cost recovery mechanism.

Fifteen stakeholders were appointed to the group and tasked with developing a rate structure that is simple, better aligns payer costs and benefits and includes energy transactions. The group carefully evaluated the costs comprising SPP’s administrative fee, considered other RTOs’ methodologies and deliberately examined our services through the lens of the beneficiary rather than the payer.

The task force agreed on a cost recovery methodology that uses four rate schedules. The methodology allocates costs to market participants who use specific SPP services. Staff do not think the new structure will translate to any material costs to implement and administer.

In January 2019, the board approved the task force’s recommendation. The MOPC approved tariff changes in July 2019, and the amendments were filed with FERC in November with a requested effective date of January 2021.

“Staff and stakeholders worked diligently over the course of two years to reach consensus on a solution that stayed true to the overarching principles set forth at the beginning of this project,” said Dianne Branch, SPP controller and staff secretary of the task force.

**Generating capacity by fuel type**

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>41.0%</td>
</tr>
<tr>
<td>Coal</td>
<td>26.0%</td>
</tr>
<tr>
<td>Wind</td>
<td>24.9%</td>
</tr>
<tr>
<td>Nuclear</td>
<td>2.3%</td>
</tr>
<tr>
<td>Fuel Oil</td>
<td>1.7%</td>
</tr>
<tr>
<td>Hydro</td>
<td>3.8%</td>
</tr>
<tr>
<td>Solar</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90,446 MW</strong></td>
</tr>
</tbody>
</table>

Generating capacity as of Dec. 31, 2019, is based on nameplate capacity of all resources in the SPP region.

**Energy production by fuel type**

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>25.9%</td>
</tr>
<tr>
<td>Coal</td>
<td>34.8%</td>
</tr>
<tr>
<td>Wind</td>
<td>27.4%</td>
</tr>
<tr>
<td>Nuclear</td>
<td>6.0%</td>
</tr>
<tr>
<td>Hydro</td>
<td>5.6%</td>
</tr>
<tr>
<td>Solar</td>
<td>0.2%</td>
</tr>
<tr>
<td>Other</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>271,330 GWh</strong></td>
</tr>
</tbody>
</table>

These figures represent the total amount of energy produced in the SPP region in 2019, categorized by fuel source.
Service territory
552,885 square miles (RTO)
163,991 square miles (RC)

Population served
17.2 million (RTO)
1.8 million (RC)

Substations
5,054

Generators
753 (RTO)
818 (Markets)

Historical peak load
50,662 MW (Aug. 19, 2019)
INTEGRATED SERVICES

SPP offers our members and other customers a number of valuable services. Three in particular are inherently interconnected: real-time operation of the regional electric grid in real-time, transmission planning and management of wholesale energy markets. Nearly everything SPP does, from facilitating working-group meetings to settling market transactions — not to mention building and maintaining the systems we use to provide these and other services — is all done in the context of these highly integrated functions.

Managing the Integrated Marketplace

*Integrated Marketplace saved participants over $3.5 billion*

In March 2019, SPP recognized the five-year anniversary of the Integrated Marketplace’s launch. The market dispatches the most reliable and lowest-cost generation to meet demand, remaining agnostic to fuel sources. When we created the market, we consolidated 16 balancing authorities into one. Together, the market and consolidated balancing authority equipped SPP to coordinate next-day generation across our footprint, providing market participants with greater access to energy reserves and low-cost energy sources.

Working in tandem with SPP’s other services, the Integrated Marketplace has saved SPP’s market participants cumulatively $3.5 billion as of the end of 2019. “Our market has continually proven itself to be one of the wisest economic investments our members have made,” said Nick Brown, as president and CEO. “Our Integrated Marketplace is a milestone in SPP’s history, and it has wonderfully enhanced our ability to ensure electric reliability across our region while saving our stakeholders and their customers billions of dollars.”

*Lowest average wholesale electricity prices nationwide in 2018*

Published in 2019, FERC’s 2018 State of the Markets Report noted SPP had the lowest average wholesale electricity prices in the nation in 2018. SPP’s initial projections estimated the market would yield $100 million in annual net savings to participants. It has dramatically out-performed expectations, yielding an average of $627 million in annual savings over the last five years ($776 million for 2019) derived from lowered production costs, reductions to excess capacity requirements and other efficiencies.

Enhancing Integrated Marketplace to prepare for changing grid

SPP closely monitors the effectiveness and efficiency of its markets. We work with stakeholders to design, prioritize and implement enhancements that optimize our markets’ value and position for success even as our industry continues to evolve rapidly.

ENERGY STORAGE RESOURCES

New energy storage technology is bringing both opportunities and challenges to the electric utility industry. Today, we must match supply and demand in real time. If demand for electricity goes up, we must be able to meet that demand instantaneously. Variable generators such as wind and solar are not always available. If the wind stops blowing, another generator must be immediately ready to supply power.

Storage technology allows us to store energy for later use. For instance, when the sun is shining, solar power can be stored in a battery for use at night. The ability to store...
energy could solve many operational problems. However, we must determine how to connect storage to the grid, treat it in operational models and compensate it in our markets.

The HiTT tasked staff with developing a white paper on energy storage resources. The paper, published in early 2020, lists a number of issues we must address to ensure our market products, planning processes and operational procedures take advantage of the value storage brings.

With Order 841, FERC initiated formal proceedings to evaluate electric storage participation in organized markets. We worked with our members to respond to the FERC order and on market designs that will remove barriers to storage resources in SPP’s marketplace.

Currently, storage can only participate in the market as a resource or a load. Our existing design doesn’t adequately recognize the unique characteristics storage brings: It can provide market services as both a resource and a load. For energy storage resources participating under the new design, the market will decide whether the resource should charge (withdraw from the grid) or discharge (inject to the grid) based on its economic offer.

In October 2019, FERC conditionally accepted SPP’s proposed market design in response to Order 841. Staff will begin the implementation process, including making tariff clarifications and working with vendors to finalize requirements and determine an implementation date.

**RAMPING AND FAST-START MARKET PRODUCTS**

SPP is working to implement two new market products: mechanisms to manage and compensate ramping and fast starts.

A generator’s ramping capability denotes how quickly it can respond to market dispatch signals or system needs. Ramping capability is an essential component of efficiently and economically meeting market participants’ energy needs. A resource’s ability to ramp is impacted by its technology and asset age. The SPP market does not directly value the ability to perform ramping functions. With the continuing development of intermittent resources, the ability to procure and value excess ramping capability will help ensure a stable, reliable and economic grid.

The Market Working Group endorsed a ramping capacity product, and the MOPC approved it in October 2019. Staff is working with vendors to implement the ramping product.

Fast-start resources are essential to the reliable provision of energy. These resources typically have short startup times, low minimum run-time requirements and faster-than-average ramp rates. These characteristics provide the needed flexibility for managing SPP’s operational challenges.

The more flexible SPP’s resource fleet is, the better positioned our market will be to respond to changes that are coming, such as the addition of more renewables, the deployment of storage, increased demand response and the provision of other essential reliability services.

SPP staff and the Market Working Group began developing a fast-start market product in 2016. In June 2019, FERC directed SPP to make tariff changes to allow fast-start resources to set clearing prices. In October, the board approved the tariff revisions and filed them with FERC. After receiving FERC approval, we will begin implementing the new product.

**Roadmap provides work plan for next two-to-five years**

In 2019, SPP launched a new Strategic Market Roadmap process. Staff and stakeholders will use the roadmap to identify, rank and approve new and existing Integrated Marketplace initiatives for development over the next two to five years. The process facilitates education about the initiatives to ensure everyone has a common understanding of the path forward. The roadmap will serve as a work plan that ensures our market development efforts align with the needs and business goals of our members and market participants.

“Our roadmap is a living document that will change as our market needs change,” said Erin Cathey, a senior market design analyst involved in the process’s development. “We want our markets to evolve and operate as reliably and cost effectively as possible, and we want to be sure we’re constantly addressing our organization’s greatest needs, balancing the diverse interests of our stakeholders, and involving them in decisions.”
Since the Integrated Marketplace’s launch, it has seen a steady increase in the number of participants and participating generating resources. This year-after-year growth is a testament to the market’s proven effectiveness in bolstering reliability and enhancing economics.
New settlements system underway

In February 2020, SPP implemented a new software system for settling market and transmission transactions. The new system improves SPP’s provision of settlement service to stakeholders, reduce costs and automate manual processes.

The new system replaced the previous one, which required separate settlement processes for transmission and market transactions, combining both processes into one automated, cost-effective system.

The launch of the Integrated Marketplace brought about the market settlement process in 2014, but the transmission settlement process had been in place for nearly a decade and needed to be updated. The cost and effort to upgrade the transmission settlement system was extensive, so staff used the opportunity to look for ways to improve process efficiency while reducing costs.

Staff worked continuously over a three-year period to develop and test the tool. More than 50 individuals in settlements and IT collaborated with the project management team and various staff from other departments who interact with settlements processes and data.

The project included five major milestones: formula builder, calculation engine and data user interface, business process and operational user interface, audit and workflow and transition and bug fixes.

2019 had a “full steam ahead” effort to finish development, fine-tune calculations, establish SOC 1 audit criteria and evidence, test all aspects of system functionality and business processes, demonstrate and test functionality with SPP stakeholders, address issues found in testing and migrate historical data from current production systems to the new system and go live.

The consolidated settlement management system increases efficiency, saving SPP members an estimated $1.6 million annually.

This installation had some delays and issues in 2018, and the changes to the implementation approach were made in 2019. The new settlements system was implemented in early 2020.

Operating the grid in real time

Rapid renewables rise continues

The SPP region has seen a massive increase in renewable energy. Our consolidated balancing authority allows us to use our entire fleet of generators to serve load across our 546,000-square-mile service territory, regardless of where generators are located. Our members have invested $10 billion in transmission infrastructure over the past decade, which allows us to move wind and solar power from where it’s generated to where it’s needed.

“A decade ago, serving even a quarter of our load with renewable generation wouldn’t have been possible, but today it is almost a daily occurrence.” said Bruce Rew, senior vice president of operations.

In 2008, wind energy made up just 3% and solar a fraction of a percent of SPP’s annual energy production. In 2019, wind comprised 27.4% and solar 0.2%. At a given moment, SPP has reliably met as much as 69% of its load with wind.

Calls for conservative operations increased

In summer 2019, we saw an increase in the number of times we issued calls for conservative operations. SPP issues a conservative operations call when we identify the potential for capacity or transmission issues that need to be addressed with actions above and beyond standard operating procedures. There are multiple causes for conservative operation events such as cold weather, wind turbine icing, generation outages, uncertainty in forecasting, forced outages, high load and low wind.

Under conservative operations, some of the actions SPP may take to mitigate risk include increasing our unit commitment timeframes, reliability margins and operating reserve requirements; bridging units that may be difficult to restart because of weather-related impacts; and canceling or postponing maintenance to generation and transmission facilities.

A call for conservative operations heightens awareness and raises market participants’ expectations regarding data submission and system operation. We remind market participants to take whatever steps are necessary to prepare resources for inclement weather in their area, ensure start-up and run times won’t be compromised by
Wind penetration record
68.78%
1:37 a.m., Oct. 18, 2019

Renewable penetration record
76.94%
3:01 a.m., Oct. 18, 2019

Wind peak
17,861 MW
8:10 p.m., Dec. 11, 2019

Installed wind capacity

Wind Capacity (MW)
Source: Annual State of the Market Reports
inclement weather, update resource plans and offers, and report fuel shortages or concerns.

Several of SPP’s organizational groups are addressing these operational issues, and some of the reliability-related HITT recommendations will help with these challenges as well.

Since 2014, wind in SPP’s Integrated Marketplace has displaced 180.6 million metric tons of carbon dioxide. Overall CO2 emissions in SPP’s footprint have fallen 21% since the Integrated Marketplace’s launch in 2014.

SPP worked with MISO to manage system event

On Nov. 13, SPP had sufficient generation to serve the load on our system and ample reserves that could be brought online within an hour. Our reliability coordinators were managing more than a dozen constraints that were heavily impacted by north-to-south flows managed by the Midcontinent Independent System Operator (MISO).

SPP took steps to mitigate these reliability threats, such as sending relief requests, issuing a Transmission Loading Relief Level 5 on a constrained line, curtailing firm schedules and native network load, and manually curtail more than 700 MW of wind.

SPP’s joint operating agreement with MISO establishes regional dispatch transfer limits of 1,000 MW of firm service and an additional 2,000 MW of service on a non-firm, as-available basis. On Nov. 13, SPP requested MISO limit their regional dispatch target to 1,500 MW to prevent threats to reliability on our system, honoring the 1,000 MW limit and granting them an additional 500 MW of transfer capability.

FERC issued report on 2018 cold weather event

During a peak-loading event in January 2018, SPP experienced five generation-unit contingencies. We also experienced high flows on our transmission system that was exacerbated by generation shortages in MISO South area. MISO did not have sufficient capacity to meet its demand in MISO South, and it moved power north to south across the systems of SPP and other joint parties. Because SPP was already in a severely loaded state, this additional power flow on our flowgates put us at risk of shedding load.

These extreme operating conditions and risk of load shedding led to months of post-event analysis and engagement among the North American Electric Reliability Corporation (NERC), FERC and the impacted reliability coordinators.

After a 10-month inquiry, FERC and NERC published a report that contained five findings and 13 recommendations. SPP has executed or will execute in 2020 all of the recommendations.

The report confirmed SPP’s position that MISO transfers above the 1,000 MW tie between MISO North and MISO South are “non-firm and as-available.” The report also noted MISO’s risk in using more than 1,000 MW across the seam.

FERC staff recommended that NERC create a standard on generation weatherization. SPP submitted a request to NERC to begin drafting the standard, and an SPP employee is serving on the drafting team.

The report recognized enhanced cooperation between MISO, SPP and other parties, noting that high-transfers on Sept 18, 2018, were better coordinated. “The FERC report was a catalyst for collaboration. Since the January 2018 event, SPP and MISO have worked well together on managing extreme operating events,” said Casey Cathey, manager of reliability planning.

Region maintains resource adequacy

Resource adequacy is a critical component of SPP’s mission to keep the lights on. We work closely with our members to ensure adequate generating resources are available to meet demand during normal and emergency conditions. SPP load-responsible entities (LREs) are required to maintain a 12% planning reserve margin (12% above an LRE’s net peak demand). 2019 was the first year LREs were responsible for compliance with the new Attachment AA of the SPP tariff. All SPP LREs met their planning reserve margins.

The Supply Adequacy Working Group, Cost Allocation Working Group and MOPC approved implementation of a new effective-load-carrying-capability methodology for wind and solar resources, which will be effective in the
summer 2023. This new methodology will improve SPP’s ability to plan for the region’s growth in wind and solar resources.

**Revised coordination plan with ERCOT**

In 2019, SPP and the Electric Reliability Council of Texas (ERCOT) revised the ERCOT/SPP Coordination Plan that outlines emergency procedures for generation resources capable of switching between SPP and ERCOT. Under this plan, SPP and ERCOT can help alleviate emergency conditions that may occur in either region.

**Planning the future transmission grid**

**2019 SPP Transmission Expansion Plan Report: 98 projects completed in 2018**

In January 2019, the board endorsed the 2019 SPP Transmission Expansion Plan Report that contains a comprehensive list of planned transmission upgrades and those completed in 2018. Projects estimated to cost nearly $1.8 billion will be constructed over the next five years in 13 states. In 2018, SPP’s member companies completed 98 transmission system upgrades in seven states estimated to cost $779 million. These projects will benefit the region by:

- Facilitating connection of new generators, including large amounts of wind energy, to the transmission system.
- Ensuring low-cost electricity is delivered to consumers.
- Facilitating connection of new sources of electricity demand, such as data centers and gas and oil infrastructure, to the transmission system.
- Solving power grid issues that, if not addressed, could impact the reliable delivery of electricity or cause power outages.

**2019 Integrated Transmission Plan projects to bring economic benefits**

In October, the board approved the 2019 Integrated Transmission Plan. The plan requires SPP members to construct 44 new transmission projects, including 166 miles of 345-kV transmission. Staff and stakeholders worked together for more than two years on the plan, a
first-time product under SPP’s newly improved integrated transmission planning process. They considered different scenarios to account for variations over the next 10 years, including projections about wind and solar growth, generation retirements, and the impact of electric vehicles on load growth.

The recommended transmission projects will facilitate delivery of lower-cost generation throughout the region. Market-price disparity will be reduced, levelizing wholesale energy prices by 21% on average. The proposed projects are expected to provide a 40-year benefit-to-cost ratio ranging from 3.5 to 5.8. This investment is projected to generate net savings of 4 cents to 23 cents on the average residential bill in the SPP region.

“The proposed project portfolio is expected to provide significant value to customers in the region, with many realizing almost immediate net benefits,” said Lanny Nickell, as senior vice president of engineering.

Transmission upgrades alleviate congestion
SPP’s efforts to cost-effectively modernize the region’s transmission system have received praise from members. Transmission upgrades directed by SPP have alleviated three frequently constrained areas of transmission congestion in the Texas panhandle and Western Oklahoma — areas where congestion historically made it difficult to deliver electricity economically to customers. Investment in transmission around the Woodward substation allowed trapped low-cost wind energy to be moved east toward Oklahoma City.

“We couldn’t be more pleased that some congested areas have seen significant improvements at the lowest possible cost,” said Mike Wise, senior vice president of commercial operations and transmission at Golden Spread Electric Cooperative.

Generator interconnection queue improved
Our generator interconnection (GI) queue represents new generators “waiting in line” to be analyzed, built and connected to the transmission system. In recent years, the development of new renewable generation has dramatically increased the number of requests in our GI queue.
The GI Improvement Task Force worked for several years to streamline and speed up the GI study process. The new process requires customers to put up securities at each of three study phases. These changes will encourage only economically viable projects to remain in the queue and will allow all customers to receive study results in a timely fashion.

FERC approved the new GI process effective July 1, 2019. FERC’s acceptance of the new process is a testament to SPP’s consensus-driven stakeholder process. After clearing a backlog of requests studied under the previous approach, SPP began the first study under the new process in the first quarter of 2020.

Planning with our neighbors

The Interregional Planning Stakeholder Advisory Committee is a venue for SPP and MISO staff and stakeholders to collaborate on transmission studies to evaluate mutually beneficial transmission projects. In 2019, SPP and MISO performed the first iteration of its improved coordinated system planning process. While no joint projects were approved, the effort was beneficial and laid the foundation for future collaboration and continued process improvements.

The regulatory commissioners who comprise the Organization of MISO states and SPP Regional State Committee have sought input and begun analyzing potential seams issues that could prevent efficient economic operations along the SPP-MISO seam. The two groups formed a Liaison Committee to identify issues and solutions for improving our seams policies. SPP staff educated members and regulators in both regions on a number of seams-related issues.

The 2019 Integrated Transmission Plan identified the need to construct a new 345-kV line, Blackberry-to-Wolf Creek, which terminates outside of the SPP footprint. Funding an upgrade that includes a non-SPP system raises a number of issues we are working through with Associated Electric Cooperative, Inc.

Attachment Z2 revisions pending

Attachment Z2 of the SPP tariff outlines the revenue crediting process that compensates entities that pay for network upgrades used to provide transmission service. Beginning in 2008, SPP was obligated to calculate and collect credits owed to specific entities.

In 2016, to address a backlog of eight years’ worth of Z2 crediting, SPP implemented processes that satisfied our tariff requirements but were tremendously complex. These Z2 issues have resulted in numerous protests and complaints at FERC that are still pending in multiple dockets.

The HITT recommended SPP eliminate the revenue credits for future network upgrades and replace them with incremental long-term congestion rights. In October 2019, the MOPC approved tariff changes to implement the HITT recommendation. SPP filed the revisions with FERC in November 2019. Early in 2020, FERC rejected the initial revision request, specifying that SPP could submit a revised proposal with fewer restrictions.

Serving our customers

Our training, customer relations and project management departments are an integral part of the operations, planning and market services we provide to our members and customers.

Our customer relations team responded to over 9,000 requests and questions in 2019. Our training team provided 38,578 training hours to 207 organizations, including courses on reliability and operations, train-the-trainer, Integrated Marketplace, and transmission settlements. Additionally, SPP awarded 27,100 NERC Continuing Education hours to 40 member organizations including SPP staff. Our project management team managed a project pipeline of 76 projects and software releases with a budget of approximately $21 million.

On Dec. 26, 2019, we observed our first full day with no grid congestion since the Integrated Marketplace’s launch.
INTEGRATING NEW STAKEHOLDERS

SPP’s business model and our long-term success depend on our deliberate integration of diverse perspectives into a unified strategic plan that benefits our entire region. In 2019, we expanded our service territory to the west with the launch of our new contract-based portfolio of Western Energy Services. The growth gives us the chance to integrate new voices into our stakeholder body and paves the way for more opportunities in the future.

SPP began providing western reliability coordination
The North American Electricity Reliability Corporation (NERC) certified SPP to serve as a reliability coordinator (RC) in the Western Interconnection effective Dec. 3, 2019. SPP now ensures the bulk electric system reliability on behalf of:

- Arizona Electric Power Cooperative, Inc.
- City of Farmington, New Mexico
- Colorado Springs Utilities
- El Paso Electric Company
- Intermountain Rural Electric Association
- Platte River Power Authority
- Public Service Company of Colorado (Xcel Energy)
- Tri-State Generation and Transmission Association
- Tucson Electric Power
- Western Area Power Administration (WAPA) Desert Southwest Region, WAPA Rocky Mountain Region, and WAPA Upper Great Plains – West

Implementation of SPP’s Western RC service involved establishing data connections to new customers in the west, building systems and processes to ensure a wide-area view of the Western Interconnection’s bulk power system, and working closely with stakeholders to ensure everyone was ready for the Dec. 3 transition. SPP will maintain a west-wide system model and coordinate its maintenance with other appropriate parties.

The Western Reliability Working Group (WRWG) is our new forum for our western reliability-coordination customers. Under the direction of the Western Reliability Executive Committee, the group will develop and implement policies, procedures and system enhancements related to the reliable and secure operation of the bulk electric system in the west.

“For a project starting more than two years ago with technical requirements of a magnitude seldom seen, AEPCO commends the staff at SPP for the dedication and diligence required to successfully pull off a daunting task. Hats off to a job well done,” said Shane Sanders, Arizona Electric Power Cooperative executive director of system operations.

We executed revised agreements with the California Independent System Operator to help ensure coordinated oversight of reliability functions for the west.

SPP to launch Western Energy Imbalance Market in 2021
In 2021, we will launch the Western Energy Imbalance Market (WEIS). SPP will administer the WEIS on a contract basis. By the end of 2019, Basin Electric Power Cooperative, Tri-State Generation and Transmission Association, Western Area Power Administration, Wyoming Municipal Energy Agency and Municipal Energy Agency of Nebraska announced their decision to join the WEIS.
SPP plans to operate the WEIS under a Western Joint Dispatch Agreement that guarantees participants will have a say in the market’s evolution.

“SPP knows markets,” said Bruce Rew, SPP senior vice president of operations. “Our markets have proven to be wise investments that paved the way for tremendous benefits in terms of reliability, integrating diverse generating fleets and modernizing the bulk power system.”

In 2019, SPP gained 26 new market participants, 12 transmission customers and four transmission owners.

Google Energy and ENGIE North America joined SPP

In 2019, Google Energy LLC and ENGIE North America Inc. joined SPP. Each company now has a seat on the MOPC and a voice in SPP’s stakeholder process.

SPP is home to Google’s Pryor Data Center in Oklahoma, which is served by the Grand River Dam Authority, another SPP member. Google has plans to build a new data center in Nebraska. Google has procured more than 700 megawatts of wind power in SPP, making them the largest corporate purchaser of wind in SPP. Google’s MOPC representative is Jeff Riles, Google’s energy policy and markets lead. “As a consumer, we recognize the benefits that wholesale, competitive power markets provide. Google wants to follow market developments in SPP and have a voice in its future,” Riles said.

ENGIE North America is one of the largest non-residential retail electricity suppliers in the United States and serves commercial, industrial, and institutional customers in 14 markets. The company owns and/or operates cogeneration, steam, and chilled water facilities. Its North America renewables portfolio consists of wind, solar, and biomass/biogas assets, with a capacity of more than 1,200 MW in operation and another 2,300 MW under construction.

Proposal to lower exit fee

In April 2019, FERC found SPP’s membership exit fee, as applied to non-transmission owners (NTO), unjust and unreasonable because it creates a barrier to SPP membership for NTOs. The commission directed us to revise our governing documents to eliminate the membership exit fee for NTOs. However, the commission also affirmed that an exit fee that is neither excessive nor a barrier to membership could be appropriate.

In July, the board approved revising SPP’s exit fee formula to require all members be subject to a $100,000 exit fee. Load-serving members will be subject to an additional amount based on their net energy for load-percentage share of SPP’s financial obligations and future interest. We filed our revisions with FERC in August 2019. The proposal to instate the lower fee was rejected by FERC in December, specifying that SPP could submit a revision that ensured NTOs pay a smaller fee than transmission owners.
INTEGRATING A CULTURE OF COMPLIANCE

SPP does not comply with standards solely to pass audits. We have integrated into our culture a robust, year-round compliance program with a goal of maintaining the highest level of operational, reliability, financial and security excellence. Our compliance culture provides assurance to our stakeholders that the transactions we make on their behalf are completed with integrity and transparency.

Our process integrity organization, which was created in 2006, is responsible for assuring compliance with NERC standards, Service Organization Controls (SOC 1), Generally Accepted Accounting Principles, North American Energy Standards Board standards and the SPP Open Access Transmission Tariff. SPP’s robust controls ensure we are doing the right thing, for the right reason, in the right way.

SPP received unqualified SOC1 and financial audits

2019 was the 10th consecutive year SPP has completed an unqualified SOC1 audit. “Another successful SOC1 audit indicates we have fully matured our business and IT controls that support our settlements process,” said Michael Desselle, chief compliance officer. Our financial audit was also unqualified with no exceptions.

Maintaining NERC compliance

All organizations that impact the bulk electric system must register their functions with NERC. NERC ensures companies comply with standards, delegating some authority to regional entities. Beginning Nov. 1, the Midwest Reliability Organization (MRO) Regional Entity became SPP’s auditor for our functions registered in the Eastern Interconnection.

“Our obligations haven’t changed,” said Carl Stelly, compliance director. “All employees are always responsible for complying with NERC standards and maintaining the reliability and security of the bulk electric system.”

Going forward, MRO will monitor SPP’s compliance with NERC standards. MRO will conduct standard oversight processes such as spot checks, audits and self-certifications. SPP is also monitored by the Western Electricity Coordinating Council for our functions in the Western Interconnection.

NERC visited SPP several times in 2019 for on-site assessments of our real-time operations. NERC identified some key takeaways and examples of excellence to help SPP continue to mature our compliance program.

Encouraging a strong culture of compliance

SPP is always striving to enhance our culture of compliance. SPP has created programs to encourage employees to internally report potential instances of non-compliance. The “make the right call” and “good catch” programs reward staff for being proactive in ensuring SPP complies with regulations. As a company, we report issues to our regulators, such as sending self-reports to NERC.

In 2019, we launched a fun educational campaign to raise awareness about security threats. To teach employees not to be “that guy” who harms the grid, we created videos featuring hapless characters, That Guy and That Girl, who aren’t so good at thwarting an evil hacker. Posters, contests and intranet articles kept security awareness front-of-mind.

We continue to enhance our Governance, Risk and Controls Tool, which provides reminders and alerts about NERC compliance tasks. The tool helps us identify risks and escalate them to responsible parties. We plan to expand use of the tool for SOC1 and other business processes.
INTEGRATING WITH THE BROADER COMMUNITY

As a business leader in central Arkansas, we consider it our responsibility to give back to our local community. We proudly partner with schools and nonprofit organizations to improve the quality of life in our region and encourage youth to consider careers in science, technology, engineering and math (STEM). This year we provided outreach to international audiences, too.

Investing in STEM education

SPP invests in STEM education to encourage Arkansas students to grow into future industry leaders. In partnership with the Little Rock School District (LRSD), SPP staff judged the Central Arkansas Regional Science Fair, spoke with summer camp students, sponsored the One District, One Book reading program, read to students on Jane Mendel Reading Day and worked with students enrolled in the Excel Careers for Advanced Professional Studies program.

In 2019, our employees donated money for the LRSD through the Little Rock Public Education Fund.

“It’s incredibly rewarding and satisfying to see curiosity become knowledge,” said Barbara Sugg, as SPP’s vice president of IT and chief security officer. “I love being able to give back to the next generation of students and then watch those kids take off.”

This year provided opportunities to engage with new groups in exciting ways. We spoke with college students at the University of Central Arkansas Career Executive Outlook program, judged the 2019 Future Business Leaders of America State Leadership Conference, hosted teachers from the Arkansas Department of Career Education, and spoke to middle school students in the Arkansas Scholars program.

More than 200 high school programming students visited SPP for the Coding Arkansas’ Future event, sponsored by the Arkansas School for Mathematics, Sciences and the Arts. Students participated in hands-on learning and talked with SPP employees about how we use technology and coding to keep the lights on. After the event, 70% of students said they were more interested in pursuing a STEM career.

Outreach with India and West Africa

In March 2019, SPP welcomed a delegation from the U.S. Energy Association (USEA) executive exchange program. The organization brought representatives of Benin, Cameroon, Cote d’Ivoire, The Gambia, Nigeria, Senegal and Togo to our headquarters in Little Rock, Arkansas. The visitors toured our operations center and discussed — some through French-speaking interpreters — how we address transmission planning, system reliability, market design and more.

“SPP was pleased to help this multinational group investigate improvements to their electric infrastructure and policy,” said Carl Monroe, as executive vice president and chief operating officer.

Richard Dillon, technical director of market policy, traveled to New Delhi with representatives from the United States Agency for International Development and National Association of Regulatory Utility Commissioners. The team met with Indian regulators to discuss their need to develop a stable electric grid and utilize more renewable resources to serve the country’s 1.3 billion people.

“The Indian government was really appreciative of our practical knowledge,” Dillon said.
Awarding top staff performance
SPP employees are recognized for their contributions with three different awards. Employees may nominate their peers for a President’s Award. Recipients embody SPP’s core values of challenge, accountability, balance, diversity, expertise, flexibility, integrity, loyalty, respect, transparency and trust. They also live up to our culture drivers of continuous improvement, efficiency and collaboration.

The 2019 President’s Awards winners were Alex Crawford, Steve Davis, Kim Farris, Liz Gephardt, Jason Gross, Chris Haley, Kandi Hughes, Eric Johnson, Brad Johnston, Ashley Kirby, Cheryl Kirk, Ben Lamb, Phillip Miller, Joshua Pilgrim, Josh Powers, Ryan Schoppe and Alex Watkins.

The officer team annually gives the John Marschewski Leadership Award, named after our former president and CEO, to an employee who carries on the former president’s legacy of hard work, a positive and encouraging attitude and the understanding that relationships and attitude are crucial in achieving personal and organizational goals. The 2019 John Marschewski Leadership Award winner was Chad Hankins.

The Stacy Duckett Community Service Award, named in memory of our former vice president and general counsel, recognize employees who work quietly behind the scenes, give their time and resources to support the community, maintain a positive attitude and are dedicated to their jobs and to SPP. The 2019 Stacy Duckett Community Service Award winners were Kim Gorter and Kandi Hughes.

14th annual leadership academy
Twenty-six employees were selected for the 14th Annual Leadership Academy: Adam Gottsponer, Alex Crawford, Angie Folds, Brett Reinhard, Caitlin Shank, Chad Urbanczyk, Diane Bierbaum, Drew McGilvray, Ed Briggler, Esat (Serhat) Guney, Divakar Arora, Gayle Freier, Hamilton Bitely, Jennifer Farley, Joe Bumgarner, Joe Byers, Johnny Peterson, Kandi Hughes, Katherine Rogers, Kristin Stuart, Liz Gephardt, Michelle Harris, Moses Rotich, Ryan Schoppe, Sherry Hamilton and Tim Carroll.

Over 400 employees have graduated from the academy since the program began in 2006. The class includes lessons about SPP culture and leadership, group projects, book reviews and public-speaking exercises.
SPP staff are involved in a number of efforts and organizations meant to empower women, and specifically those in the energy sector. Pictured here are the women of SPP in a photo taken in March 2019 as part of Women’s History Month.
Employees donated $129,000 to local charities

SPP and its employees support many charitable organizations with our time and money. In 2019, employees donated over $129,000 to local charities. Many of these dollars were raised through casual “jeans days,” scheduled days when staff may wear jeans to work for a $5 donation to a designated charity that’s selected by employees. 2019 jeans day recipients were: Heifer International, Hannah Institute, Youth Home, The One, Arkansas Foodbank, Family Home, JDRF, Komen Arkansas, St. Jude Children’s Research Hospital, Humane Society of Pulaski County, Greater Arkansas Red Cross and Little Rock Public Education Foundation. Employees also raised money through payroll deductions and fundraisers for Heart of Arkansas United Way.

SPP powered up electric vehicle charging stations

SPP installed two electric car charging stations, Sparky1 and Sparky2, on the top level of the parking deck. The stations are from ChargePoint, the world’s largest network of independently owned and operated charging stations.

Employees will be charged 11 cents per kilowatt hour to charge; this charge equates to less than $1 per gallon of gasoline and is what SPP pays as a corporate rate for electricity. Visitors will not be charged to use the stations. They may check out a card from the front desk to access the stations.

In memoriam

Internal auditor Adam Clark, an SPP employee since 2008, passed away on May 29, 2019. Clark’s family described him as “a Christ follower, family and friends man, who loved making people laugh. ... He loved to bass fish, duck hunt, and drive fast cars. He was a great man with a great heart. He loved everyone.”

Senior operator Chris Meier passed away on Aug. 30, 2019. Meier’s family described him as loving “hunting, fishing, working on cars and college football, especially the Clemson Tigers.”

The SPP family mourns the loss of Clark and Meier.

2019 ARKANSAS BUSINESS
CFO OF THE YEAR

Tom Dunn, SPP chief financial officer, was named 2019 Arkansas Business CFO of the Year for the nonprofit/private sector category. “I couldn’t be more proud of Tom!” Nick Brown said. “He’s held me and our entire organization accountable to continuous improvement.”

Employee count
620 (as of Dec. 31, 2019)

Turnover rate
3.96%

Retirements

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Years of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Gertsch</td>
<td>Manager, Enforcement RE</td>
<td>10 years</td>
</tr>
<tr>
<td></td>
<td>Legal</td>
<td></td>
</tr>
<tr>
<td>Steve Mason</td>
<td>Senior Operator</td>
<td>42 years</td>
</tr>
<tr>
<td>Ginny Webster</td>
<td>Records Manager</td>
<td>10 years</td>
</tr>
<tr>
<td>Ronald West</td>
<td>Senior Operator</td>
<td>10 years</td>
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<td></td>
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</tr>
<tr>
<td>John Wirges</td>
<td>Senior Facilities</td>
<td>7 years</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
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</tr>
</tbody>
</table>
INTEGRATING DIVERSE PERSPECTIVES THROUGH STAKEHOLDER GROUPS

As a regional transmission organization, SPP must remain independent from the undue influence of any individual, organization or group of like-minded individuals or organizations. We also recognize that none of us is as well-equipped to overcome the challenges that face our industry as all of us are working together. For these reasons we seek constantly to provide all of our stakeholders, big and small, a meaningful voice in the decision-making process that guides us forward. By integrating diverse perspectives and building consensus through careful and deliberate facilitation, we better position SPP, our members and our entire region for long-term success.
The SPP organization extends far beyond our staff to include hundreds of member representatives and other stakeholders participating in dozens of committees, working groups and task forces. This organizational structure is the engine that drives SPP.
Membership

SPP membership is voluntary and open to any electric utility, federal power marketing agency, transmission service provider, and any entity engaged in the business of producing, selling and/or purchasing electric energy for resale. Members enjoy voting privileges and decision-making rights as participants in select organizational groups.

SPP Members

*As of Jan. 6, 2020*
Cooperatives
Arkansas Electric Cooperative Corporation *^ Basin Electric Power Cooperative @ ^
Central Power Electric Cooperative, Inc. * ^ Corn Belt Power Cooperative * ^
Lea County Electric Cooperative, Inc. * ^ Midwest Energy, Inc. @ ^
Mor-Gran-Sou Electric Cooperative, Inc. * ^ Mountrail-Williams Electric Cooperative * ^
Northeast Texas Electric Cooperative, Inc. * Northwest Iowa Power Cooperative * ^
Rayburn Country Electric Cooperative * Sunflower Electric Power Corporation @ ^
Tri-County Electric Cooperative, Inc. * Tri-State Generation and Transmission Association, Inc. * ^
Western Farmers Electric Cooperative @ ^

Federal Agencies
Western Area Power Administration - Upper Great Plains Region @ ^

Independent Power Producers
Acciona Wind Energy USA, LLC* Calpine Energy Services, L.P. *
CPV Renewable Energy Company, LLC * Crocker Wind Farm, LLC *
Dogwood Energy, LLC * EDP Renewables North America LLC *
Entergy Asset Management * Exelon Generation Company, LLC *
Flat Ridge 2 Wind Energy, LLC * Midwest Gen, LLC *
NextEra Energy Resources, LLC * Southern Power Company *
Tenaska Power Services Co. *

Independent Transmission Companies
Duke-American Transmission Company, LLC *
Grain Belt Express Clean Line LLC *
GridLiance High Plains LLC * ^
Hunt Transmission Services, LLC *
ITC Great Plains, LLC * ^
NextEra Energy Transmission, LLC *
NextEra Energy Transmission Southwest, LLC *
Plains and Eastern Clean Line LLC *
Prairie Wind Transmission, LLC * ^
Transource Energy, LLC *
Transource Missouri, LLC * ^

Investor-Owned
American Electric Power
AEP Oklahoma Transmission Company, Inc. * ^
AEP Southwestern Transmission Company, Inc. * ^
Public Service Company of Oklahoma @ ^
Southwestern Electric Power Company @ ^
Cleco Power Group, LLC *
The Empire District Electric Company @ ^
Entergy Services, Inc. *

Every
every Kansas Central, Inc. @ ^
every Kansas South, Inc. @ ^
every Metro, Inc. @ ^
Every Missouri West, Inc. @ ^

Northwestern Corporation dba Northwestern Energy * ^
OGE Transmission, LLC *
Oklahoma Gas and Electric Company @ ^

Xcel Energy
Southwestern Public Service Company @ ^
Xcel Energy Southwest Transmission Company, LLC *

Large Retail Customers
Google Energy LLC *
Walmart Inc. *

Marketers
Boston Energy Trading and Marketing, LLC *
Boston Energy Trading and Marketing, LLC *
Cargill Power Markets LLC *
DTE Energy Trading, Inc. *
Duke Energy Transmission Holding Company, LLC *
Dynegy Power Marketing, Inc. *
El Paso Marketing Company, LLC *
Luminant Energy Company, LLC *
Mercuria Energy America, LLC *
NRG Power Marketing, LLC *
Shell Energy North America (US), L.P. *
WPX Energy Marketing, LLC *
XO Energy SW, LP *

Municipals
Board of Public Utilities of Kansas City, Kansas * ^
City of Coffeyville * ^
City of Independence, Missouri * ^
City Utilities of Springfield * ^
Clarksdale Public Utilities Commission *
Harlan Municipal Utilities * ^
Kansas Municipal Energy Agency *
Kansas Power Pool (KPP) * ^
Lafayette Utilities System *
Lincoln Electric System * ^
Missouri River Energy Services * ^
Municipal Energy Agency of Nebraska *
Oklahoma Municipal Power Authority * ^
Public Service Commission of Yazoo City *

State Agencies
The Central Nebraska Public Power & Irrigation District * ^
Grand River Dam Authority @ ^
Heartland Consumers Power District ^
Louisiana Energy and Power Authority *
Missouri Joint Municipal EUC *
Nebraska Public Power District @ ^
Northeast Nebraska Public Power District *
Omaha Public Power District @ ^

SPP Contract Participants
Southwestern Power Administration # ^

# Control area within SPP
^ Transmission owner
* Transmission-using member
@ Transmission-owning member
Regional State Committee

The SPP Regional State Committee (RSC) provides collective state-regulatory agency input on matters of regional importance related to the development and operation of the bulk electric transmission system. The RSC is composed of state utility regulatory commissioners from agencies in Arkansas, Iowa, Kansas, Louisiana, Missouri, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota and Texas.

Kim O’Guinn
President
Arkansas Public Service Commission

Dennis Grennan
Vice President
Nebraska Power Review Board

Kristie Fiegen
Secretary/Treasurer
South Dakota Public Utilities Commission

Shari Feist Albrecht
Kansas Corporation Commission

Jeff Byrd
New Mexico Public Regulation Commission

Randel Christmann
North Dakota Public Service Commission

Foster Campbell
Louisiana Public Service Commission

Geri Huser
Iowa Utilities Board

Dana Murphy
Oklahoma Corporation Commission

Scott Rupp
Missouri Public Service Commission

DeAnn T. Walker
Public Utility Commission of Texas
Board of directors

Larry Altenbaumer
Chair of the Board
Elected 2005
Member, Strategic Planning Committee

T. Graham Edwards
Vice Chair of the Board
Elected 2016
Member, Oversight Committee

Phyllis Bernard
Elected 2003
Member, Oversight Committee

Julian Brix
Elected 2008
Chair, Human Resources Committee

Nick Brown
Elected 2004
Chair, Corporate Governance Committee

Susan Certoma
Elected 2019
Member, Finance Committee

Mark Crisson
Elected 2017
Member, Human Resources Committee

James (Jim) E. Eckelberger
Board Member
Director Emeritus
Elected 2000
Member, Corporate Governance Committee, Markets and Operations Policy Committee, Strategic Planning Committee

Joshua W. Martin III
Elected 2003
Chair, Oversight Committee

Darcy Ortiz
Elected 2019
Member, Oversight Committee

Harry I. Skilton
Board Member
Director Emeritus
Elected 2000
Member, Finance Committee, Markets and Operations Policy Committee, Strategic Planning Committee

Bruce A. Scherr
Elected 2016
Chair, Finance Committee
Nick Brown  
President and CEO  
Elected in 2003  
Retired in 2020

Michael Desselle  
Vice President, Process Integrity, and  
Chief Compliance and Administrative Officer  
Elected in 2006

Tom Dunn  
Senior Vice President, Finance, and  
Chief Financial Officer  
Elected in 2004

Carl Monroe  
Executive Vice President and Chief Operating Officer  
Elected in 2004  
Retired in 2020

Lanny Nickell  
Executive Vice President and Chief Operating Officer  
Elected in 2008

Bruce Rew  
Senior Vice President, Engineering  
Elected in 2008

Mike Ross  
Senior Vice President, Government Affairs and Public Relations  
Elected in 2013

Malinda See  
Vice President, Corporate Services  
Elected in 2015

Barbara Sugg  
President and CEO  
Elected in 2020

Paul Suskie  
Executive Vice President, Regulatory Policy, General Counsel and Corporate Secretary  
Elected in 2011
Members Committee

Brent Baker
(from April 2019)
Liberty Utilities, Empire District

Jeff Bladow
(from August 2019)
Tri-State Generation and Transmission

Holly Carias
NextEra Energy Resources

Tom Christensen
Basic Electric Power Cooperative

Phil Crissup
Oklahoma Gas and Electric

Jon Hansen
Omaha Public Power District

Duane Highley
(until August 2019)
Arkansas Electric Cooperative Corp.
and Arkansas Electric Cooperatives, Inc.

David Hudson
Xcel Energy — Southwestern Public Service Company

Robert Janssen
Dogwood Energy

Thomas Kent
Nebraska Public Power District

Jeff Knottek
City Utilities of Springfield, Missouri

Bleau LaFave
Northwestern Energy

Joe Lang
Omaha Public Power District

Brett Leopold
ITC Holding Corp.
ITC Great Plains

Stuart Lowry
Sunflower Electric Power Corporation

Greg McAuley
Oklahoma Gas & Electric

Blake Mertens
(until March 2019)
Liberty Utilities, Empire District

Kevin Noblet
Kansas City Power & Light Company

David Osburn
Oklahoma Municipal Power Authority

Zac Perkins
Tri-County Electric Cooperative

Jeff Riles
(from August 2019)
Google Energy, LLC

Kevin Smith
Tenaska Power Services

Peggy Simmons
AEP/SWPCO

Jody Sundsted
Western Area Power Administration,
Upper Great Plains

Michael Wise
Golden Spread Electric Cooperative
Markets and Operations Policy Committee

The Markets and Operations Policy Committee is SPP’s largest stakeholder committee, comprised of one representative from each member company. The MOPC reports to the board of directors, and numerous working groups and task forces report to the MOPC.

Effective in January 2019, the board authorized the MOPC to approve regulatory filings for submission to regulators. Previously, all regulatory filings went to the board for approval. “The board’s delegation of this approval authority elevates policy-level discussions among the member representatives that have the expertise and knowledge to make these decisions,” said Lanny Nickell, as SPP senior vice president of engineering and MOPC chair.

Any member can appeal to the MOPC any action or inaction of an organizational group that reports to the MOPC.
In September, SPP and its members lost a dedicated advocate for regional reliability. Gene Anderson, who retired from the Oklahoma Municipal Power Agency, served on the Market Working Group and Regional Tariff Working Group. Anderson will be missed by many.
## Balance sheets and statements of income

### Balance Sheets

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$48,694</td>
<td>$93,593</td>
</tr>
<tr>
<td>Restricted Cash</td>
<td>401,478</td>
<td>344,904</td>
</tr>
<tr>
<td>Other Current Assets</td>
<td>85,999</td>
<td>77,998</td>
</tr>
<tr>
<td>Fixed Assets</td>
<td>74,090</td>
<td>77,491</td>
</tr>
<tr>
<td>Other Assets</td>
<td>41,625</td>
<td>32,081</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$651,886</td>
<td>$626,067</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liabilities &amp; Members' Equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Deposits</td>
<td>$401,478</td>
<td>$344,904</td>
</tr>
<tr>
<td>Other Current Liabilities</td>
<td>158,343</td>
<td>175,418</td>
</tr>
<tr>
<td>Long-Term Debt</td>
<td>191,586</td>
<td>215,738</td>
</tr>
<tr>
<td>Other Long-Term Liabilities</td>
<td>44,241</td>
<td>40,101</td>
</tr>
<tr>
<td>Members Equity</td>
<td>(143,762)</td>
<td>(150,094)</td>
</tr>
<tr>
<td><strong>Total Liabilities &amp; Members' Equity</strong></td>
<td>$651,886</td>
<td>$626,067</td>
</tr>
</tbody>
</table>

### Statements of Income

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$195,689</td>
<td>$199,513</td>
</tr>
<tr>
<td>Salary and Benefits</td>
<td>101,221</td>
<td>96,616</td>
</tr>
<tr>
<td>Depreciation</td>
<td>16,930</td>
<td>18,163</td>
</tr>
<tr>
<td>Other Expenses</td>
<td>71,206</td>
<td>78,107</td>
</tr>
<tr>
<td><strong>Net Income/(Loss)</strong></td>
<td>$6,332</td>
<td>$6,627</td>
</tr>
</tbody>
</table>

*All figures are in thousands*

**2019 Administrative fee**: 39.4 cents/MWh

**2019 Budget (operating)**: $196.4 million
Corporate metrics

- **Annual Average LMP**
  - 2017: $0
  - 2018: $20
  - 2019: $30

- **Annual Average Gas Cost**
  - 2017: $0
  - 2018: $1
  - 2019: $2

- **Net Revenue Required**
  - 2017: $0
  - 2018: $100
  - 2019: $200

- **Average Monthly Active Disputes**
  - 2017: 0
  - 2018: 10
  - 2019: 20

- **Average Capacity (GW) at Peak Load**
  - 2017: 0
  - 2018: 60
  - 2019: 80

- **Projects Approved for Construction**
  - 2017: $0
  - 2018: $300
  - 2019: $400

- **Regulatory Filings by SPP**
  - 2017: $0
  - 2018: $300
  - 2019: $400

- **Annual Uplift**
  - 2017: $0
  - 2018: $75
  - 2019: $125

- **2019 Transactions Settled**
  - Integrated Marketplace: 81%
  - SPP Admin Fee: 1%
  - Transmission Market: 18%
  - FERC Assessment: 0%

- **Corporate metrics**

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