



# 2020 BUDGET

Prepared by Accounting Department



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# I. EXECUTIVE SUMMARY

## SPP VALUE

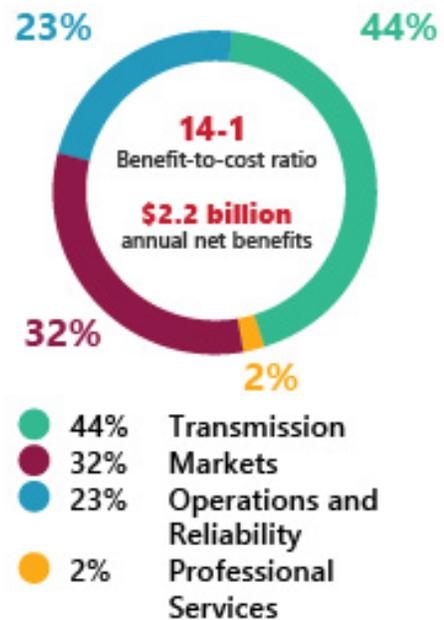
*Savings from SPP’s reliability coordination, markets and transmission planning efforts make up just a portion of the overall value we afford our members. Taking into account these plus other services like training and compliance outreach, SPP provides net benefits in excess of \$2.2 billion annually at a benefit-to-cost ratio of 14-to-1.*

SPP’s services provide net benefits to its members in excess of \$2.2 billion annually at a benefit-to-cost ratio of 14-to-1. For the typical end-use retail customer using 1,000 kWh per month, this means their \$100 electric bill would be \$107.63 without the services SPP provides.

SPP acts as reliability coordinator (RC) for a territory that includes all or part of 14 states and reaches from the Canadian border to the Texas panhandle. We manage a diverse roster of members and geographically expansive footprint, both of which pose unique operational, regulatory, environmental and political challenges that help shape and hone our transmission system, processes and tools.

SPP’s Integrated Marketplace has produced the lowest wholesale electricity costs in the nation, saved SPP’s market participants and their ratepayers cumulatively more than \$2.7 billion and enabled access to environmentally friendly renewable generation at a previously unimaginable degree, while enhancing reliability to the region as a whole.

Over the last decade, SPP has directed nearly \$10 billion in transmission construction and upgrades. These projects are modernizing the grid, enabling access to renewables and other generation that has enhanced reliability and lowered wholesale electricity costs. More than \$7.7 billion of transmission projects have been completed from 2005-2019 and another \$1.9 billion are scheduled to be put in service by 2024. A recent study based on real-world data showed every dollar SPP directs toward transmission expansion returns \$3.50 in expected benefits.



In addition to the core products described above, SPP provides a suite of professional services that benefit stakeholders through economies of scale and cost savings. Our stakeholders receive SPP's industry-best training, project management, strategic planning, counsel and representation in regulatory and government affairs and more. We do these things at a fraction of the cost of outside agencies, and because we address needs at a regional level, our solutions are more cost-efficient than those achievable by members' in-house resources.

SPP remains committed to providing value to stakeholders and providing customers with increased options and greater efficiency to meet the reliability and affordability needs of their end users. SPP is able to:

- Reduce overall costs by operating as a region;
- Provide reliability assurance and predictable operations of the bulk electric system;
- Facilitate effective transmission planning processes resulting in building and maintaining an economically optimized transmission system;
- Offer an open and transparent marketplace with economic benefits;
- Optimize market efficiencies and transmission expansion along the seams of other markets and the emerging seam associated with the natural gas supply; and
- Ensure fair and equitable allocation of transmission expansion costs.

## **OPERATING PLAN**

*SPP's 2020 Operating Plan takes into consideration the changing business environment, and the many opportunities and challenges affecting SPP such as cybersecurity risks, a changing generation mix, electrification impacts, regulatory changes and SPP's expansion into the west.*

The SPP board of directors, at its July 2019 meeting, approved the finance committee's recommendation to adopt the 2020 Operating Plan as the foundation for the 2020 operating and capital budgets. The 2020 Operating Plan is the culmination of months of work by SPP staff to document the operating environment and activities SPP anticipates for 2020. The plan identifies several overall corporate efforts in 2020, the most significant of which is the development and implementation efforts associated with the 21 recommendations from the Holistic Integrated Tariff Team (HITT) report. SPP will address these recommendations related to market operations, transmission planning, reliability services, and cost allocation throughout the remainder of 2019 and into 2021. Other corporate efforts include the provision of services

to utilities in the western interconnection, implementing improvements to a changing cyber risk environment and addressing recommendations from the Value and Affordability Task Force.

The 2020 Operating Plan also highlights numerous departmental efforts expected to improve quality and capabilities of service, automate routine tasks, and create efficiencies. SPP will continue to enhance monitoring, mitigation and avoidance efforts to protect its critical cyber assets.

Finally, the 2020 Operating Plan documents a handful of new incremental projects addressing both operational needs and efficiency efforts. Total capital spend for the proposed projects is \$2.8 million in 2020. Capital expenditures are discussed in detail in section V.

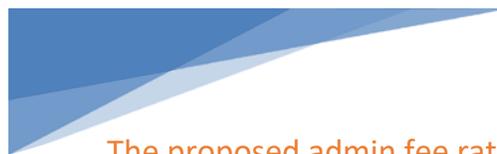
The operating plan document in its entirety is included following the supplementary schedules in section XI.

## NET REVENUE REQUIREMENT (NRR)

*The NRR represents the funding necessary to provide services throughout the footprint. The NRR is comprised of operating expenses (excluding depreciation and Federal Energy Regulatory Commission (FERC) assessment), principal payments on loans for capital expenditures and a capital reserve fund intended to partially offset future borrowings.*

Miscellaneous revenues provide a reduction in the NRR calculation and include reimbursements for engineering studies and other revenue sources such as joint operating agreements, miscellaneous rebates, reserve sharing, market transactions and circuit reimbursements.

Revenues, in excess of associated expenses, generated from specific services provided by SPP under standalone contractual agreements also provide a reduction in the NRR calculation. The implementation of the Western Energy Imbalance Service (WEIS) market will not impact the NRR in 2020 as these costs will be completely funded by new debt issuances that will be recovered from contract participants.

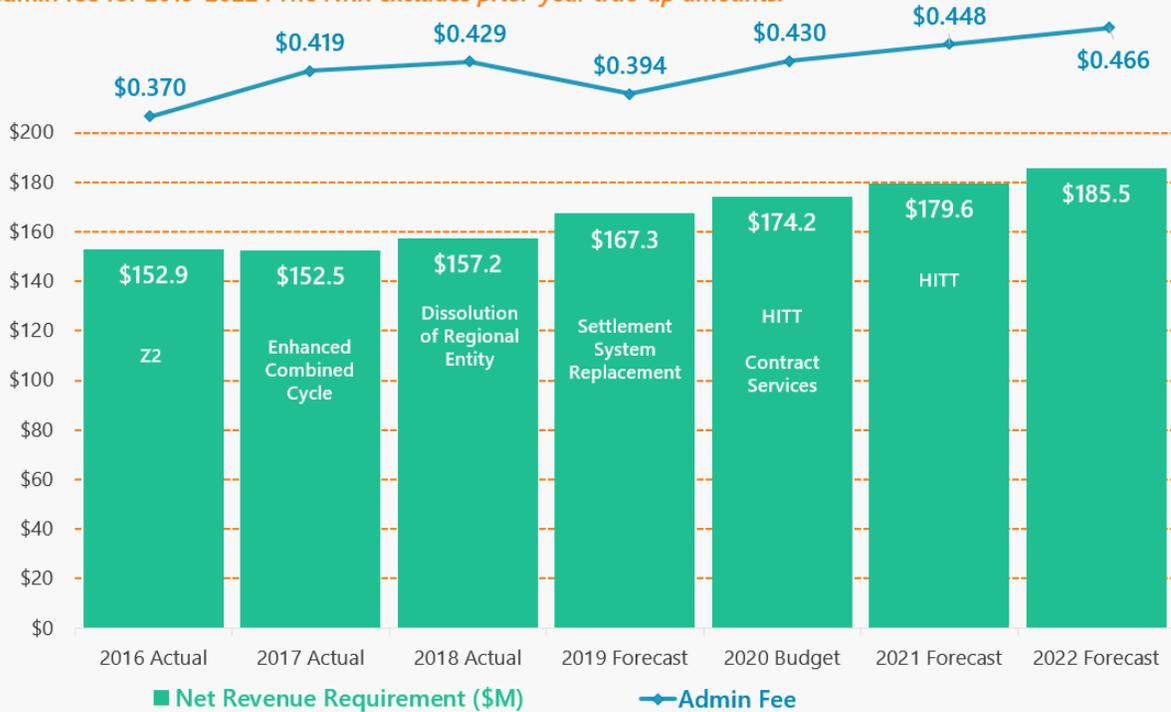


The proposed admin fee rate of 43.0¢/MWh is based on NRR of \$172.3 million.

Lastly, a projected over-recovery for 2019 provides a \$1.9 million reduction to the 2020 NRR.

# NET REVENUE REQUIREMENT AND SPP INITIATIVES

Chart reflects the actual NRR and admin fee charged for 2016-2018 and the budgeted/forecasted NRR and admin fee for 2019-2022. The NRR excludes prior-year true-up amounts.



## CAPITAL EXPENDITURES

*The 2020 budget identifies capital expenditures totaling \$44.4 million for 2020-2022. These monies represent investments in various initiatives, each of which is driven by stakeholder requests, compliance-related concerns or capital spending intended to improve and strengthen information technology and operations foundation.*

SPP consistently evaluates projects throughout the year under the oversight of SPP’s internal Project Review and Prioritization Committee (PRPC). Reprioritization due to new developments and/or resource constraints throughout the rest of 2019 and into 2020 could potentially affect the project portfolio. Capital expenditures planned for 2020 could be impacted by the addition of projects not currently reflected in the budget, deferrals of projects into future years, elimination of projects due to time constraints and/or completion of the project without incurring capital costs or costs carried forward into 2020 for projects not completed as planned during 2019.

# CAPITAL EXPENDITURES



The capital projects section V. describes noteworthy projects in detail, and a complete list of initiatives and associated capital budgets appear in the supplementary schedules section X.

## SPP HEADCOUNT

*Western expansion activities and increased growth in engineering planning and studies drives staffing additions for 2020. An increase in revenues associated with the billable staff time for work performed on engineering studies partially offsets the increase in engineering staff compensation.*

The budgeted staffing level for 2020 is 656, which is an increase of 31 in comparison to the prior 2020 forecast (in the 2019 budget) and an increase of 19 in comparison to the 2019 current forecast. The WEIS project, engineering workload and reduced reliance on consulting services for engineering studies are the primary drivers for the increases in headcount.

The original 2019 budget included 605 positions. An additional 20 RC West positions were included under a separate budget.

After careful evaluation of the workload associated with the volume and complexity of generation interconnection (GI) studies, 11 out-of-budget engineering positions were added to the 2019 forecast. In addition, one IT position was accelerated to 2019 from the previous 2020 budget to begin administration of the governance and compliance tool.

2019 Staffing Changes	
2019 Budget (original excluding RC West) *	605
RC West	20
Out-of-budget Engineering positions	11
Out-of-budget IT position (accelerated from 2020)	1
2019 Year-end forecast	637

*\* The original 2019 budget did not include the separate budget for RC West.*

During the 2019 budget cycle, SPP officers committed to managing attrition as reflected in staffing reductions over 2019-2021. The proposed staff reductions were two in 2019, three in 2020 and two in 2021. These reductions remain in the current 2020 budget and in the 2021 budget, with one additional reduction in 2021 that IT committed to offset the out-of-budget position added in 2018.

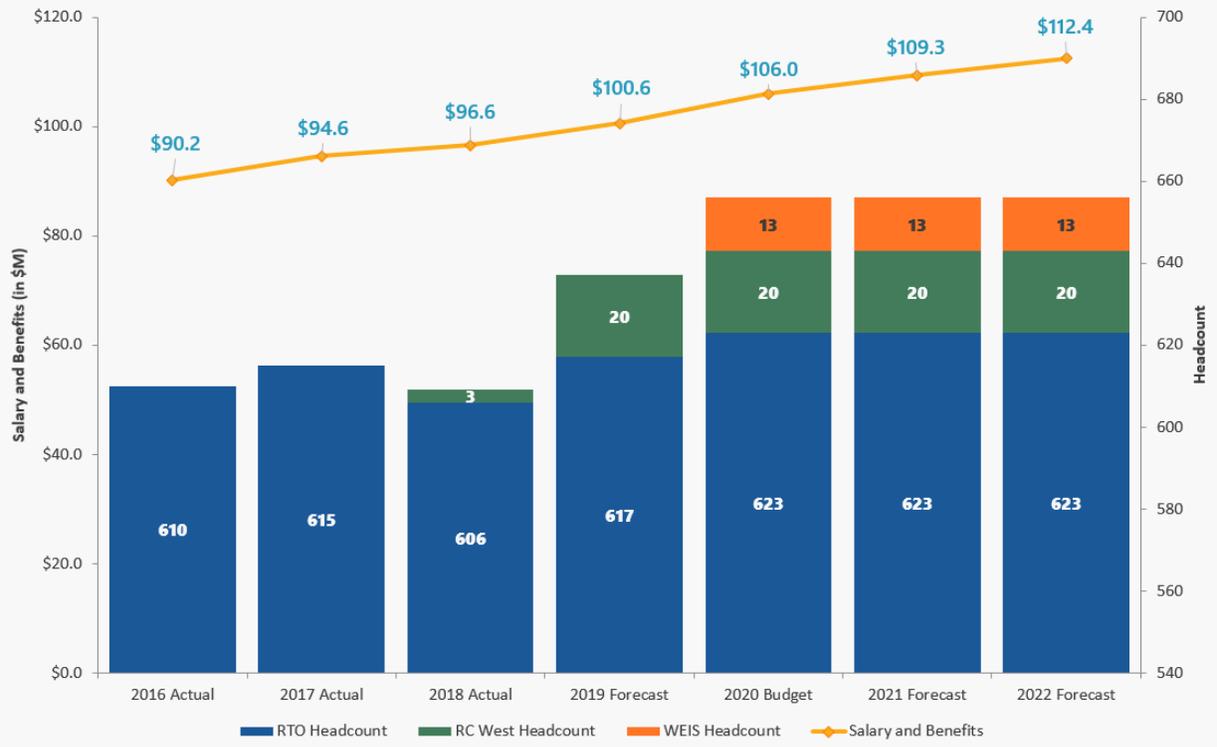
2019 - 2020 Approved Staffing Levels		
	<u>2019</u>	<u>2020</u>
2019 Budget (including RC West)	625	
Out-of-budget positions	12	
2019 Year-end forecast	637	
WEIS positions		13
Engineering positions		9
Budgeted attrition (unidentified)		(3)
2020 Budget		656

Implementation for the WEIS contract will begin in 2020 and 13 positions are included in the 2020 budget for that effort. Management identified the need for nine additional engineering staff with the intention of eventually reducing the dependence on contractors to perform GI and other required transmission planning studies. As previously mentioned, the

2020 budget assumes three positions will be eliminated through collaboration across all divisions as vacancies occur.

# HEADCOUNT AND COMPENSATION

Data represents actual for 2016-2018, forecast for 2019 and budget/forecast for 2020-2022.



More details on the staffing budget is included in resource utilization section VI.

## II. SPP VALUE

*SPP collaborates with members, market participants, regulators and ratepayers through an inclusive and transparent stakeholder process. It takes time to achieve consensus, hold ourselves to impeccable standards and strive to continuously learn, grow and become more efficient and effective in our work. Because of this approach, SPP provides services at a benefit-to-cost ratio of 14-to-1 and earns top-tier stakeholder satisfaction scores year after year.*

### Member-Driven Culture

**SPP is value-oriented and works to ensure that its people and processes align with its members' goals.**

SPP's transparent and collaborative stakeholder process governs all that we do. The independent board of directors oversees dozens of committees, working groups and task forces. In these groups' meetings - nearly all of which are open to the public - member representatives and SPP staff work toward consensus on our organization's strategic direction, financial decisions, processes and procedures and more. Everyone is welcome to participate in the process.



One of SPP's value principals is promoting independence through diversity with a commitment to remaining a member-driven organization.

SPP manages change by building consensus. A stakeholder prioritization process gives members whose support and input SPP depends on the chance to provide direct input into prioritization of project work and changes to market protocols, governing documents and more.

This consensus-building and relationship-based approach to business is unique, and it provides immeasurable value. It ensures our customer base has the opportunity to make its voice heard in decisions both big and small.

SPP derives value from the diverse perspectives of its membership and other engaged stakeholders and remains independent of undue influence from any single entity or group of like-minded entities. It facilitates dialogue and collaboration among its members, who work together to keep the lights on today and in the future, ensuring all perspectives are appropriately considered.

SPP's membership includes investor-owned utilities, rural electric cooperatives, municipalities, public power, state and federal agencies and large retail customers. Its service territory is

diverse, too. It includes seven of the 100 largest cities in the U.S. as well as a large and significant area of rural America. SPP's business model and strategic direction reflect the common interests of this diverse membership: ensuring reliable and affordable electricity through collaboration. We understand the challenges of managing transmission in rural areas as well as maintaining reliability in large population centers.

## Major Services

*SPP has a proven record of creating value by leveraging economies of scale, the expertise of its staff and the diverse perspectives of its member companies.*

Thanks to efficient processes, effective controls and business practices and a culture that promotes doing the right thing for the right reason in the right way, SPP achieves a 14-to-1 return on every dollar spent towards achieving SPP's mission.

Our primary service is reliability coordination: helping our members keep the lights on. The North American Electric Reliability Corporation certified SPP as a reliability coordinator to guarantee reliable delivery of electricity to consumers by maintaining a wide-area view of the grid's current state and future conditions.

SPP's wholesale electricity markets determine the resources needed to economically ensure reliability and then dispatch the most cost-effective generation to meet demand and mitigate congestion in real-time. Since it launched in 2014, the Integrated Marketplace has yielded an average of

\$570 million in annual savings derived from lower wholesale electricity costs, reductions to excess capacity requirements and other efficiencies facilitated by SPP's robust market processes. SPP's markets have produced more than \$2.7 billion in cumulative benefits to the region since their launch in 2014. They also complement our RC services by enabling operations staff to spend more time addressing circumstances that require manual intervention and critical thinking. This type of partnership is at the heart of our belief that reliability and economics are inseparable.

Over the last decade, SPP has directed nearly \$10 billion in transmission construction and upgrades. These projects are modernizing the grid, enabling access to renewables and other generation that has enhanced reliability and lowered wholesale electricity costs. From 2005-2019, more than \$7.7 billion of transmission projects have been completed, and another \$1.9 billion are scheduled to be put in service by 2024. A recent study based on real-world data



**SPP's services provide net benefits to members in excess of \$2.2 billion annually at a benefit-to-cost ratio of more than 14-to-1.**

showed that every dollar SPP directs toward transmission expansion will return \$3.50 in expected benefits. SPP's Value of Transmission report and supplementary materials regarding the study are available at [www.spp.org/value-of-transmission](http://www.spp.org/value-of-transmission).

In addition to the core products of reliability coordination, market administration and transmission planning, SPP provides a suite of professional services that benefit stakeholders through economies of scale and cost savings. Stakeholders trust SPP to deliver industry-best training, project management, strategic planning, counsel and representation in regulatory and government affairs and more.

These and other services provide net benefits to SPP's region in excess of \$2.2 billion annually at a benefit-to-cost ratio of 14-to-1. For the typical end-use customer using 1,000 kWh per month, this means their \$100 electric bill would be \$107.63 without the services SPP provides

## **Continuous Improvement**

***SPP embraces a strategy of continuous improvement. We strive to always innovate, question the status quo and take every chance to cut costs, improve outcomes and work more efficiently. It's a practice that yields big returns for our stakeholders.***

Through process improvements, efficiencies and the constant maturation of our business practices, SPP has expanded our territory and service offerings, adapted to changing requirements and circumstances and saved our members billions of dollars, and we've done it all while helping them achieve their own goals of providing affordable and reliable electricity to their customers.

## III. BUDGET OVERVIEW

### BUDGET GUIDANCE AND ASSUMPTIONS

*The SPP 2020 Operating Plan was used as a guide for development of the budget, with the strategic plan serving as the foundation for the Operating Plan.*

Planning meetings that began in May 2019 provided guidance in developing the 2020 budget. Similar to the 2019 budget process, SPP utilized an incremental-based budget approach at the department level for operating expenses.

Management reviewed justifications for significant changes from the current 2019 forecast. The Resource Utilization section of this document discusses material changes in detail. The combined efforts of identifying required operating expenses and planning for capital projects and associated funding resulted in the recommended NRR.

Major assumptions used to create the 2020 budget include, but are not limited to, the following.

- Salaries and benefits: Existing salaries are expected to increase by 3.75 percent per the 2020 merit and promotion funding recommendation approved by the SPP human resources committee on September 3, 2019. SPP's fully employed headcount per the budget is 656, though compensation expense has been reduced by 3.5 percent to account for staff turnover expected to occur during the year. The estimate for vacancy is based on the 2019 average of 3.7 percent. Pension expense was calculated assuming an annual rate of return on the pension assets of 7 percent (consistent with the assumed rate of return in SPP's investment policy statement). As of the third quarter of 2019, pension plan assets have experienced an 11 percent year-to-date return. Cash funding for the plan is budgeted at \$5.5 million.
- Communication and maintenance: Communication infrastructure includes all expenditures related to SPP's internal and external networks and telecommunications. Communications expense is higher in 2020 as the result of a 6% federal tax increase that became effective in August 2019. Support agreements to sustain the health and operation of SPP's existing systems and routine facility upkeep are the primary drivers of maintenance costs. Year-over-year inflationary increases on existing maintenance contracts and an increase in server replacements (and therefore associated maintenance) due to the timing of end-of-life cycles contributed to the increase in the 2020 budget.

- Outside services: SPP engages consulting services for staff augmentation and specific skill sets not possessed by staff. The increase in outside services from the 2019 forecast is largely attributable to fees for the industry expert panel (IEP) for the FERC Order 1000 competitive bidding process that was not administered in 2019 (offset by revenue which will be recovered from participants); various implementation services associated with the WEIS (offset by revenue recovered under a separate contract); and various new IT initiatives (mostly associated with cybersecurity).

The 2020 budget includes consulting for the conversion to a new human resource management system. Other outside services engagements remain relatively comparable to the 2019 forecast in areas such as board of director and annual audit fees, with only slight increases for items such as staff augmentation for legal fees as well as non-recurring initiatives such as implementation of HITT recommendations and business continuity planning.

- 2019 true-up of Schedule 1A: Net favorable variances to budget in revenues and operating expenses resulted in a projected over-recovery of SPP's costs in 2019. The estimated over-recovery of \$1.9 million is included in the 2020 budget as an offset to the 2020 NRR.
- Billing determinants: Billing determinant forecasts are a key component in determining an appropriate rate for SPP's services. Year-over-year comparisons through July 2019 have been somewhat variable on a monthly basis and are down 2% in the aggregate. SPP has realized monthly system coincident peaks in the months of August and September and expect these peaks will ultimately result in an aggregate comparison that is flat versus 2018. Based on this information, the 2020 budget assumes 400.9 TWh of billing determinants, which is equal to the 2019 forecast.

***This budget document provides an overview and outlines details of the cost of services and components of the NRR, which consists of the following:***

- Capital projects (discussed in section V)
- Operating expenses (discussed in section VI)
- Debt service (discussed in section IX)

Capital projects are investments in long-term assets required by SPP to meet its strategic goals and operational requirements. These capital expenditures represent costs incurred to enhance or expand current systems and services and/or to maintain existing capabilities.

SPP budgets for ongoing foundation expenditures and specific planned capital projects. The foundation budget captures hardware and software to support SPP’s business applications. This includes upgrades and replacements of SPP’s aged hardware infrastructure and expenditures for new enterprise technologies driven by security requirements, application and architectural enhancements and legacy growth.

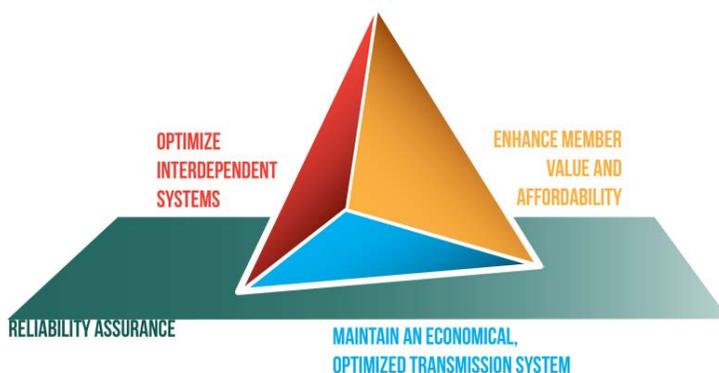
Operating expenses represent the largest component of SPP’s NRR and consist of budgeted costs for ongoing operation. Operating expenses are generally not correlated to the billing determinants used in SPP’s cost recovery structure.

Debt service costs are principal payments and interest expense related to various borrowings obtained to fund SPP’s capital expenditures. The debt issuances have terms relatively consistent with the expected useful life of the assets developed or acquired, which is consistent with SPP’s longstanding policy. This policy is designed to best recover the cost of the assets from the customers benefiting from the assets.

## ALIGNMENT OF 2019 BUDGET WITH SPP’S STRATEGIC PLAN

*The Finance Committee (FC) and the Strategic Planning Committee (SPC) endorsed the 2020 Operating Plan as being aligned with SPP’s strategic plan.*

The four foundational strategies of SPP’s current strategic plan are ensuring reliability in planning and operation of the electric power grid; optimizing interdependent systems; enhancing member value and affordability; and maintaining an economical, optimized transmission system.



The focus of these foundational strategies is to create the capabilities and operational processes necessary to fulfill SPP’s mission and to maintain or improve its value propositions in the face of a rapidly changing environment. These four strategies are interdependent, with reliability assurance as the basis and the enhancement of member value and affordability as the discipline to drive all SPP strategies.

The SPC meets annually to consider signposts that may require adjustments to the way the organization strategizes and tactically addresses industry trends affecting SPP and its members. The SPC focused on revolutionary changes to the industry related to the growth of renewable

energy sources during its May 2019 retreat. The SPC reviewed the HITT recommendations that were ultimately approved by the SPP board of directors. These recommendations 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, and enhance the Integrated Marketplace to reliably deliver low-cost energy to customers. The SPC will provide oversight in 2020 for the implementation of these recommendations and will update the SPP strategic plan accordingly.

## IV. 2019 NET REVENUE REQUIREMENT

### NET REVENUE REQUIREMENT

*Operating expenses (excluding depreciation and FERC fees) and debt payments are the main components of the NRR.*

In addition to operating expenses related to day-to-day operations, the income statement includes tariff administration service income (which is equal to the NRR), contract service revenues, miscellaneous income (primarily related to engineering studies) and various other income/expense items that are excluded from the NRR calculation (including depreciation and income/expense related to FERC fees and assessments).

<b>Income Statement</b>				
<b>\$ millions</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>2020 Prior</b>
<b>Income</b>				
Tariff Administration Service	\$157.5	\$158.1	\$172.3	\$173.3
Fees & Assessments	31.8	29.5	23.7	24.9
Contract Services Revenue	0.2	0.2	5.6	5.6
Miscellaneous Income	5.2	6.1	9.3	5.2
<b>Total Income</b>	<b>\$194.7</b>	<b>\$194.0</b>	<b>\$210.9</b>	<b>\$209.0</b>
<b>Expense</b>				
Salary & Benefits	\$98.7	\$100.6	\$106.0	\$101.7
Communications & Maintenance	23.6	22.0	24.2	24.8
Assessments & Fees	23.1	20.6	22.4	24.5
Outside Services	14.3	15.3	19.7	13.7
Depreciation	19.4	17.2	19.5	19.9
Administrative / Other	14.2	11.3	14.3	14.0
Travel & Meetings	3.1	2.9	2.9	3.1
<b>Total Expense</b>	<b>\$196.4</b>	<b>\$189.8</b>	<b>\$209.1</b>	<b>\$201.7</b>
<b>Net Income (Loss)</b>	<b>(\$1.7)</b>	<b>\$4.2</b>	<b>\$1.9</b>	<b>\$7.4</b>
Debt Repayment	\$24.2	\$24.2	\$25.6	\$26.3
Net Revenue Requirement	\$157.5	\$156.3	\$172.3	\$173.3
Recommended Admin Fee / MWh	\$0.394	\$0.394	\$0.430	\$0.434

Total expenses (excluding depreciation and FERC assessments) are expected to be \$167.1 million in 2020, an increase of \$15.2 million compared to the 2019 forecast. Growth in operating expenses results primarily from compensation due to merit increases and additional

staff, outside services primarily related to WEIS implementation and the IEP costs for FERC Order 1000 and enterprise technology maintenance and communication infrastructure increases.

In addition to incremental staff, the salary and benefits budget assumes a merit increase of 3 percent, a promotion increase of 0.75 percent and a vacancy factor of 3.5 percent (which is comparable to 2019 forecasted vacancy).

Growth of \$4.4 million in outside services over the 2019 forecast is primarily related to consulting for the implementation of WEIS and administration of the FERC Order 1000 process, staff augmentation/consulting support for various new initiatives related to the new HR system, business continuity and HITT, increased staff augmentation for legal, training and customer relations and engagement of an executive director for the Regional State Committee (RSC).

Communications and maintenance expenses in 2020 are expected to increase by \$2.2 million over the 2019 forecast, as SPP continues to expand the quality and quantity of its services through investments in SPP’s IT infrastructure and IT-intensive capital projects. The increase is primarily due to a shift in licensing structure from perpetual (capital expense) to subscription (operating expense), year-over-year inflationary increases (3 percent) on existing agreements, and a federal tax increase (6 percent) on communications related products and services that went into effect August 2019.

The chart below represents the impact to the NRR calculation of the western energy contract services.

Western Energy Services	2020 Budget (\$ millions)		
	WIUFMP	RC West	WEIS
Contract service revenue	\$0.1	\$5.5	\$0.0
Operating expense	0.0	(3.7)	(3.5)
Capital expense	0.0	0.0	(0.8)
Debt payments	0.0	(1.2)	(0.3)
New financing	0.0	0.0	4.6
Net (Increase)/Decrease to NRR	\$0.1	\$0.5	(\$0.0)

## BILLING DETERMINANTS

*SPP allocates its NRR to transmission customers based on their purchase of point-to-point transmission service (PtP) and/or network integrated transmission service (NITS).*

Customers purchasing NITS represent over 90% of SPP’s total annual billing determinants with PtP and other allocations representing 8% of the total. The remaining 2% is for monthly assessments, which is essentially load that is within SPP but not reported or served by NITS or PtP service. NITS is billed based on the prior year’s average monthly peak hour while PtP is billed on current period reserved capacity.

2019 monthly peak data was analyzed to estimate the billing units available for recovery of the 2020 NRR. The average monthly peak for January 2019 through July 2019 was 42.0 GW, approximately 1.8% less than the average monthly peak for the same period in 2018. Energy consumed in 2019 trails energy consumed in 2018. Variances in monthly peak data generally correlate positively with milder or more extreme weather conditions. For example, the January 2018 peak hour was nearly 8% higher than the January 2019 peak hour, which correlates to the more extreme winter conditions experienced in mid-January 2018. In contrast, the March 2019 peak hour was 21% higher than the March 2018 peak hour, once again resulting from more extreme winter conditions in March 2019. Final data is not yet available for the months of August and September 2019, but SPP as a region approached and exceeded prior peak energy usage in both of those months.



The 2020 budget assumes billing determinants equal to the 2019 forecast.

Non-coincident peak hour demand for the months of August through December 2019 is estimated based on known operating results, trends from prior years and simple averages. SPP is estimating growth in average monthly non-coincident peak demand of 0.4% versus 2018 results. Therefore, billing units of 400.9 TWh are expected for the 2020 budget year.

	Peak Demand (GW)				Percent Change 2019YTD vs	
	2016	2017	2018	2019	2018YTD	Avg(16-18)YTD
Jan	38.2	40.3	43.9	40.7	-7.3%	-0.3%
Feb	36.1	35.4	39.6	40.7	-2.5%	4.6%
Mar	32.9	34.8	34.0	41.3	4.4%	9.8%
Apr	32.6	33.0	34.4	33.6	2.9%	7.7%
May	36.9	39.6	45.2	39.1	-0.9%	5.2%
Jun	48.7	46.9	49.9	47.2	-1.8%	3.6%
Jul	51.0	50.7	52.3	51.2	-1.8%	2.9%
Aug	50.9	45.9	49.5	<b>51.6</b>	-1.0%	3.3%
Sep	44.8	45.7	45.9	<b>48.3</b>	-0.2%	3.7%
Oct	37.8	37.9	41.1	<b>42.0</b>	0.0%	4.1%
Nov	34.2	33.2	37.2	<b>37.8</b>	0.1%	4.4%
Dec	41.0	39.5	37.7	<b>39.4</b>	0.4%	4.1%

## COMPONENTS OF 2020 NRR AND ADMINISTRATIVE FEE

*The following tables illustrate the calculation of the NRR and the administrative fee. The 2020 calculation includes funding of the 2020 capital reserve and an adjustment to NRR to account for expected over-recovery in 2019.*

Net Revenue Requirement (NRR) & Administrative Fee (\$ millions)				
	2019 Budget	2019 Forecast <sup>(1)</sup>	2020 Budget	2020 Prior Estimate <sup>(2)</sup>
<b>Total expense (excluding deprec., FERC and interest exp.)</b>	<b>\$141.5</b>	<b>\$142.3</b>	<b>\$151.0</b>	<b>\$144.3</b>
Debt service - principal payments	24.2	24.2	25.6	26.3
Debt service - interest expense	8.9	8.5	8.4	8.8
Capital expenditure reserve	3.0	3.0	3.1	2.9
<b>Gross revenue requirement (excluding contract services)</b>	<b>\$177.7</b>	<b>\$178.0</b>	<b>\$188.1</b>	<b>\$182.3</b>
Less:				
Other revenues	(6.1)	(7.1)	(10.1)	(6.0)
Contract services NRR	n/a	n/a	(0.5)	n/a
NRR adjustments <sup>(3)</sup>	(14.1)	(14.7)	(5.2)	(3.0)
<b>Net revenue requirement</b>	<b>\$157.5</b>	<b>\$156.3</b>	<b>\$172.3</b>	<b>\$173.3</b>
Billing determinants (MWh millions) <sup>(4)</sup>	399.6	400.9	400.9	399.6
Calculated admin fee / MWh	\$0.394	\$0.390	\$0.430	\$0.434
<b>Proposed admin fee / MWh</b>	<b>\$0.394</b>	<b>\$0.394</b>	<b>\$0.430</b>	<b>\$0.434</b>
Admin fee tariff cap	\$0.430	\$0.430	\$0.430	\$0.430

*(1) Total expense for 2019 also excludes non-cash items such as swap valuation adjustments and realized/unrealized gains on investments*

*(2) 2020 Prior Year Estimate refers to the 2020 estimate made during the 2019 budget presentation.*

*(3) Explanation provided in the section below.*

*(4) Defined as prior-year average monthly coincident peak for network service and capacity for point-to-point service in MWh.*

Debt service comprises the second largest component of NRR. The increase in debt service over the 2019 forecast is solely due to higher scheduled principal repayments under SPP’s credit and note purchase agreements.

<b>NRR Adjustments (\$ millions)</b>				
<b>NRR Adjustments (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>2020 Prior Estimate</b>
Pension & retiree healthcare (non-cash)	(\$3.0)	(\$3.2)	(\$3.3)	(\$3.0)
Capital lease maintenance (non-cash)	(0.4)	(0.4)		
2018 Over-recovery	(10.7)	(11.1)		
2019 Projected over-recovery			(1.9)	
<b>Total NRR adjustments</b>	<b>(\$14.1)</b>	<b>(\$14.7)</b>	<b>(\$5.2)</b>	<b>(\$3.0)</b>

The 2019 projected over-recovery is associated with various offsetting revenue and expense variances throughout 2019 as well as an increase in the projected over-recovery from 2018 (as compared to the 2018 forecast during the 2019 budget cycle).

<b>2019 Projected over-recovery</b>	
2019 Higher revenues	\$1.6
2019 Net higher expenses	(0.1)
2018 Over-recovery increase	0.4
<b>2019 Projected over-recovery</b>	<b>\$1.9</b>

The 2019 current forecast for revenues exceed budget by \$1.6 million primarily due to additional billable staff time for engineering studies and a marginal increase in schedule 1A load.

The 2019 forecast reflects a \$0.1 million unfavorable variance to budget for expenses due to various offsetting factors. Unfavorable variances are attributed to higher compensation expense (which includes additional pension funding for 2019), increases consulting engagements for engineering activities (which are mostly recovered by pass-thru revenues) and additional legal services for litigation associated with zonal placement and attachment Z2 of the SPP tariff. These unfavorable variances are offset by lower maintenance, communications and interest expense due to delays/reassessments of capital purchases that drive these costs.

## FUTURE FORECASTING

SPP constructs a three-year budget plan each year in accordance with the tariff. The basis for the five-year forecast is the 2020–2022 budget. The billing units for 2023 and 2024 remain equal to the 400.9 TWh forecast for 2019 thru 2022, and only inflation adjustments were applied to the operating expenses.

Capital expenditures for 2023 and 2024 are assumed to be consistent with the 2022 forecast with only inflation adjustments applied. Consistent with the budget for 2020-2022, SPP has included collection of 20 percent of the forecasted capital expenditures for each year in 2023 and 2024. This collection will serve to reduce future financing costs.

<b>SPP Five Year Forecast</b>					
	<b><u>2020 Budget</u></b>	<b><u>2021 Budget</u></b>	<b><u>2022 Budget</u></b>	<b><u>2023 Budget</u></b>	<b><u>2024 Budget</u></b>
<b>Income</b>					
Tariff Administration Service	\$172.3	\$179.6	\$185.5	\$192.1	\$194.2
Fees & Assessments	23.7	24.4	26.5	27.1	27.6
Contract Services Revenue	5.6	10.8	10.9	11.1	11.3
Miscellaneous Income	9.3	9.5	9.2	9.4	9.6
<b>Total Income</b>	<b>\$210.9</b>	<b>\$224.2</b>	<b>\$232.1</b>	<b>\$239.6</b>	<b>\$242.6</b>
<b>Expense</b>					
Salary & Benefits	\$106.0	\$109.3	\$112.4	\$114.7	\$117.0
Depreciation	19.5	19.8	18.1	18.5	18.9
Communications & Maintenance	24.2	24.7	25.4	25.9	26.4
Outside Services	19.7	16.3	15.3	15.6	16.0
Administrative / Other	14.3	13.8	13.0	12.1	11.1
Assessments & Fees	22.4	23.5	24.7	25.2	25.7
Travel & Meetings	2.9	3.0	3.0	3.1	3.1
<b>Total Expense</b>	<b>\$209.1</b>	<b>\$210.4</b>	<b>\$212.0</b>	<b>\$215.0</b>	<b>\$218.2</b>
<b>Net Income (Loss)</b>	<b>\$1.9</b>	<b>\$13.8</b>	<b>\$20.1</b>	<b>\$24.6</b>	<b>\$24.5</b>
Debt Repayment	\$25.6	\$30.4	\$34.4	\$38.8	\$40.1
MWh Forecast (in millions)	400.9	400.9	400.9	400.9	400.9
Net Revenue Requirement	\$172.3	\$179.6	\$185.5	\$192.1	\$194.2
Recommended Admin Fee / MWh	\$0.430	\$0.448	\$0.463	\$0.479	\$0.484
Capital Expenditures	\$15.7	\$14.5	\$14.2	\$14.5	\$14.8

## V. CAPITAL PROJECTS

*SPP expects 2020-2022 capital expenditures to be approximately \$44.4 million.*

Beginning in early 2019, SPP compiled a comprehensive list of new and ongoing projects in consideration for the 2020-2022 budget under the direction of SPP's PRPC and in collaboration with staff from the project management office, accounting and IT departments. These projects are in addition to the foundation capital expenditures for IT, operations, engineering, settlements and facilities for routine refresh and upkeep.

The PRPC worked closely with project managers, IT directors, business owners and vendor managers to create scope requirements and to estimate anticipated workload associated with the implementation of the proposed projects.

The PRPC ultimately submitted seven projects for approval in its 2020 budget recommendation to the SPP officers in June 2019. There were no incremental headcount requests for any of the projects submitted. The officers approved five of those projects for inclusion in the 2020 budget. One project was subsequently withdrawn from consideration and another was rejected for inclusion in the 2021-2022 forecast due to the need for more stakeholder support.

The following table summarizes the capital impact of projects for the 2020-2022 budget cycle, including projects approved in previous years not completed in 2019. The project costs for the implementation of a human resource management system (HRMS) are not included in the table below as they are considered to be operating expenses. A detailed description of the HRMS project is included later in this section.

2020 - 2022 Capital Expenditures (\$ millions)						
	Prior Year(s)	2020 Budget	2021 Forecast	2022 Forecast	Total Capital	
<b>Capital Projects</b>						
DTS Upgrade Phase 2B ( <i>carryover</i> )	\$ 0.8	\$ 1.4	\$ -	\$ -	\$	2.2
Identity and Access Management (IAM)	-	0.3	0.2	-		0.5
FERC Order 841: Electric Storage ( <i>carryover</i> )	0.0	0.4	-	-		0.4
Data Lake Phase 3 ( <i>carryover</i> )	-	0.4	-	-		0.4
TAGIT/SCERT Rewrite	-	0.1	0.2	-		0.2
Ramping Capability	-	0.2	-	-		0.2
Energy Storage Resouce (ESR)	-	0.1	-	-		0.1
EMS CMT Markets Software Upgrade	-	-	2.9	2.9		5.7
<b>Total Capital Projects</b>	<b>\$ 0.8</b>	<b>\$ 2.8</b>	<b>\$ 3.2</b>	<b>\$ 2.9</b>	<b>\$</b>	<b>9.7</b>
<b>Foundation</b>						
Information Technology		\$ 8.1	\$ 8.2	\$ 8.4	\$	24.7
Operations		2.5	2.3	2.2		6.9
Engineering		1.8	0.6	0.6		3.1
Settlements		0.3	-	-		0.3
Facilities		0.1	0.1	0.1		0.2
Miscellaneous Corporate Departments		0.1	0.1	0.1		0.3
<b>Total Foundation *</b>	<b>\$ -</b>	<b>\$ 12.9</b>	<b>\$ 11.2</b>	<b>\$ 11.4</b>	<b>\$</b>	<b>35.5</b>
<b>Total Capital Budget</b>	<b>\$ 0.8</b>	<b>\$ 15.7</b>	<b>\$ 14.5</b>	<b>\$ 14.2</b>	<b>\$</b>	<b>45.2</b>
<b>2020-2022 Capital Budget</b>					<b>\$</b>	<b>44.4</b>
* Foundation projects are reforecast during each budget cycle and do not include any carry-over funds.						

## CARRYOVER PROJECTS

SPP approved certain projects to start in previous years and have capital spend associated with the completion of those projects in the 2020-2022 budget cycle. The narrative provided below serves as a brief overview of the project and a current update on its status.

### Dispatcher Training Simulator (DTS) Upgrade Phase 2B

SPP has had a multiyear project to upgrade its dispatcher training simulator to increase availability to real-time operations staff, configure simulation displays to match those used on the operations floor and to incorporate market functionality to provide a more realistic simulation experience. The final phase of the multi-year DTS project includes the build and integration of simulation software for market functionality. It will consist of the following three phases of work:

- Phase 2B-1: Requirements, system design, and implementation of some of the core infrastructure.
- Phase 2B-2: Design, installation, testing, and implementation of a basic markets and reliability training simulator.
- Phase 2B-3: Design and implementation of functionality that will provide SPP instructors with the ability to simulate additional subsystems such as automation features that make the creation of scenarios easier.

While the completion date is tentatively targeted in 2020, the precise timing will not be known until the completion of Phase 2B-1, which is currently in progress.

### **FERC Order 841: Electric Storage**

The order requires each RTO and ISO to revise its tariff to establish a participation model consisting of market rules that facilitate participation in the RTO/ISO markets while recognizing the physical and operational characteristics of electric storage resources.

The vendor began work on requirements and design activities for market system enhancements in late 4Q'18 with an expected delivery date of March 2019, given that Order 841 had a prescribed implementation date of December 2019. Updates to the settlements system were a required part of the project. Due to the delay in the settlement systems replacement project, a decision was made to place this project on hold until after the new settlements system goes live (currently scheduled for February 2020). In 1Q'19, SPP filed a request with FERC for deferral of the effective date from six to twelve months upon the completion of the new system.

### **Data Lake Phase 3**

The Integrated Marketplace creates massive amounts of stored data, which can encumber server and database efficiency. The Data Lake initiative continues SPP's efforts to offload less frequently used data onto more cost-effective storage devices, resulting in increased performance and cost effectiveness for critical data access.

During 1Q'19, IT management performed a thorough review of this project to determine the best path forward in meeting the overall objective of the Data Lake initiative. SPP decided to focus on reducing complexity and minimizing costs for the Data Lake. The project underwent a re-baselining effort, which affected both the scope and schedule of the project. The overall costs remained unchanged.

SPP is currently evaluating potential solutions and a decision about which solution to purchase is expected in early 4Q'19. The purchase of the solution is projected to take place in late 4Q'19 or early 1Q'20.

## 2020-2022 CAPITAL PROJECTS

The table below shows a summary of the total costs for all projects commencing in 2020-2022. Total costs include all capital and operating costs expected during 2020-2022 associated with the implementation and ongoing maintenance of these projects. The IT capital portion of these projects is included in the IT foundation budget as discussed in a later section. The operating expenses associated with these projects are included in the operating expense budgets for the respective departments.

All 2020-2022 Projects	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ 0.6	\$ 3.2	\$ 2.9	\$ 6.7
IT Capital	0.0	0.3	-	0.3
Department Operating	0.6	0.4	0.4	1.4
IT Operating	0.0	0.1	0.1	0.3
<b>Total Cost</b>	<b>\$ 1.3</b>	<b>\$ 4.1</b>	<b>\$ 3.4</b>	<b>\$ 8.8</b>

## Identity and Access Management (IAM)

IAM addresses the need to ensure appropriate access to resources across diverse technology environments and to meet increasingly rigorous compliance requirements. Continued use of manual processes exposes SPP to significant cybersecurity and compliance risk along with reduced operating efficiency.

A 2017-2018 IAM project for the deployment of a software solution to implement an automated and robust IAM program was unsuccessful due in large part to foundational gaps in SPP's knowledge and understanding of what is required to create, build and sustain a robust IAM program.

In 2019, SPP commenced an initiative to build the foundational elements of an IAM program, starting with an access inventory to support SPP's most immediate needs for CIP-004 compliance (i.e., user access certification). Upon completion of this initiative, which also includes process and procedure development for IAM, SPP will be better positioned to successfully implement the previously acquired solution into production.

The 2020 IAM project encompasses the following deliverables:

- Install the IAM solution in production to run user access certification campaigns and support provisioning and de-provisioning of access for a defined set of targets in a phased approach.
- Establish support model to accommodate ongoing development needs across all environments, including on-boarding of access to additional applications and systems.
- Integrate the IAM solution with a new access inventory tool which will be used to aggregate and house records of access granted to SPP assets.
- Create plans for continued advancement of SPP’s IAM roadmap.

	2020	2021	2022	
Identity and Access Management (IAM)	Budget	Forecast	Forecast	Total
Project Capital	\$ 0.3	\$ 0.2	\$ -	\$ 0.5
IT Capital	-	-	-	-
Department Operating	-	-	-	-
IT Operating	-	-	-	-
<b>Total Cost</b>	<b>\$ 0.3</b>	<b>\$ 0.2</b>	<b>\$ -</b>	<b>\$ 0.5</b>

## Transmission & Generation Implementation Tracking (TAGIT)/ Standardized Cost Estimation Reporting Template (SCERT) Rewrite

The existing TAGIT and SCERT tools are used by SPP planning engineering staff and SPP transmission owners with oversight provided by the Project Cost Working Group (PCWG). These tools help facilitate tracking of projects and the SPP Transmission Expansion Plan (STEP), and issuance of notification to construct (NTC) as described in SPP Business Practice 7060, Business Practice 7160, Attachment O of the SPP Open Access Transmission Tariff (OATT) and Attachment Y of the SPP OATT.

Maintaining and improving the current system is difficult with existing limitations. Data integrity of the current solution is at risk due to the amount of manual intervention required to update information based on outside user input. The goal of this project is to enhance the platform in a way that would allow operators to focus on data analysis, remove potential barriers for additional operators to cross-train, and improve data integrity. These changes will help streamline the utilization of the tools and provide more consistent and higher quality NTC letters and project tracking reports.

TAGIT/SCERT	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ 0.1	\$ 0.2	\$ -	\$ 0.3
IT Capital	0.0	-	-	0.0
Department Operating	0.0	0.0	0.0	0.1
IT Operating	0.0	0.0	0.0	0.0
<b>Total Cost</b>	<b>\$ 0.2</b>	<b>\$ 0.2</b>	<b>\$ 0.0</b>	<b>\$ 0.4</b>

## Ramping Capability

Increasing renewable penetration, interchange flexibility, net load variations and uncertainties impose challenges to maintain real-time power balance. These challenges are a threat both to the security of the grid and the health of SPP's Integrated Marketplace.

With the incorporation of FERC Order 825, ramp shortages are the most common cause of short-term scarcities and price spikes within SPP. To provide flexibility to the Integrated Marketplace, resources need transparent price signals and economic incentives.

The goal of a ramping product is to provide a market-based approach for ramp management that leverages existing operational experiences to systematically pre-position resources with ramp capability to manage net load variations and uncertainties and provide transparent price signals to incent resource flexibility and economic investment.

One of the HITT's reliability recommendations was to implement market enhancements including fast-start logic, ramping capability and multi-day, longer-term product. The Market Working Group (MWG) approved tariff language (RR 361) in July 2019 to incorporate ramping product capabilities, which will be sent to MOPC for approval in October 2019.

Ramping Capability	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ 0.2	\$ -	\$ -	\$ 0.2
IT Capital	-	-	-	-
Department Operating	-	-	-	-
IT Operating	-	-	-	-
<b>Total Cost</b>	<b>\$ 0.2</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 0.2</b>

## Energy Storage Resource (ESR)

Because of FERC Order 841 and the associated operations project, ESRs are being submitted as detailed project proposals (DPPs) in the 2019 Integrated Transmission Planning (ITP) assessment. SPP engineering will need to scope and implement a solution that can model and study ESRs as generation, load or as generation and load.

This project will develop policy and revision request language that allows SPP to select ESRs as viable transmission solutions and enforce the issuance of a NTC for qualifying ESR solutions.

Energy Storage Resource	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ 0.1	\$ -	\$ -	\$ 0.1
IT Capital	-	-	-	-
Department Operating	0.2	0.1	0.1	0.5
IT Operating	-	-	-	-
<b>Total Cost</b>	<b>\$ 0.3</b>	<b>\$ 0.1</b>	<b>\$ 0.1</b>	<b>\$ 0.5</b>

### Energy Management System (EMS) Centralized Modeling Tool (CMT) Markets Software Upgrade

This project addresses the hardware refresh and software upgrade required to continue operations of the EMS, CMT and Markets applications. Both the system software and the hardware used for the systems are due for refresh by December 2022. SPP will replace the time frequency device in conjunction with this project no later than September 2022, which is the timeline for this project. The EMS and markets systems are essential critical infrastructure protection (CIP) applications that require continual patch source and vendor support to operate our reliability and market functions.

EMS CMT Markets Software Upgrade	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ -	\$ 2.9	\$ 2.9	\$ 5.7
IT Capital	-	0.3	-	0.3
Department Operating	-	-	-	-
IT Operating	-	0.1	0.1	0.2
<b>Total Cost</b>	<b>\$ -</b>	<b>\$ 3.3</b>	<b>\$ 3.0</b>	<b>\$ 6.3</b>

### Human Resources Management System (Non-Capital)

SPP’s existing HRMS is comprised of nine different software applications requiring multiple data feeds to and from various vendors. A key issue with SPP’s current HRMS platform is that each of the nine software components undergoes required patches and upgrades on a regular basis initiated by the various vendors. These upgrades are never on the same schedule and always require technical support from SPP IT and HR staff for testing and installation.

Because configuration of these independent applications is unique to SPP, compatibility and functionality issues occur on a frequent basis. Purchasing a software as a service (SaaS)

application that provides a universal HR solution from a single provider will ensure 100% compatibility and result in very little, if any, ongoing support from SPP IT staff.

Lastly, the core application supporting the existing HRMS was purchased over 20 years ago when SPP had less than 100 full-time employees. The volume, detail and complexity of HR-related deliverables needed at the corporate level has outgrown the current system’s capabilities. SPP needs a system with more robust functionality and scalability to perform the functions essential to support human resources now and in the future.

Human Resources Management System	2020	2021	2022	Total
	Budget	Forecast	Forecast	
Project Capital	\$ -	\$ -	\$ -	\$ -
IT Capital	\$ -	\$ -	\$ -	\$ -
Department Operating	\$ 0.4	\$ 0.3	\$ 0.3	\$ 0.9
IT Operating	\$ -	\$ -	\$ -	\$ -
<b>Total Cost</b>	<b>\$ 0.4</b>	<b>\$ 0.3</b>	<b>\$ 0.3</b>	<b>\$ 0.9</b>

### FOUNDATION CAPITAL EXPENDITURES

The following section describes the various categories of foundation capital expenditures in detail.

#### IT Foundation

Historically, the IT budget was subdivided into departmental budgets (systems administration, network, applications, service management, cybersecurity, and IT architecture) with each group managing and prioritizing its respective budget independently. A new approach was introduced during the 2019 budget cycle to simplify and consolidate the management and reporting of the IT budget into two general categories – refresh and new initiatives. The intended benefits of this realignment include more efficient inter-departmental prioritization, improved collaboration and teamwork, elimination of excess and/or redundant initiatives, and better oversight in budgeting for solutions that are supported and owned by multiple teams. The table below illustrates the 2020 budget and 2021-2022 forecast by category for IT foundation.

IT Foundation	2020	2021	2022	Total
	Budget	Forecast	Forecast	
IT Infrastructure Refresh	\$ 7.6	\$ 7.5	\$ 7.5	\$ 22.6
New Initiatives	0.5	0.7	0.9	2.1
<b>Total IT Foundation</b>	<b>\$ 8.1</b>	<b>\$ 8.2</b>	<b>\$ 8.4</b>	<b>\$ 24.7</b>

## ***IT Foundation – IT Infrastructure Refresh***

This category includes upgrades and replacements of aged technology and software to support existing systems and services (markets, reliability, settlements, corporate functions, etc.).

	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
	<b>Budget</b>	<b>Forecast</b>	<b>Forecast</b>	<b>Capital</b>
<b>IT Foundation</b>				
<b>IT Infrastructure Refresh</b>				
Servers	\$ 2.6	\$ 2.4	\$ 2.5	\$ 7.5
Storage	2.3	2.5	2.3	7.1
Network	1.8	1.7	1.8	5.3
Software licenses and upgrades	0.9	0.9	0.9	2.7
<b>Total IT Infrastructure Refresh</b>	<b>\$ 7.6</b>	<b>\$ 7.5</b>	<b>\$ 7.5</b>	<b>\$ 22.6</b>

The major initiatives in the 2020 budget include the following:

- **Servers:** SPP targets physical server replacements after a 5-6 year useful life based on many factors such as withdrawn support from the vendor, high failure rates, increased performance requirements, incompatibility with other technology and performance/economic considerations.

SPP has approximately 120 servers that are targeted for replacement during 2020. The cost per server ranges from \$10 thousand to \$45 thousand (capital expense portion), contributing to a total budget of \$2.6 million and roughly 32% of the IT Foundation budget. The server replacements include larger “host” machines that support SPP’s virtualized environment, along with dedicated servers to support a particular application.

- **Storage:** In late 2014, SPP invested in a \$6.5 million storage solution that included over 20 components of hardware and software, including production storage capacity (at Chenal and Maumelle), storage area network (SAN) switch technology, and backup hardware/software located at the Chenal, Maumelle and off-site data centers.

2020 storage technology upgrades include:

- VMAX hardware replacement (Chenal)
- Data Domain 4500 replacement (Maumelle and Chenal)
- Data Protection Suite replacement/upgrade (Chenal, Maumelle, offsite data centers)

- VNX hardware replacement (Chenal and Maumelle)
- Vplex upgrade (Chenal and Maumelle)

In addition to a focus on improved data governance and elimination of unnecessary data, IT will continue to expand its on-premise “cloud” solution, referred to as elastic cloud storage (ECS). The ECS provides a significantly lower-cost platform for long-term data as compared to existing equipment and will be the standard platform going forward.

Finally, IT needs a nominal amount of incremental storage capacity (roughly 80TBs) to accommodate data growth of various business applications.

- Network: SPP has an extensive corporate voice and data network that is required to provide high throughput, high availability, protective security and ample communications across business locations and members. With over 550 hardware network appliances in operation, SPP remains in a continuous state of implementing software maintenance and infrastructure upgrades/replacements to remain current and/or stay ahead of dynamic communication demands. The following key areas are planned to be addressed in 2020:
  - Electronic security perimeter (ESP) firewall refresh: In late 2019, IT will source new firewall equipment to comply with CIP requirements for splitting SPP’s ESP environment, with a target date of mid-2020 to complete the transition. The migration/mapping of policies from the existing equipment to the new equipment will be extensive, and SPP will utilize tools/services from the equipment vendor to accomplish this effort.
  - Vulnerability detection platform replacement: The existing platform used for zero-day vulnerability detection is being withdrawn from support by the vendor. IT will evaluate a new vulnerability detection technology during 2020 to replace the existing equipment.
  - Intrusion prevention system (IPS) expansions: The corporate IPS appliances inspect all traffic entering and exiting the SPP network. These appliances are saturated with high volumes of traffic that overrun the IPS inspection engine and flow into the SPP network without inspection, causing network latency to current applications. An upgrade to 40GB technology will increase the current bandwidth to satisfy performance levels and traffic volumes.

- Switch upgrades: The current platforms for Ethernet switches will reach end of support in early 2021. The majority of this equipment has been in production since 2012 and will be replaced with more current versions of the same platforms in 2020.
- Virtual private network (VPN) upgrades: Remote-access VPNs allow employees to access SPP's intranet from outside the office. As part of a new birthright access management initiative, all employees are being provisioned with VPN access. Roughly 65% of SPP employees are currently provisioned with VPN access, resulting in the need to acquire an additional 150-200 VPN licenses.
- Infrastructure cabinets: SPP utilizes network infrastructure cabinets in both the Chenal and Maumelle data centers to house SPP servers. With the growth in servers over the past few years, the existing cabinets are reaching capacity. SPP plans to replace or upgrade roughly 16 cabinets next year.
- Software licenses and upgrades: SPP performs routine software upgrades and installations each year to maintain product currency and to accommodate growth of user and/or server requirements. Upgrades to several applications and acquisitions of incremental licenses for a number of existing products are planned for 2020.
  - Monitoring and baseline management: SPP must add monitoring tools and baseline management software to properly capture usage and change activity for new servers implemented into the production/ESP environment.
  - Service management supported applications
  - Data management
  - Security access
  - Database licenses
  - Access management
  - Risk management
  - Data visualization

### ***IT Foundation - New Initiatives***

The new initiatives category consists of both software purchases related to new technology/functionality and incremental hardware and software associated with capital projects.

	2020 Budget	2021 Forecast	2022 Forecast	Total Capital
<b>IT Foundation</b>				
New Initiatives				
Software enhancements and consulting	\$ 0.5	\$ 0.4	\$ 0.5	\$ 1.4
Enterprise projects and other capital *	0.0	0.3	0.4	0.7
<b>Total New Initiatives</b>	<b>\$ 0.5</b>	<b>\$ 0.7</b>	<b>\$ 0.9</b>	<b>\$ 2.1</b>

*\*Includes PRPC projects in addition to capital spend for other smaller initiatives.*

### Software enhancements and consulting

- Risk management: SPP utilizes vulnerability and risk management software to measure and manage potential risk to network security. IT identified several customizations for 2020 requiring implementation services from the vendor.
- Application whitelisting software: Traditional malware prevention methods such as anti-virus software, firewalls and intrusion-prevention systems often do not provide the necessary level of defense needed to protect endpoints such as application servers, operator consoles and desktops. As a result, there are plans to implement a software solution known as “application whitelisting” that will only permit pre-identified, authorized programs to be accessed and/or executed.
- Honey-pot canary solution: Honey-pots or canaries are systems that appear to contain valuable data, which are ripe targets for attack; however, they are really decoys used for detecting intrusions. IT plans to implement a honey-pot canary solution on specific SPP internal networks to detect potential attacks.
- Application containerization: SPP plans to evaluate and likely implement “application containers” which allow applications to more effectively leverage virtual machines (VMs) and CPU resources. Application containers allow applications to be partitioned within a VM and can potentially reduce the number of VMs and associated software costs.
- Software asset management tool: SPP plans to evaluate and acquire a software tool to more effectively manage software licenses across the organization, thereby reducing SPP’s financial risk of software audits and fees associated with over-deployment of vendor software.

### Enterprise and Other Capital Projects

The PRPC approved a relatively small number of new projects that will begin over the next three years. While each project carries a dedicated capital budget, a relatively nominal amount of incremental hardware and software impacts the IT Foundations budgets. For 2020, the only project affecting the IT Foundation budget is the TAGIT/SCERT rewrite, which is estimated to require four virtual machines and associated software. The 2021-2022 forecast includes amounts for the EMS upgrade and other smaller capital initiatives.

## Operations Marketplace and Other System Enhancements

The operations foundation budget primarily consists of enhancements to the market operations system (MOS) including modifications to the market operator interface (MOI), market user interface (MUI), market clearing engine (MCE) applications and the market database (MDB). The operations foundation budget also covers any capital dollars required to implement revision requests (RRs) impacting these respective applications. MOS enhancements drive over 80% of the operations foundation budget. The remainder includes enhancements for numerous other systems and tools as summarized in the tables below.

	2020 Budget	2021 Forecast	2022 Forecast	Total Capital
<b>Operations Marketplace and Other System Enhancements</b>				
Market Operation System (MOS)	\$ 2.0	\$ 2.0	\$ 2.0	\$ 6.0
Open Access Same-Time Information System (OASIS)	0.1	0.0	0.0	0.2
Energy Management System (EMS)	0.1	0.1	0.0	0.2
Topology Control Tool (Router, POM-OPM)	0.1	-	-	0.1
DSA Tools (PSAT, VSAT, TSAT)	0.1	0.1	0.1	0.2
Dispatch Training Simulator (DTS)	0.0	0.0	0.0	0.1
Miscellaneous Other *	0.1	0.1	0.1	0.2
<b>Total Operations Marketplace and Other System Enhancements</b>	<b>\$ 2.5</b>	<b>\$ 2.3</b>	<b>\$ 2.2</b>	<b>\$ 6.9</b>

\* Includes Control Room Operations Window (CROW), Open Access Technology Int'l/Native Network Limit (OATI/NNL), Centralized Modeling Tool (CMT), Phaser Measurement Unit (PMU) and PI.

The table below illustrates historical spend for MOS and other system enhancements for the past three years.

	2017 Actual	2018 Actual	2019 Forecast
<b>Historical Marketplace and Other System Enhancements</b>			
Market Operation System (MOS)	\$ 1.7	\$ 2.2	\$ 2.1
Miscellaneous Other	0.1	0.1	0.3
<b>Historical Marketplace and Other System Enhancements</b>	<b>\$ 1.8</b>	<b>\$ 2.3</b>	<b>\$ 2.4</b>

## Engineering System Enhancements

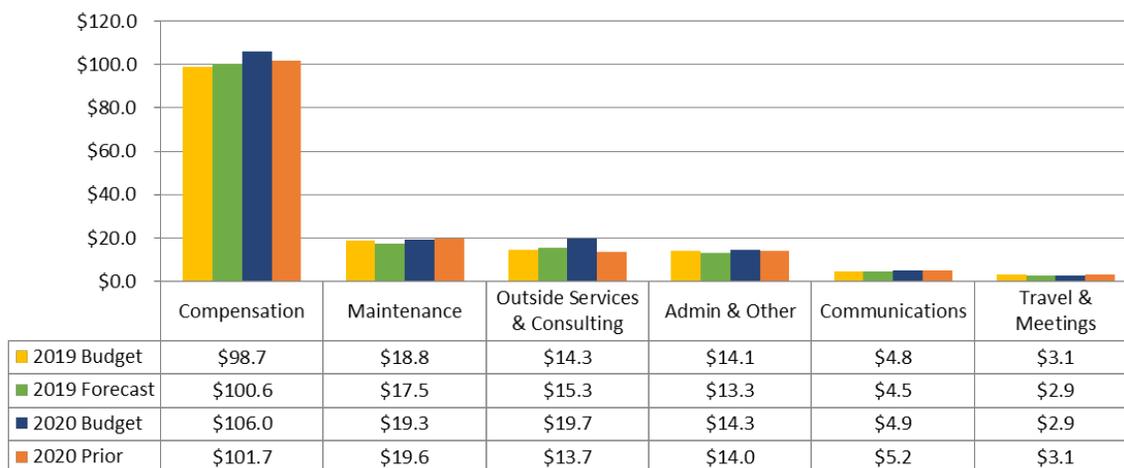
A significant component of this budget is the planned upgrade for PROMOD IV in 2020 due to the termination of support for the current version. Routine enhancements to the congestion hedging system in addition to various enhancements to existing tools are also expected.

	2020 Budget	2021 Forecast	2022 Forecast	Total Capital
<b>Engineering</b>				
PROMOD tool enhancements	\$ 1.0	\$ -	\$ -	\$ 1.0
TCR market system enhancements	0.5	0.5	0.5	\$ 1.6
Various enhancements, license and hardware	0.3	0.1	0.1	\$ 0.5
<b>Total Engineering</b>	<b>\$ 1.8</b>	<b>\$ 0.6</b>	<b>\$ 0.6</b>	<b>\$ 3.1</b>

## VI. RESOURCE UTILIZATION

SPP's 2020 budget incorporates the funds necessary for SPP to provide day-to-day operations while pursuing strategic goals and organizational objectives. The chart below shows the various resource components and the corresponding 2020 budget amounts in comparison to 2019 budget and forecast, and a comparison to amounts forecasted for 2020 during the 2019 budget cycle. The following section discusses each component in detail.

**Operating Expenses by Resource (\$ millions)**



## Operating Expenses by Resource (\$ millions)

	2019 Budget	2019 Forecast	2020 Budget	2020 Prior
Compensation	\$98.7	\$100.6	\$106.0	\$101.7
Maintenance	18.8	17.5	19.3	19.6
Outside Services & Consulting	14.3	15.3	19.7	13.7
Admin & Other	14.1	13.3	14.3	14.0
Communications	4.8	4.5	4.9	5.2
Travel & Meetings	3.1	2.9	2.9	3.1
<b>Total Operating Expense *</b>	<b>\$153.8</b>	<b>\$154.0</b>	<b>\$167.1</b>	<b>\$157.3</b>

\* Excludes depreciation & FERC fees. Other expense in 2019 Forecast also excludes non-cash items.

## STAFFING

### Investing in Career Employees

*The most significant operating expense is compensation, and the most significant and valuable resource is the SPP staff. SPP invests in career employees by engaging two foundational principles of SPP's hiring philosophy: hiring and maintaining the right employee for each position and retaining the appropriate number of employees.*

The SPP business model defines the attributes of the right employee as being career-minded, humble, motivated and well-rounded. Other attributes include having the appropriate skill level and attitude, being a loyal and engaged team player, and demonstrating a sense of ownership. The SPP onboarding program is the first step toward instilling these attributes in each new employee. SPP introduces new employees to its corporate culture over a three-to-five month period through a series of learning activities during the onboarding curriculum.

Participating in team activities, interacting with SPP executives and making presentations to the SPP management team create an environment where new employees experience SPP's culture first hand. Compliance training, industry-specific learning modules and departmental overviews provide a foundational knowledge allowing new employees to gain insight into their role in achieving SPP's mission.



Two foundational principles of SPP's hiring philosophy are to hire and retain the right employee and maintain the right number of employees.

SPP deploys various initiatives to foster retention and build bench strength, which ultimately enhances the ability to provide the highest level of service and value for members and customers. Employees are encouraged to seek opportunities matching their career goals and to expand their knowledge base through career development initiatives such as rotation programs, job shadowing and career planning tools.

Benefit plans, organizational structure and compensation programs are crucial to attracting and retaining career employees, each of which are reviewed and approved by the SPP human resources committee on an annual basis.

In 2019, the human resources committee benchmarked SPP's compensation and benefit programs against industry, peer and member companies to ensure competitiveness in the marketplace while adhering to a cost-effective budget. It is the desire of the human resources committee for all SPP positions to align with the 50<sup>th</sup> percentile of the peer group in the study. The 2019 study found that nearly all positions align at the 50<sup>th</sup> percentile with only a handful being meaningfully below the 50<sup>th</sup> percentile and none being meaningfully above the 50<sup>th</sup> percentile.

Offering a competitive total compensation package fosters employee engagement and contributes to lower turnover. Whenever vacancies occur, SPP management reviews staffing levels and looks for opportunities to manage headcount through attrition.

## Staffing Levels

Establishing and maintaining the right number of employees to efficiently provide SPP's services can be challenging. SPP management staff considers staffing needs each year as part of the annual budget process. Business needs for incremental headcount are submitted for approval by managers and vetted by directors and officers. Staffing additions approved through this process are included in the budget.

Positions approved in the budget are managed by the human resources department. HR facilitates a bi-monthly meeting with the officer team to discuss corporate staffing metrics, requests for additional staffing, reorganizations and attrition to ensure staffing decisions are not made from organizational silos. SPP directors review all open positions on a monthly basis to look for opportunities to gain efficiencies.

The following incremental positions are in the 2020 operating budget:

2020 Approved Staffing Levels	
2019 Forecast	637
WEIS positions *	13
Engineering-GI and transmission studies	4
Engineering-economic planning	4
Engineering-resource planning	1
Budgeted attrition (unidentified)	(3)
2020 Budget	656

*\* WEIS staff includes operators (6), IT support (4) and analysts for settlements, market design and MMU (3)*

WEIS market (13): These resources will be utilized for the implementation of the WEIS market during 2020 and will ultimately maintain and support the market in the west. SPP offsets these incremental costs by financing in the development stage and by contract revenues after the implementation.

Engineering - Generation interconnection services and transmission services (4): Engineering management evaluated staffing levels during 2019 due to the unprecedented growth in workload associated with generation interconnection studies and due to the onset of the new study product under FERC Order 845 for surplus service. The addition of the four positions will provide billable services which generate additional revenue. The additional staff is also intended to build SPP bench strength and ultimately reduce the reliance on contractors to perform the work. These positions are fully funded by revenues from the interconnection study customers.

Engineering - Economic planning (4): The engineering planning group performed an analysis to determine staffing levels necessary to perform work associated with ITP studies and regional cost allocation reviews (RCAR) required by SPP OATT. The study cycles associated with these planning activities result in periods of time throughout the year when three or more studies must be performed concurrently, requiring the usage of outside consultants to help manage

the workload. To ultimately reduce reliance on consultants, four incremental positions were added to the 2020 budget at a lower cost than engaging outside consultants.

Engineering - Support (1): Response Management System (RMS) is the key communication pathway for most of the modeling and ITP processes between the engineering staff and stakeholders. The number and complexity of RMS requests has significantly increased along with growth in tasks and functions in the engineering division. The engineering support group is a central point of contact for the RMS in facilitating quick touch bases with stakeholder inquiries, triaging questions, tracking progress in answering tickets, adhering to service level agreement goals, and reporting to management and staff on progress. The program analyst position is included to cover this increase in workload as opposed to engaging outside services.

Coupled with the gradual reduction in the utilization of outside consultants, the addition of nine positions in 2020 (four billable resources) and 11 positions in 2019 (six billable resources) is expected to have a combined impact of reducing SPP's NRR calculation by approximately \$1.3 million annually.

Unidentified (3 reductions): During the 2019 budget cycle, SPP officers committed to managing attrition as reflected in staffing reductions over 2019-2021. The proposed staff reductions projected were two in 2019, three in 2020 and two in 2021. A commitment of one additional reduction by 2021 was made by the IT department to offset an incremental position added during 2018. The reductions in staff will be led by SPP directors and achieved by collaboration across all divisions to consider restructuring or redistributing workload as attrition occurs over the specified timeframe.

The table below illustrates changes in the approved staffing levels for 2019-2022.

<b>Approved Staffing Levels</b>				
	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>2019 Budget (original excluding RC West) *</b>	<b>605</b>			
RC West	20			
Out-of-budget Engineering positions	11			
Out-of-budget IT positions	<u>1</u>			
<b>2019 Forecast</b>	<b>637</b>			
WEIS		13		
Engineering GI and transmission studies		4		
Engineering economic planning		4		
Engineering resource planning		1		
Budgeted attrition (unidentified)		<u>(3)</u>		
<b>2020 Budget</b>		<b>656</b>		
IT Programmer/Analysts			2	
Engineering support			1	
Budgeted attrition (1 IT, 2 unidentified)			<u>(3)</u>	
<b>2021 Forecast</b>			<b>656</b>	
No staffing changes for 2022				<u>0</u>
<b>2022 Forecast</b>				<b>656</b>
Prior Budget / Forecast		625	623	n/a

*\* The original 2019 budget did not include the separate budget for RC West. The budget did include budgeted attrition for two unidentified positions.*

The following table shows the staff numbers by executive division:

## 2019 - 2022 APPROVED POSITIONS BY DIVISION

Headcount	2019 Budget	2019 Forecast	2020 Budget	2021 Forecast	2022 Forecast
Operations	160	158	158	158	158
Information Technology	168	169	169	170	170
Engineering	83	96	105	106	106
Finance & Corporate Services	69	69	69	69	69
Process Integrity <sup>(1)</sup>	58	57	57	57	57
Regulatory & Legal	27	27	27	27	27
Contract Services	20	20	33	33	33
Market Monitoring (MMU)	16	16	16	16	16
Officer	11	11	11	11	11
Interregional Relations & Market Design	7	7	7	7	7
Corporate Communications & Gov't Affairs	8	8	8	8	8
Other <sup>(2)</sup>	(2)	(1)	(4)	(6)	(6)
<b>SPP Total</b>	<b>625</b>	<b>637</b>	<b>656</b>	<b>656</b>	<b>656</b>

1) The Process Integrity division includes compliance, project management, training, customer relations, internal audit and interregional relations departments.

2) "Other" represents total of 6 remaining unidentified reductions for attrition (1 in 2019, 3 in 2020 and 2 in 2021).

Note: In some instances, the net increases/decreases by division discussed in the previous section are partially offset by additional interdepartmental transfers.

## Staffing Components

**The base salary budget assumes a merit increase of 3%, a promotion increase of 0.75% and a vacancy factor of 3.5%.**

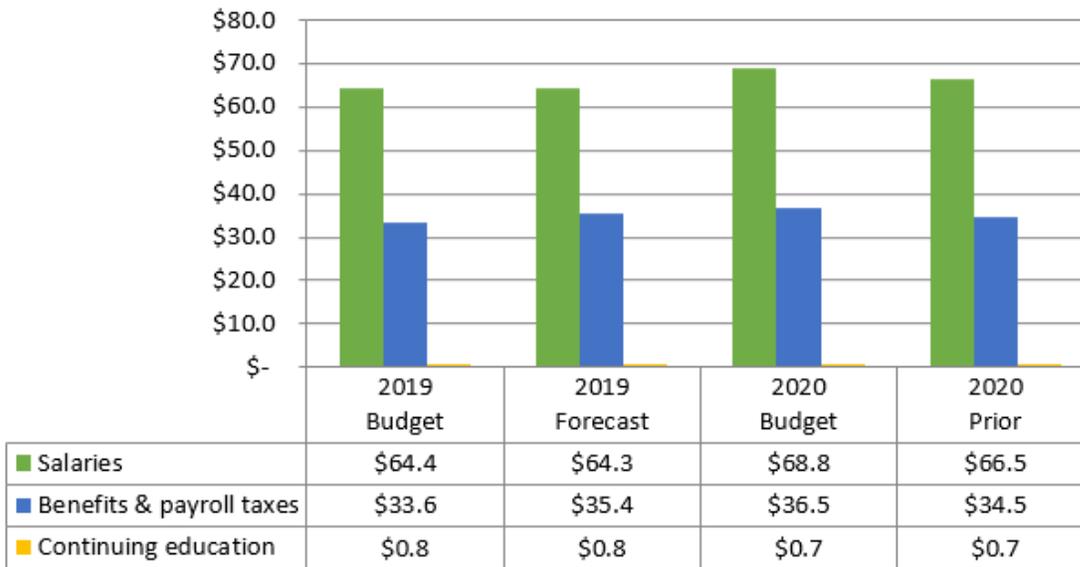
The staffing budget for 2020 includes funding for salaries (including base salary and overtime pay), benefits and payroll taxes and continuing education.

Salary Expenses (\$ millions)	2019 Budget <sup>(1)</sup>	2019 Forecast	2020 Budget <sup>(2)</sup>	2020 Prior <sup>(2)</sup>
Base salaries at beginning of year	\$62.5	\$62.5	\$65.6	\$64.8
Merit increase	1.8	1.8	2.0	1.6
Premium pay	1.0	1.2	1.2	1.0
Incremental staff	0.1	0.5	1.9	0.2
Promotions	0.5	0.6	0.5	0.5
Vacancy	(1.6)	(2.2)	(2.4)	(1.6)
<b>Total Salary Expenses</b>	<b>\$64.4</b>	<b>\$64.3</b>	<b>\$68.8</b>	<b>\$66.5</b>

(1) 2019 budget vacancy 2.5% & merit 3.0%

(2) 2020 budget vacancy 3.5% & merit 3.0%; 2020 prior vacancy 2.5% & merit 3.0%

## Compensation (\$millions)



### Vacancy and Merit Assumptions

The average vacancy rate is expected to be approximately 3.7% for 2019. A vacancy rate of 3.5% was applied to the 2020 budget as SPP anticipates staff turnover in 2020 to be relatively consistent with its experience in 2019. This equates to headcount vacancy averaging 23 positions during the calendar year.

	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>2020 Prior</u>
Vacancy rate	2.5%	3.7%	3.5%	2.5%

The human resources committee recommended an overall merit increase of \$2.0 million (3%) and a promotion pool of \$0.5 million (0.75%) for 2020 based on their review of several regional and industry factors, including SPP members.

<b>Merit and Promotion Budget</b>					
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Merit Increase	\$1.4	\$1.7	\$1.8	\$1.8	\$2.0
Promotion Pool	\$0.4	\$0.5	\$0.5	\$0.5	\$0.5
Merit %	2.5%	3.0%	3.0%	3.0%	3.0%
Promotion %	0.75%	0.75%	0.75%	0.75%	0.75%

## Benefits and Taxes

The budget for benefits and payroll taxes includes pension cost; performance compensation; payroll taxes; medical, dental and life insurance benefits; employee events; and relocation expenses. Below is a breakdown of employee benefits and taxes:

<b>Benefits &amp; Taxes (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>2020 Prior</b>
Retirement Plans (401K, pension, deferred comp)	\$11.3	\$12.5	\$12.1	\$11.6
Performance Compensation	10.6	11.1	12.0	10.9
Payroll Taxes	5.3	5.2	5.8	5.4
Medical Benefits	5.1	5.2	5.2	5.2
Other Employee Benefits	0.5	0.5	0.5	0.5
Dental Benefits	0.4	0.4	0.4	0.5
Life Insurance Benefits	0.4	0.4	0.5	0.4
<b>Total Benefits &amp; Taxes</b>	<b>\$33.6</b>	<b>\$35.4</b>	<b>\$36.5</b>	<b>\$34.5</b>
Continuing Education	0.8	0.8	0.7	0.7
<b>Total Benefits, Taxes &amp; Con't Education</b>	<b>\$34.3</b>	<b>\$36.2</b>	<b>\$37.2</b>	<b>\$35.1</b>

The 2019 forecast and 2020 budget amounts for pension and retiree healthcare expense are based on the most recent actuarially calculated pension costs. SPP will make cash contributions of \$5.4 million to the pension plan during 2019. Contributions to the plan are expected to be \$5.5 million in 2020. Pension expense is included in compensation but has no cash impact to the current year NRR. The difference between the pension expense and the expected cash contributions is included as a non-cash adjustment in the NRR calculation.

	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>2020 Prior</u>
<b><u>Pension</u></b>				
Pension expense	\$7.0	\$7.6	\$7.7	\$7.0
Cash contribution	(5.0)	(5.4)	(5.5)	(5.0)
Non-cash adjustment	\$2.0	\$2.2	\$2.2	\$2.0
<b><u>Retiree healthcare</u></b>				
Retiree healthcare expense	\$1.0	\$1.1	\$1.1	\$1.0
Cash contribution	0.0	0.0	0.0	0.0
Non-cash adjustment	\$1.0	\$1.1	\$1.1	\$1.0
<b>Total non-cash adjustment</b>	<b>\$3.0</b>	<b>\$3.2</b>	<b>\$3.3</b>	<b>\$3.0</b>

Performance compensation is budgeted at the target level of 17.2% of base salary and is paid in March of the following year. Funding for the 401(k) matching contribution is estimated at 4.7% of the salary expense (including performance compensation) based on recent company trends. The performance compensation program is a key component to achieving the 50<sup>th</sup> percentile total compensation benchmark set by the human resources committee.

## Medical Benefits Costs

**The net cost of the self-funded medical plan in the 2020 budget is \$5.2 million, which is in line with the 2019 forecast and represents a 2.0% increase from the 2019 budget.**

SPP's medical and pharmacy costs have increased an average of 4% per year since 2016. According to United Healthcare, the market average for cost increases for that time frame was 10%. Total gross claims for 2020 are estimated to be \$5.5 million in 2019, which is a \$0.1 million increase from the 2019 forecast.

Nearly 93% of employees participate in the medical plan, which is comparable with previous years. The total estimated number of employee participants in 2020 is 605, compared to 562 in 2019 (total insured participants is estimated to be 1,725 as compared to 1,597 in 2019). SPP retirees are excluded from SPP's self-funded plan, but eligible retirees are provided fixed monthly payments through a tax-free health reimbursement account to pay for individual Medicare supplement health-insurance plans or other eligible healthcare expenses.

A healthcare savings account (HSA) is included as an option in the medical plan and serves to reduce SPP's exposure to claims expense. Under the HSA option, SPP contributes a fixed dollar amount to participants' accounts on a semi-annual basis. Participants are responsible for paying for their medical expenses utilizing the accumulated savings. Deductibles under this plan are

much higher, which reduces SPP’s exposure. More than 100 employees participated in this option in 2019.

Fees are paid to the insurance provider to cover administrative costs and insure against excessive losses at both the participant and corporate level. These fees are estimated to be \$1.2 million in 2020, which is consistent with the 2019 forecast.

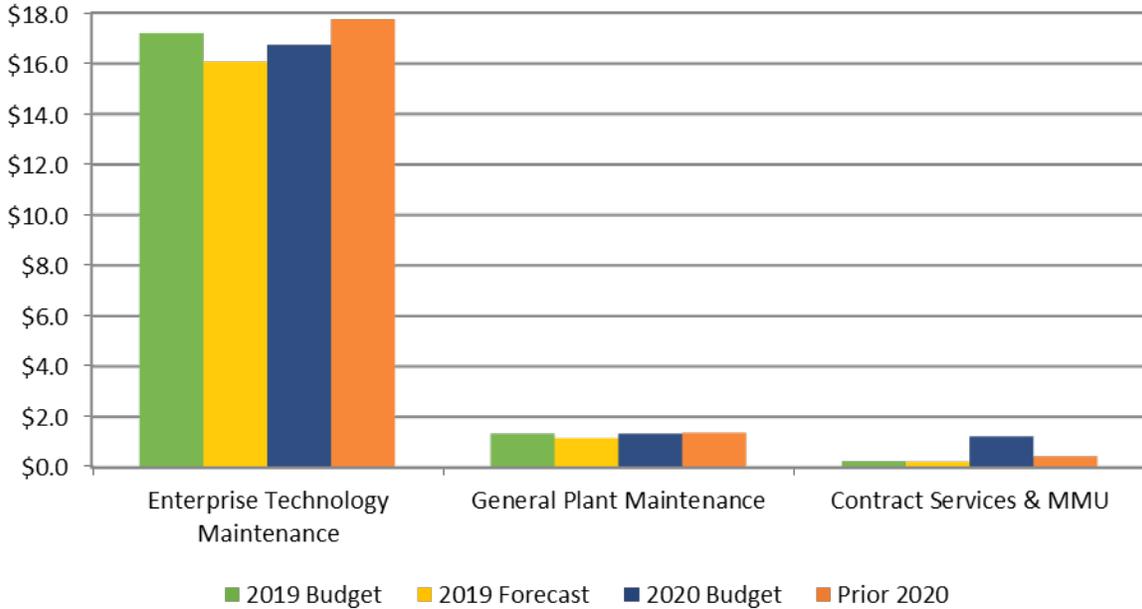
Employee contributions to the medical plan offset the overall cost and are estimated to be \$1.5 million in 2020, which is a \$0.1 million increase from 2019. The net annual cost of the medical plan to SPP per participant is expected to be approximately \$8,700 in 2020. SPP’s human resource committee continues to target an 80/20 cost share between employer and employee for the medical benefit costs.

<b>Healthcare Costs (\$ millions)</b>				
	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>2020 Prior</u>
Gross claims	\$5.4	\$5.4	\$5.5	\$5.4
Admin fees	\$1.1	\$1.2	\$1.2	\$1.2
Employee contributions	(1.4)	(1.4)	(1.5)	(1.4)
Net expenses	\$5.1	\$5.2	\$5.2	\$5.2
Number of employee participants	552	562	605	562

## **MAINTENANCE**

*Maintenance expense is primarily related to contractual agreements covering technology hardware and software assets and expenses for general upkeep of physical facilities. The increase in the 2020 budget is primarily related to a 3% year-over-year inflationary increase on existing technology contracts and an increase in server replacements (driving the associated maintenance costs) due to the timing of end-of-life cycles.*

## Maintenance by Type (\$ millions)



### Maintenance by Type (\$ millions)

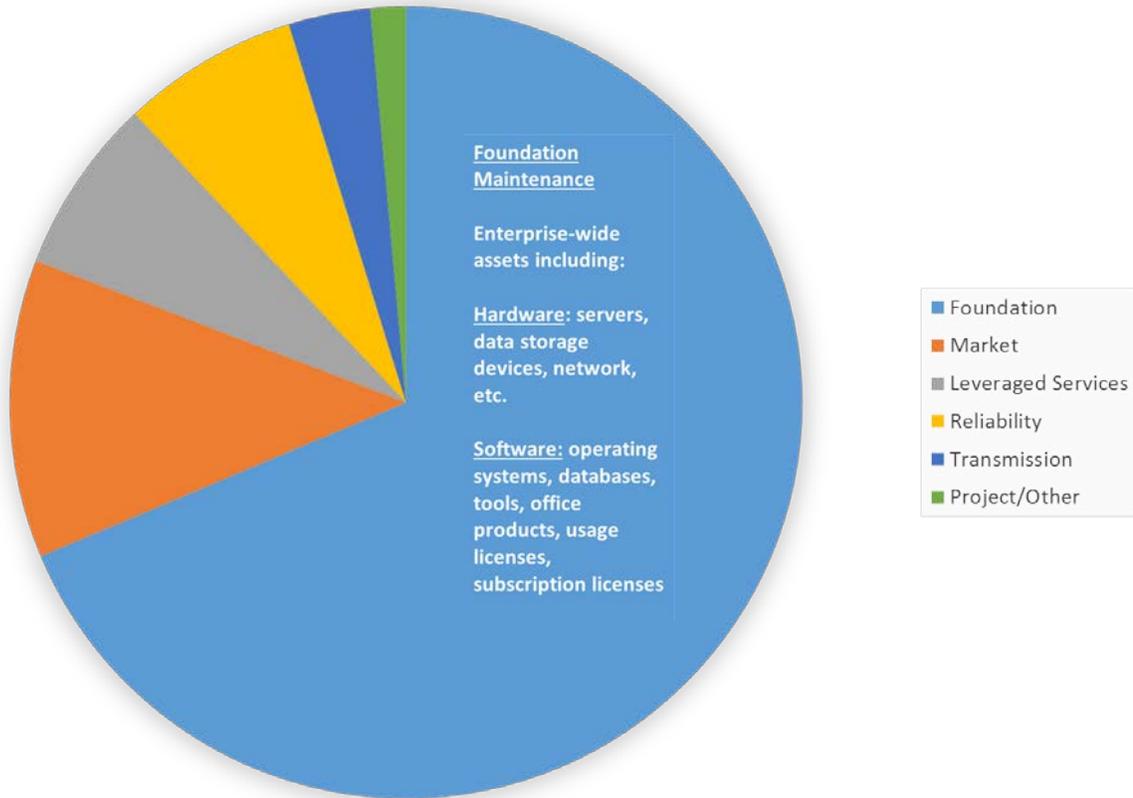
Maintenance Expense (\$ millions)	2019 Budget	2019 Forecast	2020 Budget	Prior 2020
Enterprise Technology Maintenance	\$17.2	\$16.1	\$16.7	\$17.8
General Plant Maintenance	1.3	1.2	1.3	1.4
Contract Services & MMU	0.2	0.2	1.2	0.4
<b>Total</b>	<b>\$18.8</b>	<b>\$17.5</b>	<b>\$19.3</b>	<b>\$19.6</b>

## Enterprise Technology Maintenance

*Enterprise technology maintenance expense covers maintenance on hardware and software assets in the existing portfolio and maintenance on incremental purchases and new systems developed across the organization.*

Enterprise technology maintenance agreements encompass necessary coverage such as defect restorations, security patches, product updates and version upgrades of software products. SPP retains maintenance agreements on the majority of in-use installed hardware and software. The level of maintenance is selected based on factors including the criticality of the application and the environment (testing, development or production).

## 2020 Enterprise Technology Maintenance Budget



The three primary components of enterprise technology maintenance include hardware maintenance, perpetual software maintenance and software subscriptions.

Components within each maintenance category include:

- Maintenance/support agreements for hardware (servers, storage, network, etc.)
- Maintenance/support agreements for software (operating systems, databases, tools, office products, usage licenses, subscription licenses)
- Maintenance/support agreements for business applications (market, reliability, transmission, settlements, leveraged services, etc.)

The scope of this budget encompasses over 1,500 hardware products and over 30,000 software entitlements, with over 80% of the budget under multi-year contracts in support of the existing environment.

The scope of this budget encompasses over 1,500 hardware products and over 30,000 software entitlements. Approximately 82% of the maintenance budget is under a multi-year contract in support of the existing environment. The remaining 18% is attributed to variable time-and-material contracts (expensed throughout the year as services are rendered) and one-time maintenance costs that are expensed at the time of product purchase (e.g., server warranties).

The increase in the 2020 maintenance budget is primarily due to a shift in licensing structure from a perpetual license (recorded as capital expense) to a subscription (recorded as operating maintenance expense) for two significant software products. Although this creates an increase in 2020, this shift in structure will result in a more cost effective solution in the future. Additionally, year-over-year inflationary increases (3%) on existing agreements and the additional maintenance costs associated with the large volume of servers requiring refresh in 2020 contribute to the increase over the 2019 forecast.



The majority of the increase in 2020 maintenance expense is related to a change in licensing methodologies for various software and storage products, which will become more cost effective in the future.

These increases are partially offset by the year-over-year decrease created by a change in classification of expenses for those systems deemed to be software-as-a-service (SaaS) arrangements. While recorded as maintenance expense in previous years, these costs will be recorded as outside services expenses beginning in 2020 to more appropriately reflect the expense within the departments receiving direct benefit of those solutions. Additionally, the 2020 IT budget includes only a partial year of maintenance for the old settlements system given the new system to be implemented in 2020 will be supported internally by SPP staff.

***SPP staff remains focused on minimizing maintenance costs through negotiating multi-year term and price-protection agreements, leveraging product purchases and rightsizing the level of support with the criticality of the environment. SPP is investigating additional opportunities to reduce and control technology maintenance costs in consultation with a few of its larger members.***

The table below summarizes the primary drivers for the budget increase in 2020 over the 2019 forecast.

### Enterprise Technology Maintenance

2019 Forecast	\$16.1
Removals/Reclassifications	
Reclassifications to SAAS	(0.3) *
Settlements system to be maintained in-house	(0.3)
Increases	
Perpetual (capital) to subscription (maintenance)	0.6
3% increase on existing products	0.4
Increased end-of-life server replacement	<u>0.3</u>
2020 Budget	\$16.7

*\* Reflected as increase in 2020 outside services in other departments*

### General Plant Maintenance

In addition to maintenance for hardware and software, other facility expenses are included in the general plant maintenance budget such as janitorial expense, landscape services and preventive maintenance.

SPP utilizes historical data to estimate costs associated with general upkeep such as waste removal, landscape maintenance, janitorial services, etc. These costs remain fairly constant with minimal projected increases. Costs associated with facilities systems and equipment maintenance are generally defined in multi-year service agreements (e.g. elevators, chillers, generators, etc.). Additional maintenance costs are required for general repairs and upkeep of SPP facilities.

### Contract Services and MMU

Incremental maintenance expense associated with various software license and hardware purchases will be required for the WEIS implementation in 2020. Additionally, anticipated software changes to the market system for the WEIS implementation will contribute to incremental maintenance expense in 2020 and beyond. The increase in maintenance expense for RC West in 2020 is due to 2019 having only a partial year of expense, whereas the 2020 budget includes a full year of maintenance expense.

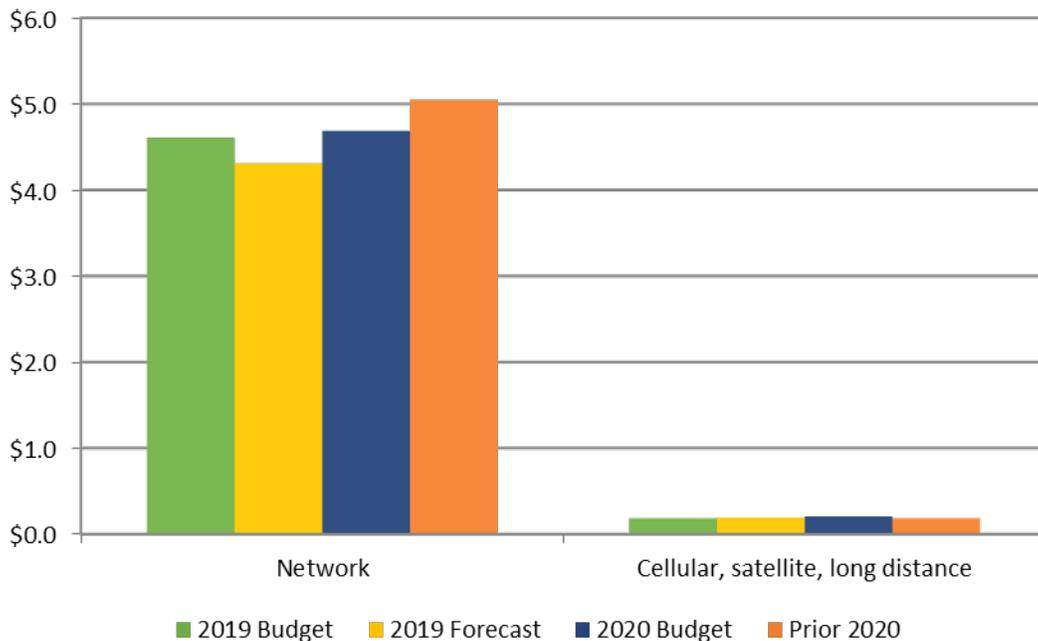
Maintenance Expense (\$ millions)	2019 Budget	2019 Forecast	2020 Budget	Prior 2020
WEIS	0.0	0.0	0.6	0.0
RC West	0.2	0.2	0.6	0.4
MMU	0.0	0.1	0.0	0.0
<b>Total</b>	<b>\$0.2</b>	<b>\$0.2</b>	<b>\$1.2</b>	<b>\$0.4</b>

## COMMUNICATIONS INFRASTRUCTURE

Communications infrastructure includes all expenditures related to SPP’s internal and external networks and telecommunications. Network communications include frame relay and circuit costs, including components for bandwidth between data centers, and circuits to members, market participants, and other service organizations. The majority of expenses in this budget are ongoing and under long-term contracts, making the overall spend consistent each year.

A 6% increase in the Federal Universal Service Fund (FUSF) tax on circuits went into effect August 2019. The 2020 full-year impact of this tax increase and the 2020 full-year impact of circuit expense related to RC West both contribute to the year-over-year increase. The communications budget has historically included growth for new circuits to support new members and market participants. No increase was included in 2020 due to the unpredictability in determining the number of new circuits required.

### Communications Infrastructure (\$ millions)



## Communications Infrastructure

Communications (\$ millions)	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>Prior 2020</u>
Network	\$4.6	\$4.3	\$4.7	\$5.0
Cellular, satellite, long distance	0.2	0.2	0.2	0.2
<b>Total</b>	<b>\$4.8</b>	<b>\$4.5</b>	<b>\$4.9</b>	<b>\$5.2</b>

## OUTSIDE SERVICES AND CONSULTING

*SPP engages outside resources for professional services, staff augmentation and run-time services for areas outside SPP's normal business capabilities and SaaS subscriptions.*

Outside services consist of third-party expertise to assist SPP in deploying a variety of services. These type of actives include professional services (engaged to provide services such as outside legal counsel, board of directors, audits), staff augmentation (utilized where staffing restraints require additional resources), run-time services (utilized to perform certain functions outside of SPP's normal business capabilities such as OATI services, Interchange Distribution Calculator (IDC), and weather forecasting services) and SaaS subscriptions.

The table below summarizes various outside services by function:

## Outside Services by Function

	<u>2019 Forecast</u>	<u>2020 Budget</u>
<b><u>Professional Services</u></b>		
Outside legal counsel, FERC and regional	\$2.4	\$2.6
Board of directors fees and expenses	1.6	1.5
Cybersecurity 3rd party assessments (vulnerability, cyber risk, security patch)	1.0	1.0
FERC Order 1000 (IEP offset by revenues)	0.0	1.2
Campus security contract	0.8	0.8
Regional State Committee	0.3	0.5
Audits (SOC 1, financial audit, benefit plan audits)	0.5	0.5
Human resources / corporate services (training, EAP, new hire screening, etc)	0.2	0.3
HR benefits and compensation surveys	0.4	0.2
BOD / CEO search firm	0.1	0.2
Outside legal counsel, MMU	0.2	0.2
<b>Total Professional Services</b>	<b>\$7.6</b>	<b>\$9.0</b>
<b><u>Staff Augmentation</u></b>		
Engineering GI studies (offset by revenues)	\$1.6	\$1.6
Engineering Planning, Modeling & Congestion Hedging	0.8	0.7
Engineering Support & Resource Coordination	0.2	0.3
Compliance, CIP & GRC support	0.1	0.3
Training, customer service, project management	0.2	0.2
Market design (2020-HITT / 2019 market resiliency study)	0.0	0.2
IT, storage and backup, project implementation	0.4	0.2
Interregional Relations (EIPC)	0.1	0.2
Engineering R&D	0.1	0.2
Operations change orders, HITT recommendations, EPC/PMU training	0.3	0.2
Credit and rating services	0.1	0.1
Insurance brokerage fees	0.1	0.1
<b>Total Staff Augmentation</b>	<b>\$4.1</b>	<b>\$4.4</b>
<b><u>Run-Time Services</u></b>		
Operations, OATI service fees (reflected in IT department)	\$1.5	\$1.5
IT ongoing services (CRISP, CIS, DDOS, security assessments, etc)	0.8	1.2
Operations weather forecasting analysis and services	0.5	0.7
Operations reliability, Interchange Distribution Calculator (IDC) tool	0.5	0.5
Cybersecurity 3rd party subscriptions (incident response, CRISP, CIS, etc)	0.3	0.4
<b>Total Run-Time Services</b>	<b>\$3.6</b>	<b>\$4.3</b>

### Outside Services by Function

	<u>2019 Forecast</u>	<u>2020 Budget</u>
<b><u>Software-as-a-Service</u></b>		
Human resources (new system)	\$0.0	\$0.3
Human resources / corporate training	0.0	0.2
Project management	0.0	0.1
Regulatory	0.0	0.0
<b>Total Software-as-a-Service</b>	<b>\$0.0</b>	<b>\$0.6</b>
<b><u>WEIS Implementation (offset by contract services revenue)</u></b>		
Testing and training	\$0.0	\$0.7
Legal services	0.0	0.3
Onboarding	0.0	0.2
Weather forecasting	0.0	0.2
<b>Total WEIS Implementation</b>	<b>\$0.0</b>	<b>\$1.4</b>
<b>Total Outside Services</b>	<b>\$15.3</b>	<b>\$19.7</b>

*The increase in outside services from the 2019 forecast is primarily the result of the WEIS implementation and IEP costs related to FERC Order 1000 that are covered under separate contracts/arrangements and do not adversely impact the 2020 NRR.*

The majority of the outside services budget is related to IT initiatives, legal counsel, engineering studies and board compensation. IT utilizes outside services for a variety of functions including hosted services, data storage, consulting for key projects and initiatives, etc.

Outside counsel for legal expertise on specific FERC matters allows SPP to leverage the counsel’s relationships with FERC staff, while also utilizing their knowledge of RTO-specific matters. The majority of consulting in engineering is for work on generation interconnection studies, which is passed to study participants and offset by income.



The 2020 budget includes \$2.6 million for WEIS implementation and FERC Order 1000 consulting, which are covered under separate agreements with no impact to the 2020 NRR.

## Outside Services and Consulting by Division (\$ millions)

	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>Prior 2020</u>
Information Technology	\$4.3	\$4.0	\$4.4	\$5.4
Regulatory, Legal & RSC	2.1	2.7	4.4	2.1
Engineering	1.8	2.7	2.8	2.1
Officer & Administrative	1.8	1.8	1.8	1.7
Finance & Corporate Services	1.6	1.7	2.2	1.5
Operations	1.3	1.3	1.3	0.0
Process Integrity	0.9	0.6	0.9	0.5
Contract Services	0.0	0.0	1.4	0.0
Market Monitoring	0.2	0.2	0.2	0.2
Corporate Comm. & Gov't Affairs	0.1	0.1	0.1	0.1
Interregional Relations & Mkt Design	0.2	0.1	0.3	0.2
<b>Total</b>	<b>\$14.3</b>	<b>\$15.3</b>	<b>\$19.7</b>	<b>\$13.7</b>

### Information Technology (IT)

*The largest component of the 2020 outside services resides in the IT department, with the majority of the IT budget consisting of ongoing services that continue year to year.*

	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>Prior 2020</u>
Information Technology	\$4.3	\$4.0	\$4.4	\$4.0

The primary IT initiatives are centered on CIP security, automation and infrastructure consolidation activities. IT management continually analyzes options and seeks opportunities to leverage existing staff, but in many cases, the utilization of external entities is more cost-efficient based on the required skill sets or longevity of the project.

As illustrated in the table below, approximately 70% of the budget is related to ongoing services that continue from year to year (hosted services, security subscriptions, off-site data center, etc.). The remainder of the budget is comprised of short-term project engagements and staff augmentation assistance that vary in scope from year to year.



The primary IT initiatives are centered on security, CIP, automation and infrastructure consolidation activities.

### IT Outside Services by Function

	<u>2019 Forecast</u>	<u>2020 Budget</u>
Ongoing Services (transmission/reliability solutions, cybersecurity, DDoS, etc.)	\$2.8	\$2.8
Short-term project engagements and implementations	0.9	0.9
Keeping the lights on (KTLO) staff augmentation	0.4	0.3
New on-going services beginning in 2020		0.4
<b>Total IT Outside Services</b>	<b>\$4.0</b>	<b>\$4.4</b>

A detailed breakout of ongoing services is provided in the table below.

<u>Ongoing Services</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>
Hosted services for transmission and reliability solutions	\$1.5	\$1.5
Security assessments	0.5	0.6
Distributed denial of service (DDoS)	0.2	0.2
Cyber risk information sharing programs (CRISP)	0.1	0.2
Datacenter backup and recovery location	0.1	0.1
Other (email monitoring, internet security, cabling/wiring)	0.4	0.2
<b>Total Ongoing Services</b>	<b>\$2.8</b>	<b>\$2.8</b>

New ongoing initiatives primarily related to cybersecurity, short-term projects and annual price increases for ongoing services are responsible for the increase in outside services from the 2019 forecast to the 2020 budget. A partial offset results from the reduction in staff augmentation for routine keeping-the-lights-on activities.

### Regulatory, Legal and Regional State Committee (RSC)

SPP employs outside legal counsel for various litigation matters throughout the year. These services provide unique legal expertise on specific FERC matters and allows SPP to leverage the counsel's relationships with FERC staff, while utilizing their knowledge of RTO-specific matters.

SPP experienced a high volume of FERC litigation in 2019 associated with zonal placement and attachment Z2 of the SPP tariff. These same matters are expected to continue throughout the year in 2020.



The largest component of engineering outside services expense is related to generation interconnection studies, which is offset by income from study participants.

<u>Outside Services and Consulting (\$ millions)</u>	<u>2019 Budget</u>	<u>2019 Forecast</u>	<u>2020 Budget</u>	<u>Prior 2020</u>
Legal	\$1.7	\$2.4	\$2.6	\$1.7

The 2020 budget includes costs for an industry expert panel (IEP) to oversee the bidding process of two competitive projects in 2020 for FERC Order 1000. These costs are an increase over 2019 (where no projects were submitted for consideration) and are offset by revenue to be collected from the competitive process participants.

<b>Outside Services and Consulting (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>Prior 2020</b>
Regulatory (FERC Order 1000, IEP)	\$0.0	\$0.0	\$1.2	\$0.0
<i>IEP Revenue from participants</i>	<i>\$0.0</i>	<i>\$0.0</i>	<i>(\$1.2)</i>	<i>\$0.0</i>

The Regional State Committee (RSC) provides collective state regulatory agency input on matters of regional importance related to the development and operation of bulk electric transmission. The budget is created and submitted to SPP by the RSC each year and includes all costs associated with RSC travel, meetings and consulting. The budget assumes an executive director will be engaged in 2020, whereas the 2019 forecast only includes a consultant for the last quarter of the year.

<b>Outside Services and Consulting (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>Prior 2020</b>
Regional State Committee	\$0.4	\$0.3	\$0.5	\$0.4

## Engineering

The engineering organization engages consultants primarily for planning and tariff services processes associated with SPP tariff or NERC required engineering studies, support of reliability and economic planning processes during peak periods associated with the ITP process and administering the detailed project proposal (DPP) process and transmission project cost estimation related to FERC Order 1000. Engineering engages consultants to assess new approaches and tools to refine performance objectives that align with future planning needs.

<b>Outside Services and Consulting (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>Prior 2020</b>
Pass-thru studies consulting	\$1.2	\$1.5	\$1.6	\$1.2
Transmission planning	0.4	1.0	0.7	0.3
Engineering support (Order 1000/DPP)	0.2	0.2	0.3	0.2
Research and development	0.1	0.1	0.2	0.3
Engineering Outside Services and Consulting	\$1.8	\$2.7	\$2.8	\$2.1

Growth of renewable generation in the SPP footprint continues to drive increases in generator interconnection (GI) study requests. Engineering engages contractors to complete studies when requests exceed SPP staff's capacity and to perform specific stability analysis where staff lacks the required skills. SPP will pass contractor costs associated with studies to the study participants as part of overall study charges.

Additional headcount is included beginning in 2019 and in the 2020 budget as engineering prepares to reduce reliance on outside consultants by having the majority of GI study activities performed by SPP staff. Although consultants are still required during the transition, the 2021 and 2022 budgets reflect a reduction in outside services for GI studies as the new staff becomes more proficient.

Of the \$5.1 million studies revenue, \$1.6 million is for pass-through contractor costs and \$5.1 million is for SPP engineering staff time.

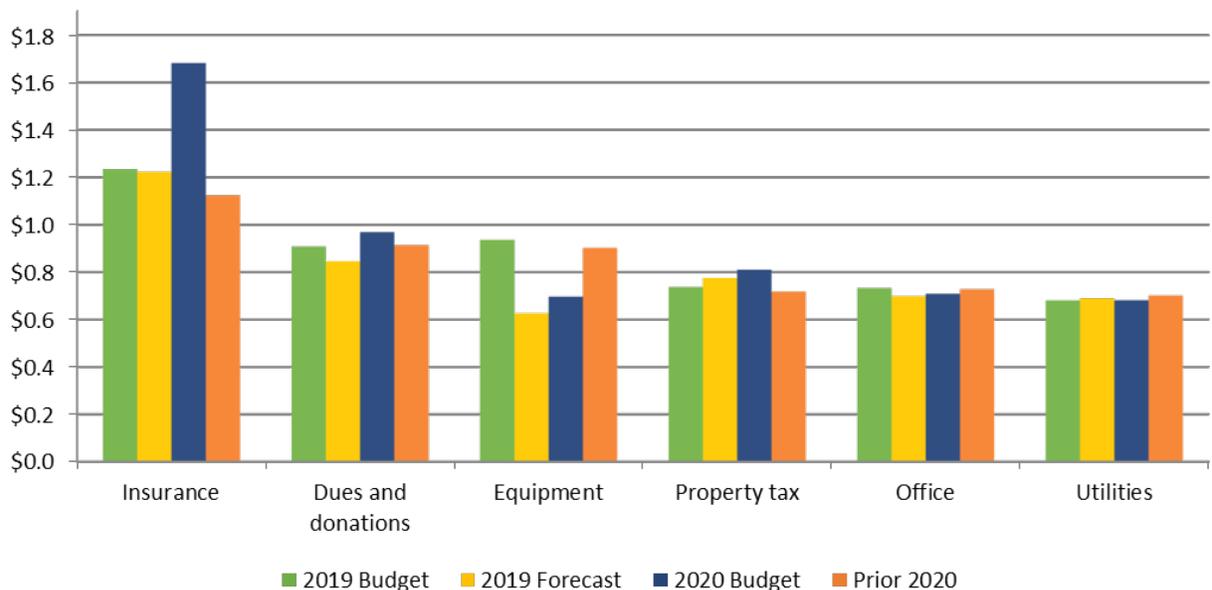
<b>Net Studies Income/(Expense) (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>Prior 2020</b>
Engineering staff time income	\$2.9	\$3.2	\$5.1	\$2.9
Pass-thru consulting income	1.2	1.6	1.6	1.2
Pass-thru consulting expense	(1.2)	(1.5)	(1.6)	(1.2)
<b>Net Studies Income/(Expense)</b>	<b>\$2.9</b>	<b>\$3.2</b>	<b>\$5.1</b>	<b>\$2.9</b>

## ADMINISTRATIVE EXPENSES

*Overall administrative expenses are expected to remain relatively consistent with the 2019 forecast, except for the anticipated increase in pension insurance premiums.*

Administrative expenses include items such as insurance costs, small equipment purchases, property taxes, professional dues, charitable donations and utility and office expenses.

### Administrative (\$ millions)



The largest component of administrative expense is insurance costs and the largest increase over 2019 is related to pension insurance.

<b>Administrative</b>				
<b>Administrative (\$ millions)</b>	<b><u>2019 Budget</u></b>	<b><u>2019 Forecast</u></b>	<b><u>2020 Budget</u></b>	<b><u>Prior 2020</u></b>
Insurance	\$1.2	\$1.2	\$1.7	\$1.1
Dues and donations	0.9	0.8	1.0	0.9
Equipment	0.9	0.6	0.7	0.9
Property tax	0.7	0.8	0.8	0.7
Office	0.7	0.7	0.7	0.7
Utilities	0.7	0.7	0.7	0.7
<b>Total Administrative</b>	<b>\$5.2</b>	<b>\$4.9</b>	<b>\$5.5</b>	<b>\$5.1</b>
Other *	9.0	6.5	8.8	8.9
<b>Total Administrative &amp; Other</b>	<b>\$14.2</b>	<b>\$11.3</b>	<b>\$14.3</b>	<b>\$14.0</b>

\* Other expense includes interest expense (2019 Forecast also excludes non-cash items).

## Insurance Expense

SPP's corporate insurance policies allow for the transfer of certain financial and operational risks from the corporation to third-party insurers. SPP uses the majority of its premiums to purchase policies that provide additional indemnification related to professional and director and officer (D&O) liabilities.

<b>Insurance Expense (\$ millions)</b>	<b><u>2019 Budget</u></b>	<b><u>2019 Forecast</u></b>	<b><u>2020 Budget</u></b>	<b><u>Prior 2020</u></b>
Commercial excess liability	\$0.8	\$0.8	\$0.8	\$0.8
Pension insurance	0.2	0.2	0.7	0.1
General liability	0.1	0.1	0.1	0.1
Directors & Officers (D&O) liability	0.1	0.1	0.1	0.1
Workers compensation	0.1	0.1	0.1	0.1
<b>Total</b>	<b>\$1.2</b>	<b>\$1.2</b>	<b>\$1.7</b>	<b>\$1.1</b>

Commercial liability policies provide additional indemnification from claims arising from SPP's administration of its OATT and other contractual arrangements. Included within this classification is a policy specific to cyber-related liabilities and events.

Annual premiums paid to the Pension Benefit Guaranty Corporation (PBGC) are expected to increase significantly in 2020 because of an increase in their assessment rate in addition to a decrease in the discount rates used to measure the unfunded vested benefits, which impacts over 90% of the premium. SPP, as a plan sponsor, is required to fund premiums to the PBGC.

D&O liability policies provide additional indemnification to SPP’s independent directors, management and employees from claims arising from certain actions taken in oversight of the corporation. Both commercial and D&O policies include the insurer’s obligation to pay for legal costs for claims made, which could be extensive depending on actual claims made.

**Dues and Donations**

Dues are budgeted for professional and technical licenses and memberships in professional organizations that are related to employment by SPP, required to maintain professional standing for employees or otherwise beneficial to SPP.

<b>Dues &amp; Donations (\$ millions)</b>	<b>2019 Budget</b>	<b>2019 Forecast</b>	<b>2020 Budget</b>	<b>Prior 2020</b>
EPRI membership	\$0.4	\$0.4	\$0.4	\$0.4
Engineering R&D university partnerships	0.2	0.2	0.2	0.2
Corporate donations/contributions	0.2	0.2	0.2	0.2
Staff license/memberships	0.1	0.1	0.1	0.1
Advertising/public relations	0.0	0.0	0.1	0.0
<b>Total</b>	<b>\$0.9</b>	<b>\$0.8</b>	<b>\$0.9</b>	<b>\$0.9</b>

A substantial portion of the dues budget is for Electric Power Research Institute (EPRI) membership (\$0.4 million) which allows access to research related to the electric power industry. EPRI funding primarily supports projects in three general programs: P39 Grid Operations, P40 Grid Planning and P173 Renewables Integration. SPP’s long-standing relationship and engagement with EPRI enables participation in programs related to grid operations, planning and renewable integration and high voltage direct current (HVDC) ties applications. This agreement includes support for new markets initiatives, new tools to enable additional and more efficient NERC transmission planning compliance activities and operational needs such as tools for system restoration. Engagement by SPP staff at EPRI provides value in terms of development of new tools and analytics such as case studies using SPP data to address ramping needs for wind integration studies.

The remaining costs consist of engineering research and development partnerships with specific universities, SPP corporate donations and contributions, professional and technical license and memberships for staff and advertising/public relations associated costs.

The engineering organization’s involvement with university research and development programs keeps SPP engineers up-to-date with processes and ideas coming out of respected engineering institutions. The major university projects include Power Systems Engineering Research Center (PSERC), Grid Advanced Power Electronics Systems (GRAPES) and the Cybersecurity Center for Secured Evolving Energy Delivery Systems (SEEDS). These relationships

foster collaboration between SPP and regional university programs, which in turn attracts talented job candidates.

SPP establishes a budget for community relations and charitable donations as a means to give back and invest in the community and region. SPP believes in serving the community to make it a better place for employees and all citizens to live and work. The company and its employees take great pride in working with many worthwhile nonprofit organizations to build stronger families and a vibrant community to continue attracting career employees who share SPP's culture.

## **Other Administrative Expenses**

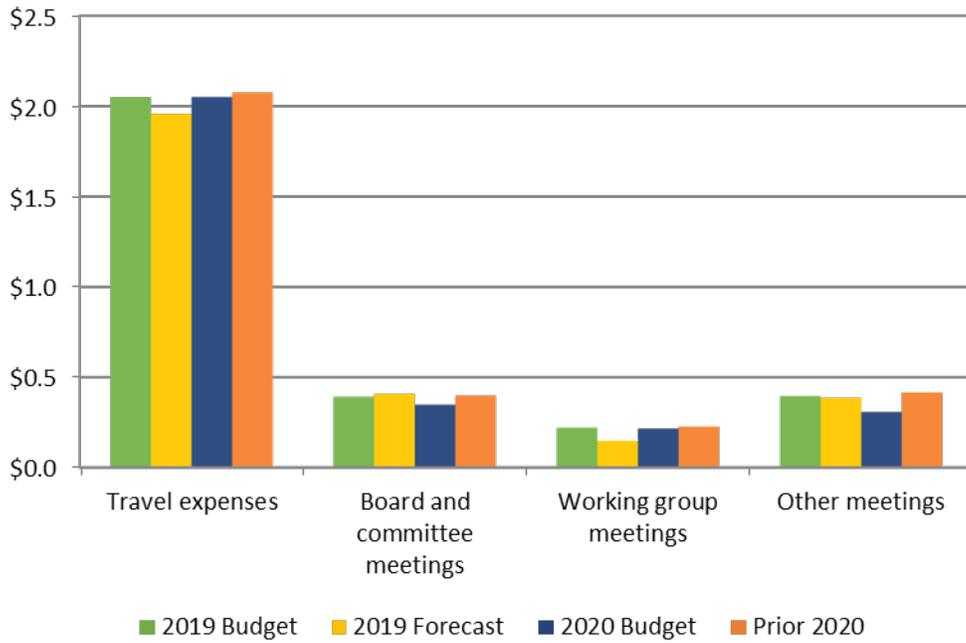
Small equipment purchases, property taxes, utilities and general office expenses make up the remainder of the administrative expenses and remain reasonably consistent year-over-year. Small equipment purchases are items less than \$5,000 in value (expensed rather than capitalized) and include purchases such as personal computers and related equipment, member routers and local area network access points and furniture and fixtures.

## **TRAVEL AND MEETINGS**

*Travel and meetings expenses in 2020 remain relatively consistent compared to the 2019 forecast and budget, reflecting only slight inflationary increases.*

SPP continues to encourage the use of corporate or member facilities when planning external meetings to maintain lower travel and meeting expenses. SPP also encourages organizational groups to include Little Rock in the rotation for working group meetings.

## Travel & Meetings (\$ millions)



<b>Travel &amp; Meetings</b>				
<b>Travel &amp; Meetings (\$ millions)</b>	<b><u>2019 Budget</u></b>	<b><u>2019 Forecast</u></b>	<b><u>2020 Budget</u></b>	<b><u>Prior 2020</u></b>
Travel expenses	\$2.0	\$2.0	\$2.1	\$2.1
Board and committee meetings	0.4	0.4	0.3	0.4
Working group meetings	0.2	0.1	0.2	0.2
Other meetings	0.4	0.4	0.3	0.4
<b>Total</b>	<b>\$3.1</b>	<b>\$2.9</b>	<b>\$2.9</b>	<b>\$3.1</b>

## VII. OPERATING EXPENSE BY DIVISION

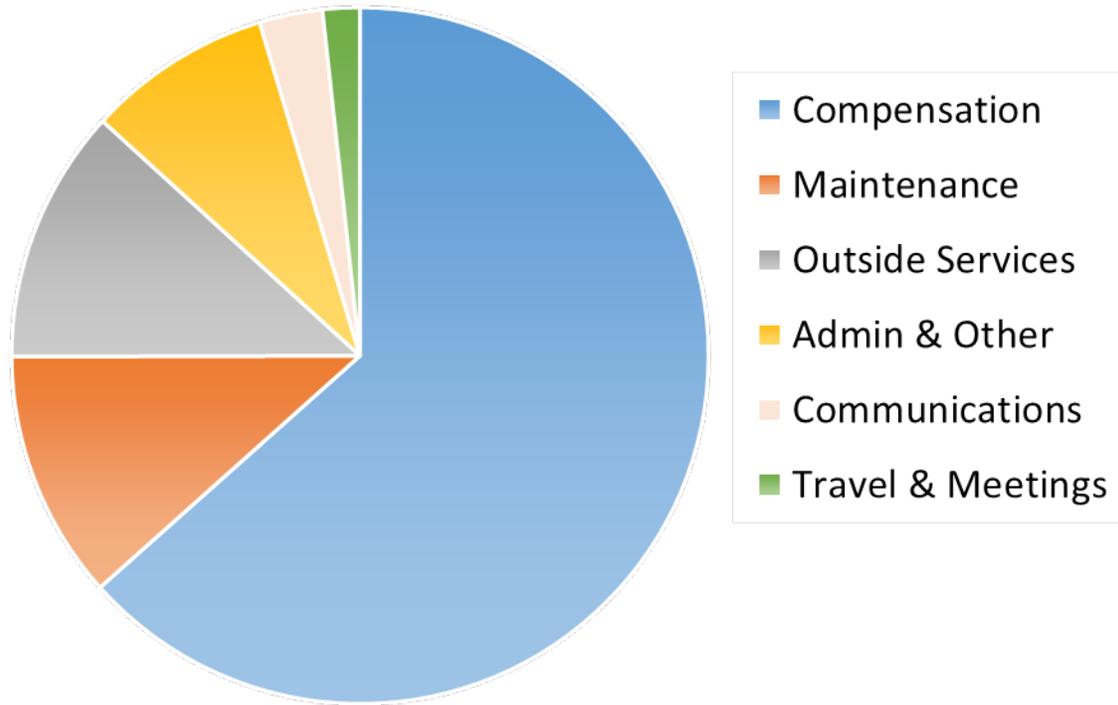
The table below illustrates total operating expense for each division. With the exception of the administrative and IT divisions, the operating expense within each division is mostly comprised of compensation expense.

Operating Expense by Division (\$ millions)							
	2019 Forecast		2020 Budget		Variance Fav/(Unfav)		
	Expense	Staff	Expense	Staff	Expense	Staff	%
<b>Operating Expense (\$ millions)</b>							
Information Technology	\$47.2	169	\$49.6	169	(\$2.5)	-	5%
Officer & Administrative	29.5	11	27.7	11	1.8	-	6%
Operations	24.4	158	25.3	158	(0.9)	-	4%
Engineering	14.8	96	17.5	105	(2.7)	(9)	19%
Finance & Corporate Services	13.1	69	14.3	69	(1.1)	-	9%
Process Integrity	9.5	57	10.2	57	(0.7)	-	7%
Regulatory, Legal & RSC	7.2	27	9.0	27	(1.8)	-	25%
Contract Services	2.8	20	7.6	33	(4.8)	(13)	169%
Market Monitoring (MMU)	3.1	16	3.2	16	(0.1)	-	3%
Interregional Relations & Market Design	1.2	7	1.4	7	(0.3)	-	22%
Corp Communications & Gov't Affairs	1.1	8	1.2	8	(0.1)	-	13%
Unidentified staff reduction		(1)		(4)		3	
<b>Total Operating Expense *</b>	<b>\$153.9</b>	<b>637</b>	<b>\$167.1</b>	<b>656</b>	<b>(\$13.2)</b>	<b>(19)</b>	<b>9%</b>
* Excludes depreciation & FERC fees. Total expense for 2019 also excludes \$2.0 non-cash items such as swap valuation adjustments and realized/unrealized gains on investments.							

The largest component of operating expenses resides in IT, which not only contains the largest number of staff but also includes company-wide expenses for maintenance and communications infrastructure (which combined represent the second largest expense following compensation).

The officer and administrative division expenses make up the second largest component of operating expenses. The primary driver of expense within this division is associated with company-wide items such as interest expense, insurance, property taxes and board of director fees.

## 2020 Budget Operating Expense



### Overall Variances in Compensation

This increase in compensation (salary and benefits) is primarily attributable to an annual merit increase of 3% in the 2020 budget plus additional staff.

## Compensation by Division (\$ millions)

	<u>2019 Forecast</u>		<u>2020 Budget</u>		<u>Variance Fav/(Unfav)</u>		
	Expense	Staff	Expense	Staff	Expense	Staff	%
<b>Compensation (\$ millions)</b>							
Information Technology	\$22.4	169	\$23.6	169	(\$1.2)	-	-5%
Officer & Administrative	16.5	11	14.1	11	2.3	-	14%
Operations	22.8	158	23.6	158	(0.8)	-	-4%
Engineering	11.2	96	13.8	105	(2.6)	(9)	-23%
Finance & Corporate Services	8.7	69	9.1	69	(0.4)	-	-5%
Process Integrity	8.5	57	8.9	57	(0.4)	-	-5%
Regulatory, Legal & RSC	4.1	27	4.3	27	(0.2)	-	-5%
Contract Services	2.0	20	3.9	33	(1.9)	(13)	-96%
Market Monitoring (MMU)	2.6	16	2.7	16	(0.1)	-	-4%
Interregional Relations & Market Design	1.0	7	1.1	7	(0.0)	-	-4%
Corp Communications & Gov't Affairs	0.9	8	0.9	8	(0.0)	-	-3%
Unidentified staff reduction		(1)		(4)			
<b>Total Compensation</b>	<b>\$100.6</b>	<b>637</b>	<b>\$106.0</b>	<b>656</b>	<b>(\$5.4)</b>	<b>(22)</b>	<b>-5%</b>

After the vacancy rate is determined for the budget, an adjustment is included as an expense reduction in the administrative department. Although vacancies are not budgeted at the department level, vacancies are represented at the department level in the 2019 forecast. Since the budgeted vacancy is reflected in the administrative department, a decrease is noted in the 2020 budget in the officer and administrative division as compared to the 2019 forecast.

## Other Notable Variances (Other Than Compensation)

<b>2019 Forecast vs 2020 Budget</b>			
	<u>Compensation</u>	<u>Other</u>	<u>Fav/(Unfav)</u>
	Variance	Variance	Variance
<b><u>Variances by Division (\$ millions)</u></b>			
Contract Services	(\$1.9)	(\$2.9)	(\$4.8)
Regulatory, Legal & RSC	(0.2)	(1.6)	(1.8)
Information Technology	(1.2)	(1.3)	(2.5)
Finance & Corporate Services	(0.4)	(0.7)	(1.1)
Process Integrity	(0.4)	(0.3)	(0.7)
Interregional Relations & Market Design	(0.0)	(0.2)	(0.3)
Engineering	(2.6)	(0.1)	(2.7)
Corp Communications & Gov't Affairs	(0.0)	(0.1)	(0.1)
Operations	(0.8)	(0.1)	(0.9)
Market Monitoring (MMU)	(0.1)	0.0	(0.1)
Officer & Administrative	2.3	(0.5)	1.8
<b>Total</b>	<b>(\$5.4)</b>	<b>(\$7.8)</b>	<b>(\$13.2)</b>

Explanations for material non-compensation variances are summarized below by division.

Contract services (\$2.9 million): The variance is driven by \$2.3 million for implementation services for WEIS (primarily consulting, equipment and maintenance) and \$0.6 million for RC West maintenance and communications (2019 includes partial year whereas 2020 includes a full year of expense).

Regulatory, legal and RSC (\$1.6 million): The variance is driven by: 1) \$1.2 million for FERC Order 1000 industry expert panel (offset by revenue from participants), 2) \$0.4 million for RSC consulting and outside legal counsel related to FERC matters.

Information technology (\$1.3 million): The variance is driven by: 1) increased *maintenance* costs for year-over-year inflationary increases (3 percent) and increases for maintenance associated with additional server refresh, 2) *communications* expense as a result of a 6% tax increase effective in August 2019 , and 3) increased *outside services* attributable to new services beginning in 2020 for CIP 13, mobile phone security subscriptions and patch management services.

Finance and corporate services (\$0.7 million): The variance is driven by various offsetting factors. Consulting, maintenance and SaaS subscription costs associated with the new HR system is included in the 2020 budget (\$0.8 million). A third-party compensation survey was performed in 2019 at the recommendation of the human resource committee (\$0.2 million). This survey is not included in the 2020 budget and therefore offsets the 2020 increase from the 2019 forecast. Increases in areas associated with the upkeep of the campus make up the remaining increase over 2019.

Other variances include increases in staff augmentation in process integrity in lieu of permanent staff additions (\$0.3 million), professional services for new initiatives associated with HIIT recommendations and business continuity planning (\$0.3 million) and the pension insurance premium increase in 2020 (\$0.5 million).

## VIII. WESTERN ENERGY SERVICES

*SPP's Western Energy Services is a family of contract-based products offered to utilities in the Western Interconnection.*

Three service offerings are currently under contract: the Western Interconnection Unscheduled Flow Mitigation Plan, Western Reliability Coordination Service and, as of September 2019, the Western Energy Imbalance Service Market. The table below provides further descriptions of the services.



Western Energy Services	2020 Budget			
	WIUFMP	RC West	WEIS	Total
Contract service revenue	\$0.1	\$5.5	\$0.0	\$5.6
Operating expense	0.0	(3.7)	(3.5)	(7.3)
Capital expense	0.0	0.0	(0.8)	(0.8)
Debt payments	0.0	(1.2)	(0.3)	(1.5)
New financing	0.0	0.0	\$4.6	4.6
2020 Contract Services NRR	\$0.1	\$0.5	(\$0.0)	\$0.6

### WESTERN INTERCONNECTION UNSCHEDULED FLOW MITIGATION PLAN (WIUFMP)

In 2018, a group of six utilities selected SPP to administer the Western Interconnection Unscheduled Flow Mitigation Plan (WIUFMP). The plan defines processes and procedures by which its administrator (SPP), on behalf of a group of qualified owners and operators (QOO), oversees the use of phase-shifting transformers and other qualified devices to address reliability-threatening circumstances on particular transmission lines in the Western Interconnection. SPP administers the WIUFMP on behalf of six QOOs: California Independent System Operator, Northwestern Energy, NV Energy, PacifiCorp, Tri-State Generation and Transmission Association and the Western Area Power Administration.

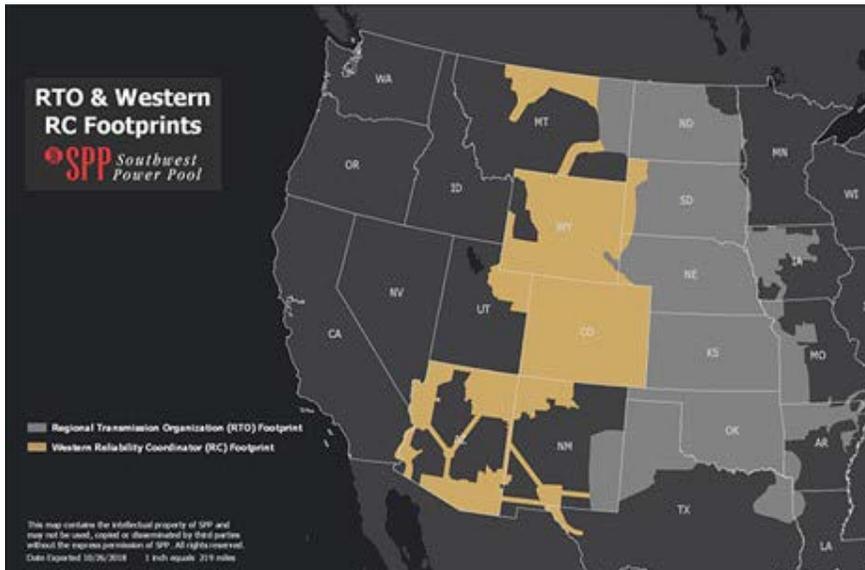
Under the plan, device owners are compensated for the availability and utilization of their equipment in managing grid congestion along qualified paths. As the WIUFMP administrator, SPP oversees collection of those costs from applicable entities (organizations that generate power, serve load and buy, sell or transport energy in the Western Interconnection) and

payment to device owners. SPP also collects, analyzes and publicly reports data on device usage and other aspects of the WIUFMP’s execution.

SPP’s initial term as WIUFMP administrator is through Dec. 31, 2020, and will automatically renew in successive one-year terms unless the QOOs choose another administrator. WIUFMP administration was previously conducted by the Western Electricity Coordinating Council. Budgeted annual revenues are approximately \$0.1 million.

## WESTERN RELIABILITY COORDINATION SERVICE

Beginning in December 2019, SPP will operate in the Western Interconnection as a NERC-certified reliability coordinator (RC), working with utility customers to keep the lights on and mitigate operational contingencies that threaten the reliability of the bulk power system. SPP has executed contracts to serve as the RC with 15 utilities in the Western Interconnection



representing approximately 101 TWh of electrical load. The agreements stipulate SPP will provide RC services as defined by NERC, and in return, SPP will receive annual payments from the utilities based upon a calculated contractual rate multiplied by each utilities’ net energy for load. Customers will make payments prior to each

production year, and the agreement will be in force for a five-year term.

SPP began the project’s implementation in the fourth quarter of 2018 and production service will begin in December 2019. These services will generate approximately \$5.5 million in revenues annually for an initial term of five years. These annual contract revenues will fund both implementation and annual operating costs and financing expenses.

Costs incurred by SPP during the fifteen-month implementation period have been financed by SPP, and will be recovered from the western utilities over the five-year production period within the annual contract service fees calculation.

## **WESTERN ENERGY IMBALANCE SERVICE MARKET**

SPP announced on September 9, 2019 it will provide market administrative services for Basin Electric Power Cooperative, Tri-State Generation and Transmission Association, and Western Area Power Administration (WAPA) that is scheduled to launch in February 2021. The wholesale electricity market will balance generation and load regionally and in real time. The market will centrally dispatch energy from participating resources throughout the region every five minutes, enhancing both the reliability and affordability of electricity delivered from western utilities to their customers.

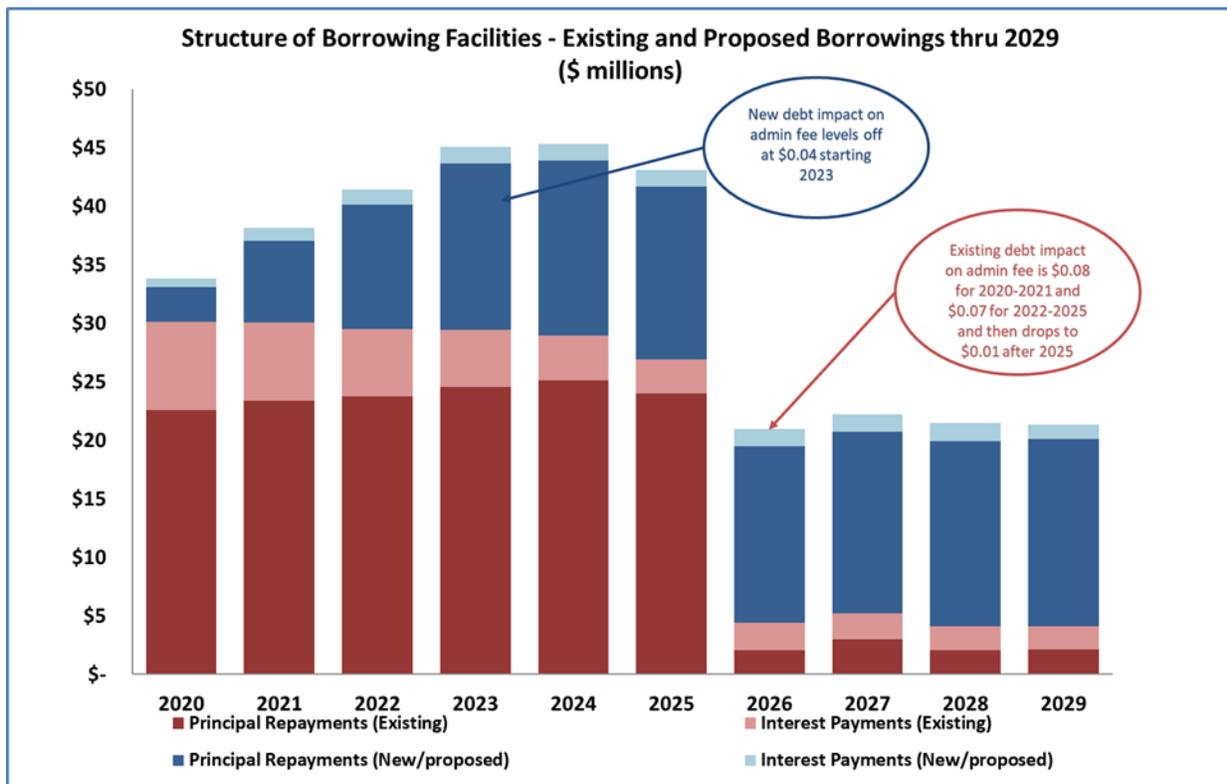
The signatories to the contract will fund the implementation of imbalance market functionality and take service from the WEIS market for up to eight years. Similar to the western RC service contracts, SPP will recover the approximate 16-month implementation costs through the production revenue rate. The implementation cost recovery will be backstopped in the event that a contract participant withdraws from the agreement, at which time they would be required to pay their pro-rata portion of the remaining implementation costs. These services will generate approximately \$5.0 million in revenues annually beginning in 2021. SPP will fund staffing and capital expenditures through acquisition of debt resulting in no impact to SPP's NRR during the project implementation.

## IX. DEBT SERVICE

*SPP's capital spending is financed through financial institutions and investors at competitive terms.*

SPP's capital projects are funded from monies borrowed under medium and long-term credit agreements, primarily with institutional investors. SPP generally aims to match the duration of these borrowings to the useful life of assets they are used to acquire. The entire capital project costs are not included in the NRR calculation; however annual principal and interest payments for borrowings (net of capitalized interest) are taken into account. SPP's outstanding borrowings are projected to equal \$204.2 million as of Jan. 1, 2020, with principal payments of \$25.6 million, \$30.4 million and \$34.4 million in 2020, 2021 and 2022, respectively.

SPP utilizes an unsecured five-year \$80.0 million revolving line of credit to fund capital expenditures. SPP started to draw funds under this facility during 2019. Lenders will convert advances from the credit line to four-year term notes at the end of each year. The following chart illustrates SPP's principal and interest payment obligations including projected new borrowings through 2029.



The schedule below shows the principal amounts outstanding for each borrowing at the beginning and end of the 2020-2022 budget periods and annual principal payments.

<b>Future Debt Repayments (\$ millions)</b>								
	<b>Issue Date</b>	<b>Issue Amount</b>	<b>Due Date</b>	<b>Balance 1/1/2020</b>	<b>2020 Prin. Pmts.</b>	<b>2021 Prin. Pmts.</b>	<b>2022 Prin. Pmts.</b>	<b>Balance 12/31/2022</b>
5.51% notes due 2027	3/23/2007	\$5.1	Feb-2027	\$2.5	(\$0.2)	(\$0.2)	(\$0.2)	\$1.9
4.82% construction notes due 2042 (2010A, 2010B)	10/31 & 12/28/2010	\$65.0	Dec-2042	\$56.9	(\$1.4)	(\$1.5)	(\$1.5)	\$52.6
3.55% integrated markets notes due 2024 (2010C)	3/30/2011	\$70.0	Mar-2024	\$29.8	(\$7.0)	(\$7.0)	(\$7.0)	\$8.8
3.00% capital funding notes due 2024 (2012D-1)	5/30/2012	\$50.0	Mar-2024	\$21.3	(\$5.0)	(\$5.0)	(\$5.0)	\$6.3
3.25% capital funding notes due 2024 (2012D-2)	11/30/2012	\$50.0	Sep-2024	\$23.8	(\$5.0)	(\$5.0)	(\$5.0)	\$8.8
3.8% capital funding notes due 2025 (2014-E)	3/21/2014	\$37.0	Dec-2025	\$37.0	\$0.0	\$0.0	\$0.0	\$37.0
4.95% senior notes due 2024	3/10/2014	\$33.0	Mar-2024	\$21.0	(\$4.0)	(\$4.8)	(\$5.0)	\$7.3
New term note due 2023 (for 2019 advances)	1/1/2020	\$12.0	Dec-2023	\$12.0	(\$3.0)	(\$3.0)	(\$3.0)	\$3.0
New term note due 2024 (for 2020 advances)	1/1/2021	\$15.9	Dec-2024	-	-	(\$4.0)	(\$4.0)	\$8.0
New term note due 2025 (for 2021 advances)	1/1/2022	\$14.7	Dec-2025	-	-	-	(\$3.7)	\$11.0
<b>Total</b>		<b>\$352.7</b>		<b>\$204.2</b>	<b>(\$25.6)</b>	<b>(\$30.4)</b>	<b>(\$34.4)</b>	<b>\$144.4</b>

## X. SUPPLEMENTAL ANALYSIS AND SCHEDULES

### INCOME STATEMENT 2019-2020 COMPARISON

(\$ millions)	2019 Budget	2019 Forecast	2020 Budget	2020 Prior
<b>Income</b>				
Tariff Administration Service	\$157.5	\$158.1	\$172.3	\$173.3
Fees & Assessments	31.8	29.5	23.7	24.9
Contract Services Revenue	0.2	0.2	5.6	5.6
Miscellaneous Income	5.2	6.1	9.3	5.2
<b>Total Income</b>	<b>\$194.7</b>	<b>\$194.0</b>	<b>\$210.9</b>	<b>\$209.0</b>
<b>Expense</b>				
Salary & Benefits	\$98.7	\$100.6	\$106.0	\$101.7
Employee Travel	2.0	2.0	2.0	2.1
Administrative	5.2	4.9	5.5	5.1
Assessments & Fees	23.1	20.6	22.4	24.5
Meetings	1.0	0.9	0.9	1.0
Communications	4.8	4.5	4.9	5.2
Leases	0.0	0.0	0.0	0.0
Maintenance	18.8	17.5	19.3	19.6
Services	13.9	15.0	19.2	13.3
Regional State Committee	0.4	0.3	0.5	0.4
Depreciation	19.4	17.2	19.5	19.9
Other Expense	9.0	6.5	8.8	8.9
<b>Total Expense</b>	<b>\$196.4</b>	<b>\$189.8</b>	<b>\$209.1</b>	<b>\$201.7</b>
<b>Net Income (Loss)</b>	<b>(\$1.7)</b>	<b>\$4.2</b>	<b>\$1.9</b>	<b>\$7.4</b>
Debt Repayment	\$24.2	\$24.2	\$25.6	\$26.3
MWh Forecast (in millions)	399.6	400.9	400.9	399.6
Net Revenue Requirement	\$157.5	\$156.3	\$172.3	\$173.3
Calculated Admin Fee / MWh	\$0.394	\$0.390	\$0.430	\$0.434
Recommended Admin Fee / MWh	\$0.394	\$0.394	\$0.430	\$0.434
<i>Tariff Cap on Admin Fee</i>	<i>\$0.430</i>	<i>\$0.430</i>	<i>\$0.430</i>	<i>\$0.430</i>
Capital Expense	\$14.9	\$15.3	\$15.7	\$14.5
Headcount	625	637	656	625

## INCOME STATEMENT 2020-2022

(\$ millions)	2020 Budget	2021 Forecast	2022 Forecast
<b>Income</b>			
Tariff Administration Service	\$172.3	\$179.6	\$185.5
Fees & Assessments	23.7	24.4	26.5
Contract Services Revenue	5.6	10.8	10.9
Miscellaneous Income	9.3	9.5	9.2
<b>Total Income</b>	<b>\$210.9</b>	<b>\$224.2</b>	<b>\$232.1</b>
<b>Expense</b>			
Salary & Benefits	\$106.0	\$109.3	\$112.4
Employee Travel	2.0	2.1	2.1
Administrative	5.5	5.5	5.6
Assessments & Fees	22.4	23.5	24.7
Meetings	0.9	0.9	0.9
Communications	4.9	5.0	5.0
Leases	0.0	0.0	0.0
Maintenance	19.3	19.7	20.3
Services	19.2	15.7	14.8
Regional State Committee	0.5	0.5	0.5
Depreciation	19.5	19.8	18.1
Other Expense	8.8	8.3	7.4
<b>Total Expense</b>	<b>\$209.1</b>	<b>\$210.4</b>	<b>\$212.0</b>
<b>Net Income (Loss)</b>	<b>\$1.9</b>	<b>\$13.8</b>	<b>\$20.1</b>
Debt Repayment	\$25.6	\$30.4	\$34.4
MWh Forecast (in millions)	400.9	400.9	400.9
Net Revenue Requirement	\$172.3	\$179.6	\$185.5
Calculated Admin Fee / MWh	\$0.430	\$0.448	\$0.463
Recommended Admin Fee / MWh	\$0.430	\$0.448	\$0.463
<i>Tariff Cap on Admin Fee</i>	<i>\$0.430</i>	<i>\$0.430</i>	<i>\$0.430</i>
Capital Expense	\$15.7	\$14.5	\$14.2
Headcount	656	656	656

## BALANCE SHEET

(\$ millions)	<u>12/31/2019</u>	<u>12/31/2020</u>
<b>ASSETS</b>		
Current Assets		
Cash & Equivalents	\$46.4	\$47.5
Restricted Cash Deposits	366.1	402.7
Accounts Receivable (net)	58.0	58.1
Other Current Assets	11.8	14.5
Total Current Assets	<u>482.3</u>	<u>522.9</u>
Total Fixed Assets	73.1	70.0
Total Other Assets	7.2	8.3
Investments	34.2	35.0
<b>TOTAL ASSETS</b>	<b><u>\$596.7</u></b>	<b><u>\$636.2</u></b>
<b>LIABILITIES &amp; EQUITY</b>		
Liabilities		
Current Liabilities		
Accounts Payable (net)	\$57.7	\$58.2
Customer Deposits	366.1	402.7
Current Maturities of LT Debt	22.6	26.4
Other Current Liabilities	83.1	88.8
Deferred Revenue	0.1	0.1
Total Current Liabilities	<u>529.6</u>	<u>576.3</u>
Long Term Liabilities		
Long-Term Debt	168.9	151.4
Other Long Term Liabilities	44.1	52.5
Total Long Term Liabilities	<u>213.0</u>	<u>203.9</u>
Net Income	4.2	1.9
Members' Equity	<u>(150.1)</u>	<u>(145.9)</u>
Total Members' Equity	<u>(145.9)</u>	<u>(144.0)</u>
<b>TOTAL LIABILITIES &amp; EQUITY</b>	<b><u>\$596.7</u></b>	<b><u>\$636.2</u></b>

## CASH FLOW FORECAST

(\$ millions)	<u>2020 Budget</u>	<u>2021 Budget</u>	<u>2022 Budget</u>
<b>Operating Activities</b>			
Net income/(loss)	\$1.9	\$13.8	\$20.1
Items not requiring cash			
Depreciation	19.5	19.8	18.1
Changes in current assets and liabilities	10.2	(6.9)	(4.3)
<b>Net cash provided by operating activities</b>	<u><b>31.6</b></u>	<u><b>26.7</b></u>	<u><b>33.9</b></u>
<b>Investing activities</b>			
Acquisition of property and equipment	(14.9)	(14.5)	(14.2)
<b>Net cash used in investing activities</b>	<u><b>(14.9)</b></u>	<u><b>(14.5)</b></u>	<u><b>(14.2)</b></u>
<b>Financing activities</b>			
Repayments of long-term debt	(25.6)	(30.4)	(34.4)
Issuance of long-term debt	12.0	15.9	14.7
<b>Net cash provided/(used) in financing activities</b>	<u><b>(13.6)</b></u>	<u><b>(14.5)</b></u>	<u><b>(19.7)</b></u>
Increase/(Decrease) in Cash and Cash Equivalents	3.1	(2.3)	-
<b>Cash and Cash Equivalents, Beginning of Year *</b>	<u><b>4.2</b></u>	<u><b>7.3</b></u>	<u><b>5.0</b></u>
<b>Cash and Cash Equivalents, End of Year *</b>	<u><u><b>\$7.3</b></u></u>	<u><u><b>\$5.0</b></u></u>	<u><u><b>\$5.0</b></u></u>

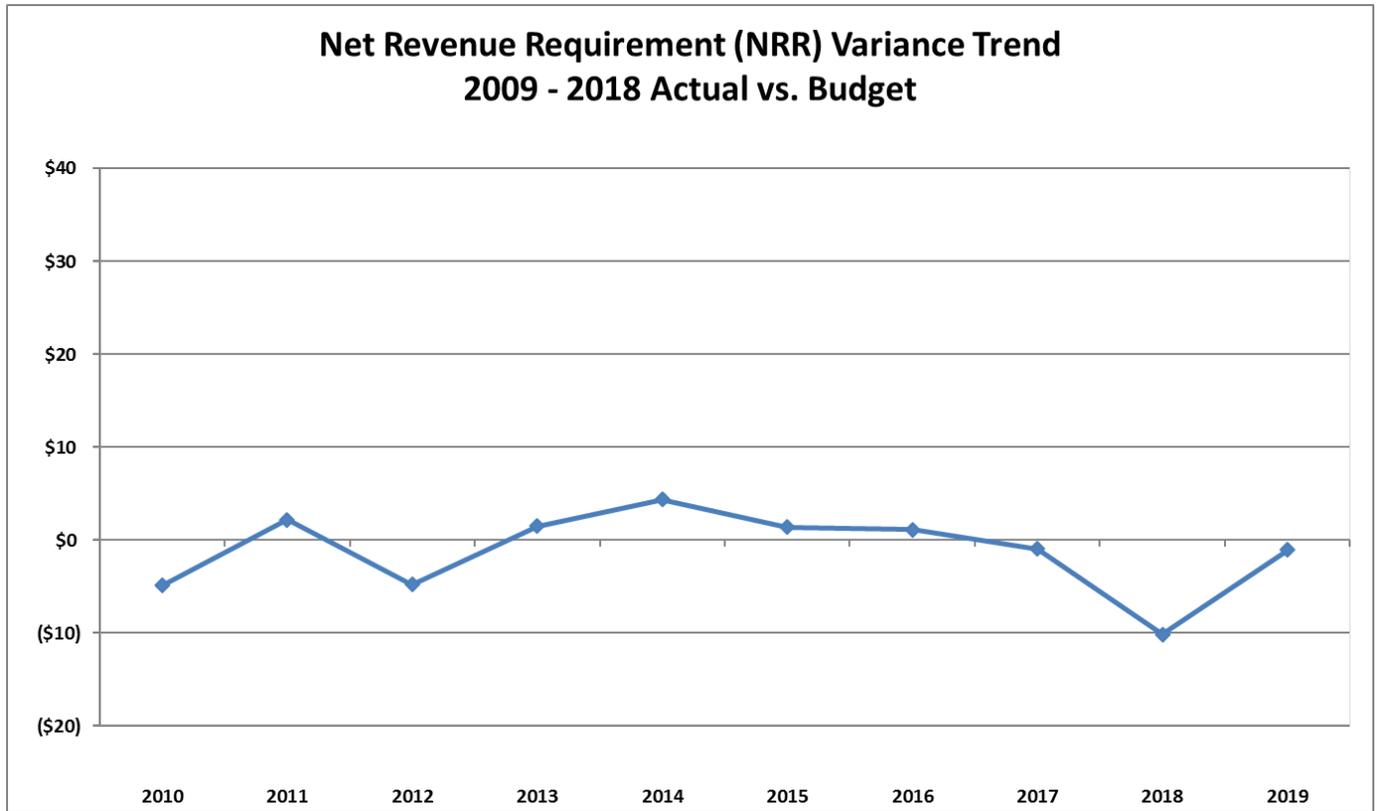
\* Operating account only.

## CAPITAL PROJECTS LIST

	Prior Year(s)	2020 Budget	2021 Forecast	2022 Forecast	Total Capital
<b>(\$ millions)</b>					
<b>Capital Projects</b>					
DTS Upgrade Phase 2B	\$ 0.8	\$ 1.4	\$ -	\$ -	\$ 2.2
Identity Access Management Deployment (IAM)	-	0.3	0.2	-	0.5
FERC Order 841: Electric Storage	0.0	0.4	-	-	0.4
Data Lake Phase 3	-	0.4	-	-	0.4
TAGIT/SCERT	-	0.1	0.2	-	0.2
Remping Capability	-	0.2	-	-	0.2
Energy Storage Resource (ESR)	-	0.1	-	-	0.1
EMS Upgrade	-	-	2.9	2.9	5.7
<b>Total Capital Projects</b>	<b>\$ 0.8</b>	<b>\$ 2.8</b>	<b>\$ 3.2</b>	<b>\$ 2.9</b>	<b>\$ 9.7</b>
<b>Foundation</b>					
Information Technology		\$ 8.1	\$ 8.2	\$ 8.4	\$ 24.7
Operations		2.5	2.3	2.2	6.9
Engineering Department		1.8	0.6	0.6	3.1
Settlements		0.3	-	-	0.3
Facilities		0.1	0.1	0.1	0.2
Other Corporate Departments		0.1	0.1	0.1	0.3
<b>Total Foundation *</b>		<b>\$ 12.9</b>	<b>\$ 11.2</b>	<b>\$ 11.4</b>	<b>\$ 35.5</b>
<b>Total Capital Budget</b>		<b>\$ 0.8</b>	<b>\$ 15.7</b>	<b>\$ 14.5</b>	<b>\$ 14.2</b>
<b>2020 - 2022 Capital Budget</b>					<b>\$ 44.4</b>

\* Foundation projects are reforecast during each budget cycle and do not include any carry-over funds.

## NRR VARIANCE HISTORY



	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Actual NRR	\$63.5	\$80.8	\$84.8	\$123.3	\$137.0	\$142.6	\$151.6	\$159.6	\$153.9	\$156.4
Budget NRR	\$68.4	\$78.6	\$89.6	\$121.8	\$132.6	\$141.2	\$150.5	\$160.5	\$164.0	\$157.5
Over/(Under) Budget	(\$4.9)	\$2.2	(\$4.8)	\$1.5	\$4.4	\$1.4	\$1.1	(\$0.9)	(\$10.1)	(\$1.1)
	(7%)	3%	(5%)	1%	3%	1%	1%	(1%)	(6%)	(1%)

The graph and table above highlight the range of variance between SPP's actual and budgeted Net Revenue Requirement (NRR) by year. As SPP's NRR has increased over the years, the variances between actual and budget remain relatively small.

\* The 2019 NRR represents the forecast as of July 2019.

## PRIOR YEAR BUDGET COMPARISONS

	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
<b>(\$ millions)</b>							
<b>Net Revenue Required Estimations</b>							
2016 Budget - NRR Estimations	\$150.5	\$148.5	\$158.6				
2017 Budget - NRR Estimations		\$160.5	\$168.2	\$179.9			
2018 Budget - NRR Estimations			\$164.0	\$178.8	\$182.4		
2019 Budget - NRR Estimations				\$157.5	\$173.3	\$180.5	
2020 Budget - NRR Estimations					\$172.3	\$179.6	\$185.5
<i>Actual NRR</i>	\$151.6	\$159.6	\$153.9				
<b>Billing Unit Estimations</b>							
2016 Budget - Billing Units Estimations	407.2	407.2	407.2				
2017 Budget - Billing Units Estimations		383.0	383.0	383.0			
2018 Budget - Billing Units Estimations			382.1	382.1	382.1		
2019 Budget - Billing Units Estimations				399.6	399.6	399.6	
2020 Budget - Billing Units Estimations					400.9	400.9	400.9
<i>Actual Billing Units</i>	394.5	388.6	384.4				
<b>Administrative Fee Estimations</b>							
2016 Budget - Admin Fee Estimations	\$0.370	\$0.370	\$0.389				
2017 Budget - Admin Fee Estimations		\$0.419	\$0.439	\$0.470			
2018 Budget - Admin Fee Estimations			\$0.429	\$0.468	\$0.477		
2019 Budget - Admin Fee Estimations				\$0.394	\$0.434	\$0.452	
2020 Budget - Admin Fee Estimations					\$0.430	\$0.448	\$0.463
<i>Actual Calculated Admin Fee</i>	\$0.384	\$0.411	\$0.400				

The purpose of this schedule is to quantify the year-to-year changes in SPP's three year projections made during each budget cycle as required by the membership agreement. Accuracy of these projections can be significantly influenced by both internal and external pressures such as board and committee directives, incremental membership, environmental factors, etc.

The actual calculated administrative fee is equal to the NRR divided by the billing units. The administrative fee actually charged is equal to the administrative fee listed under the budget in each three year cycle (i.e. the administrative fee for 2018 was \$0.429, but the calculated fee was \$0.400).

# XI. SPP OPERATING PLAN DOCUMENT



# 2020 Operating Plan

Published July 08, 2019

By the SPP Finance Department

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## SPP Overview

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SPP's mission is "Helping our members work together to keep the lights on ... today and in the future." SPP's services are independently provided on a regional basis, focused on electric reliability, cost effectiveness and bringing value to SPP members and their customers. SPP is mandated by the Federal Energy Regulatory Commission (FERC) to ensure reliable supplies of power, adequate transmission infrastructure and a competitive wholesale electricity marketplace. SPP's primary services provided to members and customers include:

- Facilitation
- Reliability coordination
- Tariff administration
- Transmission planning
- Market operations
- Compliance
- Training

FERC directly regulates SPP. FERC must approve all changes to the SPP Open Access Transmission Tariff (tariff) prior to implementation. SPP's failure to comply with tariff provisions and/or FERC directives must be reported to FERC and may be subject to penalties and fines.

## Governing Documents

### Tariff

The tariff defines the majority of the required workload for SPP's operations and engineering departments. Changes to the tariff are primarily within the oversight of the Market Operations Policy Committee (MOPC). Significant duties include, but are not limited, to:

- Administering the tariff, including scheduling
- Providing ancillary services
- Operating the market
- Operating the Balancing Authority (BA)
- Settling all transactions under the tariff
- Administering credit services for tariff customers
- Completing system impact studies
- Completing the annual SPP transmission expansion plan
- Studying generation interconnection requests

- Evaluating long-term transmission service requests
- Administering the competitive process for transmission expansion
- Administering the Southwestern Power Administration transmission system beyond their tariff
- Monitoring activities in SPP's energy markets and exercise plans to mitigate market power

## Membership Agreement

The membership agreement is an agreement between SPP and each of its members that obligates SPP to perform outlined services, including those in the tariff. Changes to the bylaws are under the oversight of the Corporate Governance Committee and board. Changes to the scope of responsibilities are primarily within the purview of the Market Operations and Policy Committee and Board of Directors and Members Committee. The agreement describes other significant duties which include, but are not limited, to:

- Acting as the reliability coordinator for the bulk electric system (BES)
- Developing regional reliability plans and emergency procedures
- Reviewing and approving all planned BES maintenance
- Coordinating generation unit maintenance
- Administering an open access same-time information system

## Bylaws

The bylaws describe SPP's organizational operation, specifically outlining duties of the board and its advisory committees. Changes to the bylaws are under the oversight of the Corporate Governance Committee and board. SPP has a responsibility to facilitate meetings of every organizational group:

- Board of Directors and Members Committee (1)
- Regional State Committee (1)
- Board-level committees (6)
- Working groups (18)
- Task forces, subcommittees, strike teams (35+)

## Protocols and Business Practices

SPP has well-documented business practices detailing the administrative practices SPP follows in administering the tariff, including coordinating the sale of transmission service. SPP also has well-documented market protocols detailing how market participants and SPP are to interact. These documents are developed, monitored and amended through SPP's stakeholder process.

## Organizational Structure

SPP operates via two distinct organizational structures. The governance structure (Appendix A), begins with the board and cascades into board-level committees and working groups. This organizational structure is populated largely with representatives from SPP's member companies. Generally, these groups provide directives on the work SPP is expected to accomplish.

The internal staff structure (Appendix B) illustrates reporting relationships between employees. The staff structure begins with the SPP president and cascades into vice presidents, departmental directors/managers, etc. The staff structure is generally aligned based on functional responsibilities. The governance structure provides directives to staff.

## **Funding**

SPP funds its ongoing operating costs through charges to transmission customers under the tariff and customers of specific non-tariff services. SPP's operating costs include scheduled principal and interest payments on its outstanding debt but exclude depreciation and amortization expenses incurred. SPP is able to collect up to 100% of its operating costs from charges to transmission customers up to a cap of 43¢/megawatt-hour (MWh). SPP is charging customers 39.4¢/MWh for service in 2019.

SPP's capital expenditures are funded with borrowings from periodic debt issuances and with 20% equity allocation included in the transmission service charge. SPP's debt issuances are generally unsecured. They have a one-to-two year, interest-only payment period and then fully amortize by the maturity of the notes. SPP is required to obtain regulatory approvals prior to issuing new debt.

SPP carries an A rating from Fitch Ratings that was last affirmed in August 2018. SPP issued new notes in August 2018 to fund capital expenditures incurred through 2023.

Short-term liquidity is provided by managing SPP's cash float. SPP has a committed \$30 million revolving credit facility to provide additional liquidity support.

## 2020 Expected Business Environment

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SPP's business environment is constantly changing, and the organization utilizes an evolutionary, rather than revolutionary, approach to managing change. Some of the opportunities and challenges affecting SPP are related to continued electrification and modest increasing load, changing generation mix, transmission planning and cost allocation, evolving energy markets, expansion to the west, regulatory issues and cybersecurity risks.

### Electrification

While many projections show U.S. energy consumption will continue to decline, overall electricity use is expected to increase with technologies such as electric cars and heat pumps. SPP anticipates continued growth in its members' demand response and energy efficiency programs. Over time, these changes will likely cause lower summer peaks, higher winter peaks and a flattening of load shapes due to an annual normalization of electricity use. Consumers will have more choices about how they use energy and interact with the electric grid. While major changes may not materialize over the next year, SPP is incorporating more of these evolving assumptions in its engineering models.

While load in the SPP region has been flat overall for the last several years, there are pockets of load growth. Commercial and industrial customers seeking low-cost, renewable service options are increasingly attracted to the SPP region. Companies such as Google, T-Mobile USA and Facebook have contracted with renewable generators to power their data centers or meet carbon-emission-reduction goals. In 2018, SPP had 90 requests for new delivery-point additions representing 2,600 MW of potential load additions over the next 10 years. SPP is considering improvements to the delivery-point-addition process that would help its members capitalize on these economic growth opportunities.

### Changing generation mix

The generation fleet at SPP's disposal — more than 750 generators participating in its markets across a 14-state region — has changed dramatically in the last ten years. SPP's current generation mix is primarily coal, gas and wind. On average, these fuel types made up 42%, 24% and 23% of energy production generation. Coal has been on a continual decline in production and capacity since 2014. No new coal generation is being planned, and older plants are being or projected to be retired. In 2018, SPP members retired over 1,800 MW of conventional capacity.

Between 2009 and 2019, the amount of wind energy in the SPP region increased fivefold. The SPP footprint has more than 200 windfarms and 11,000 turbines with output capacity exceeding 21,000 MW. Ten years ago, SPP had only 3,858 MW of wind. SPP holds the North American record for serving the highest percentage of load at a given time with wind power: 67% on April 27, 2019.

Even with these wind generators, total regional wind output has been as low as 147 MW. Wind output has varied 3,700 MW in one hour, equivalent to about six large natural gas or coal plants simultaneously ramping up. SPP's primary operational challenge is maintaining grid reliability as it becomes increasingly dependent on energy delivered from intermittent resources.

The generator interconnection (GI) queue represents new generators "waiting in line" to be analyzed and connected to the transmission system. There are 51,000 MW of wind in the planning queue. SPP needs to develop economic and cost recovery strategies to use excess wind and identify upgrades across Independent System Operator/Regional Transmission Organization boundaries to move wind energy into other markets.

While there is only a small amount of solar energy installed in SPP, solar and battery storage are growing. There are 28,531 MW of solar and 5,796 MW of storage in the generation interconnection queue. These emerging technologies are expected to continue to evolve and become more prevalent, presenting as utility-scale resources or transmission assets when connected to the transmission system and as reduced load when connected to the distribution system.

As part of this transition there are identified physical needs of the bulk power system that conventional generation inherently provide and/or has been designed to provide to maintain the reliability of the bulk electric system. New resources, such as wind, solar, and battery rely on inverter based provision of AC power and thus do not inherently or physically provide those responses and physical need of the power system, including stored potential energy to respond.

### Transmission planning and cost allocation

Every year SPP works with its members to determine what new transmission is needed in the region. In 2018, SPP's member companies completed 98 transmission system upgrades in seven states estimated to have cost \$779 million. These projects benefit the region by connecting new generators and demand sources to the transmission system, ensuring low-cost electricity is delivered to consumers, and solving power grid issues that, if not addressed, could impact the reliable delivery of electricity or cause power outages.

SPP's strategic plan has shifted from "building a robust transmission system" to "maintaining an economical, optimized transmission system." Since 2004, SPP members have invested \$10 billion in new transmission facilities; \$7.7 billion is in-service. While modernization ensures system reliability, this transmission build-out has been a significant economic investment. These upgrades have resulted in an annual transmission revenue requirement of over \$850 million for SPP-initiated projects.

Determining who should pay for transmission upgrades is a highly debated public policy issue. SPP is challenged to better align its transmission planning processes, Integrated Marketplace and transmission cost allocation methodologies. It is important to address the cost responsibility of loads and generators as well as cost allocation among loads.

Additional challenges are in the future based on the changing generation mix including how storage can be used for both transmission reliability as well as provide economic benefits through the markets. As load also starts to respond to either reliability needs or economic benefits through the markets, planning will increase in complexity because load will no longer just be a forecasted demand.

### Evolving energy markets

Low natural gas prices and wind — which has zero fuel cost and enjoys significant federal tax incentives — is enabling an economic dispatch of SPP's changing generating fleet that reduces wholesale energy prices and shifts the region away from traditional generation. This economic dispatch is feasible due to SPP's robust transmission system investment and Integrated Marketplace. The Integrated Marketplace has provided more than \$2.7 billion in savings since it launched in 2014.

In 2018, SPP's spot wholesale energy prices were the lowest in the nation. SPP's primary financial challenge is ensuring that, given declining wholesale energy prices, resources capable of providing reliability are appropriately compensated and incentivized to offer and deliver these services to the grid. SPP continuously works with stakeholders to enhance the Integrated Marketplace's ability to cost-effectively utilize its diverse generation mix, manage grid congestion and reliably respond to changes in load and generation.

### Western markets and services

SPP has begun to implement reliability and offering market services to entities in the western United States. Six western utilities selected SPP to administer the Western Interconnection Unscheduled Flow Mitigation Plan — a blueprint for using controllable devices to mitigate congestion along transmission lines in the west. Beginning in December 2019, SPP will operate in the Western Interconnection as a North American Electric Reliability Corporation (NERC)-certified reliability coordinator, working with customers to keep the lights on and mitigate operational contingencies that threaten reliability. In December 2020, SPP plans to launch a Western Energy Imbalance Service market and administer it on a contract basis. The market will centrally dispatch energy from participating resources every five minutes, enhancing reliability and affordability for western consumers. These partnerships with new customers will benefit SPP's existing customers through economies of scale and cost savings.

### Regulatory

Directives from FERC impact SPP's business and operations. In February 2019, FERC reversed a waiver it had previously issued regarding Attachment Z2 of the SPP tariff, which defines how transmission customers are compensated for upgrades others subsequently use. In June 2019, FERC directed SPP to eliminate its exit fee for members who are not transmission owners. Also in June, FERC directed SPP to make tariff changes to allow fast-start resources to set clearing prices in the market. SPP will implement compliance plans to meet FERC's directives on these orders.

In Order 841, FERC initiated proceedings to evaluate electric storage participation in organized markets. SPP worked with stakeholders to respond to FERC and develop market designs that will remove barriers to storage resources. SPP's challenge is identifying the value that battery storage provides and ensuring its market products, planning processes and operational procedures take advantage of those characteristics.

FERC Order 845 revises interconnection rules for generators larger than 20 MW. SPP is working with stakeholders on improving the generation interconnection queue to comply with FERC and provide better service to interconnection customers.

FERC Order 850 requires enforcement of a new NERC standard on supply chain risk. SPP has begun compliance with this standard, which will include negotiating additional conditions for vendors and adding controls related to software and hardware.

### Cybersecurity risks

The threat of cyberattacks continues to be a major risk to SPP and the electric utility industry. SPP must remain involved in developing NERC standards that are flexible enough to meet security challenges but still allow the provision of reliable and affordable electricity. Evolving threats and emerging technologies surface more quickly than standards can be revised or implemented.

SPP strives to ensure security through continuous vigilance and compliance. In 2018, SPP selected an open-source cyber maturity model for benchmarking its security posture. SPP conducted a self-assessment and hired a consultant to evaluate SPP. Based on the resulting recommendations; staff prepared a strategic plan detailing five focus areas: standardized security architecture, supply-chain risk management, increased resiliency through focus on business continuity, further maturation of cyber best practices, and expanded threat intelligence capabilities. The estimated cost to implement these recommendations is \$1.1 million in capital expenses and \$300,000 in operating expenses over a three-year period beginning in 2019.

SPP conducts mandatory security awareness training and exercises. In 2019, SPP implemented a new educational campaign using contests, posters and live-action videos to further raise awareness of security risks.

# Corporate and Departmental 2020 Objectives

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SPP's officers met in May 2019 to discuss corporate and departmental objectives for 2020. That discussion informed the 2020 operating plan and 2020-2022 budget.

## Corporate Objectives

- *Western markets* – SPP's top corporate objective is developing an imbalance energy market to be implemented in late 2020. This development follows closely the implementation of reliability coordination services for numerous western utilities. An ancillary effort is being pursued to provide planning coordination services to select western utilities. Costs associated with western markets and planning coordination services will be offset by revenues charged to utilities taking the services.
- *Holistic Integrated Tariff Team (HITT) recommendations* – At the July 2019 SPP Board of Directors and Members Committee meeting, the HITT will present a slate of 21 recommendations for improving SPP's provision of service. These recommendations are slated to be developed in more detail, reviewed and adopted through 2019, 2020 and 2021. The priority, timing and cost of implementing these recommendations will not be certain until well after SPP completes its 2020 planning and budget processes.
- *Cyber risk* – SPP remains committed to addressing the changing cyber security landscape. SPP will identify proactive actions to address known and emerging issues, as well as post-event actions to mitigate the financial consequences of a cyber event.
- *Value and Affordability Task Force recommendations* – SPP expects the task force to advance a number of recommendations to address value additions and affordability opportunities. The priority, timing and cost of implementing these recommendations will not be certain until well after SPP completes its 2020 planning and budget processes.
- *Continuous improvements* – SPP will continue to seek process improvements and automation across all divisions, with specific focus on enhancing business continuity processes and procedures, further maturing cyber security responsibilities and enhancing capabilities for resource changes.

Further factors may influence SPP's ability to achieve these objectives. Significant regulatory uncertainty exists which can derail the best of plans. For instance, FERC recently reversed a waiver it had previously issued to SPP, and it directed SPP to eliminate its exit fee for certain members. Resolving such situations could impact SPP's ability to achieve its stated objectives. In addition to discussing corporate objectives, officers outlined the following objectives for their departments.

## Departmental Objectives

### Operations

#### *Enhanced reliability capabilities*

SPP must maintain reliability excellence to operate the bulk electric system's changing landscape. This landscape continues to move towards integrating more inverter-based technologies, mostly renewable energy generation. During the previous eight years, coal decreased from 63% serving SPP load to 42%. Wind has continued to increase, from 6% to 24% serving SPP load. The generation interconnection queue consists of about 51 GW wind, 29 GW solar, 6 GW battery storage, and minimal traditional fuels.

Large transfers of variable energy continue to increase across the SPP footprint. Wind farms are often located in remote areas with little to no load density. Some traditional fossil generation that directly supports load centers is being retired. Fuel-mix dispatch changes and new generation technologies are creating new operational challenges, such as voltage and transient instability. As the system continues to be pushed in new directions, SPP will be required to develop new processes, technologies and software to meet these challenges. To this end, operational efforts will be focused on these initiatives:

#### *Integrating new tools*

Stand-alone training is being developed to assist operations staff in using new reliability tools and ensuring they have appropriate situational awareness of generation capabilities and system impacts.

The current dispatcher training simulator (DTS) does not allow for production-like training, due to the lack of an integrated market system. The DTS does not meet SPP operators' needs related to the BA, reliability unit commitment and real-time balancing market functions. Since the implementation of the Integrated Marketplace and consolidated BA, market systems have become almost as critical to reliability and balancing as the energy management system. Realistic simulation training using market systems is imperative for SPP operator readiness and increased reliability.

In 2016, SPP launched a multiyear project to upgrade SPP's DTS. SPP is working with GE to create a full training and testing simulated environment that performs more closely to real-time production systems. This work is being done in a phased approach; two phases have been completed. In March 2019, GE provided an updated budget for performing the last phase of this work. Work is ongoing through 2020 to integrate a dedicated market system and situational awareness displays. The new tool will be called the markets and reliability training simulator.

#### *Expand and improve market functionality*

SPP's footprint is seeing an increasing amount of variable generation penetration that SPP must manage and account for when dispatching and making resource commitments. High amounts of variable generation, interchange flexibility and net load variations bring inherent uncertainties when

determining SPP's obligation as compared to available generation. Although SPP's renewable forecast is considered one of the more accurate forecasts in the industry, we still have challenges due to the increasing magnitude of renewable generation. Scarcity of certain products can result in higher costs for load during these shortage periods. Addressing these uncertainties through market mechanisms allows SPP to better manage intermittent resources economically and transparently.

SPP's wind generation capacity keeps rising. We have 20 GW of wind capacity in our BA footprint. It is our experience over the last few years that wind forecast vendors are not always able to accurately forecast the weather and wind generation on a day-ahead basis. For example, we have experienced situations where actual wind ended up 5,000 – 7,000 MW below the day-ahead wind forecast. The uncertainty resulting from wind forecast errors is one issue; we also experience uncertainty resulting from load forecasting and unscheduled generation outages. A market uncertainty product could help mitigate these concerns.

The rapid movement and difficulty in forecasting renewable energy resources has caused two distinct issues to occur in SPP's Integrated Marketplace. Operations is concerned that there is not enough ramping capability to address potential wind forecast errors. SPP members and the SPP market monitor are concerned that SPP's real-time prices are overly volatile due to scarcity pricing. A ramp product could ensure the Integrated Marketplace is able to clear and appropriately price products needed to ensure reliable operations and reduce scarcity pricing.

## Information Technology

IT's foremost responsibility is maintaining the currency and availability of existing systems to fulfill SPP's core mission of "keeping the lights on." To satisfy this highest-priority obligation, a large percentage of IT's daily work is associated with efforts that support reliability.

IT has a premier responsibility to participate in and ensure the successful implementation of approved corporate capital projects that deliver incremental value to SPP and its stakeholders. These projects vary in scope and timeline, and they may require IT resources to implement the project and provide long-term support and sustainability. In addition to these responsibilities, IT is working on the following objectives.

### *Critical infrastructure protection standards (CIP) and security*

SPP is enhancing security efforts in accordance with the cyber strategic plan the board endorsed in late 2018. Plan milestones are periodically reviewed with the Oversight Committee. This work includes:

- Implementing in 2020 the documented security architecture (to be developed in 2019) by enforcing architectural standards and modifying our software development lifecycle to include more requirements and controls related to CIP security standards.
- Automating the monitoring and provisioning of logical access to information systems, including implementing an identity and access management system.
- Expanding avenues for receiving intelligence related to security threats by engaging with new intelligence partners and deepening our capabilities with existing partners.

Another effort, not included in the cyber strategic plan, is reducing manual work associated with assessing and administering security patches issued by third-party software providers. IT is evaluating automation options for this.

### *Increase operational efficiency*

IT continues to receive an expanding volume of requests and requisite work that reinforces the need for continuous process improvement and automation to gain necessary efficiencies. Focus areas include patch management, server provisioning and application testing.

Efforts to identify and prioritize process optimization opportunities are ongoing. In particular, IT continues to focus on high-touch, repeatable administrative activities that carry a high risk of manual errors.

Another goal for minimizing risk is to identify and prioritize opportunities for automation, develop a clearinghouse for automation activities, determine the cost/benefit of automation proposals and develop a holistic implementation plan. The automation framework has been established, and multiple automation initiatives are in flight and in the queue.

SPP has an extensive software portfolio including tools that provide similar functionality in source code versioning, issue tracking, application build processes and information sharing. IT is standardizing platforms that will reduce the SPP software stack and costs associated with licensing, support and maintenance.

#### *Evaluate and leverage emerging technologies*

IT continues to evaluate and appropriately implement new technologies that increase needed functionality and optimize current functionality. The technology landscape is in a continual state of change. It is prudent for IT to maintain awareness of evolving technologies with an eye toward integrating systems that support SPP's strategic initiative of enhancing member value and affordability.

For the vast majority of business applications, IT utilizes on-site infrastructure to run application systems and store critical business data. While there are many advantages to this approach, there are less-critical systems and data that may be eligible to be implemented in an off-site cloud environment. IT is evaluating on-site cloud solutions that could allow for more flexibility and efficiency while reducing equipment purchases. During 2020, IT will evaluate options and opportunities to deploy a cloud strategy and consider potential targets that could be more favorably and securely implemented in a cloud environment.

The amount of data required to support end-users continues to increase significantly, leading to an associated increase in SPP's investment in storage technology. This data must be appropriately available to end-users, perform satisfactorily and be backed up to secondary and/or offsite locations as required. In some cases, SPP applications must have duplicate data in multiple environments (test, development, member testing, quality assurance and production) that may necessitate short-term and/or permanent retention periods, all of which require administrative oversight. IT is evaluating an improved backup solution for 2020 that will enable more efficient storage backups and allow better visibility into backup content.

#### *Maintain and replace assets*

IT plays a significant role in SPP's ability to keep the lights on. Nearly every system and tool SPP uses to perform its tariff, market and reliability functions requires technology to make it happen. Physical technology assets (servers, hosts, storage devices and networking equipment) comprise approximately \$35-\$40 million of capital inventory. Importantly, these physical assets must be replaced on a periodic basis due to exposure to increased hardware failure rates, discontinued or unaffordable vendor support, operating system incompatibility and the need for improved application performance and connectivity requirements.

IT resources are devoted to the daily care and upkeep of physical technology assets and software assets. We must manage a continuous stream of patches and updates across all of the installed hardware and software. SPP processes over 1,700 security patch sources annually, resulting in approximately 1,000 patches being applied on its critical cyber assets. NERC standards require these

patches to be assessed within 35 days of release and installed within 35 days of completing the assessment.

## **Finance**

### *Settlements system go-live*

The multiyear project to replace and upgrade SPP's settlements system is slated to move into production in February 2020 at a cost of \$5.9 million. The new system will expand automation of existing manual processes, enhancing the accuracy, timeliness and auditability of settlements results. The system will facilitate in-house changes in response to requirements for implementing SPP revision requests, such as joint-owned-unit logic, ramping products and Schedule 1A changes. SPP owns the system code and will maintain and upgrade the system using dedicated in-house IT resources. Annual operating expenses are anticipated to be approximately \$1.4 million less than the previous system, primarily due to elimination of a third-party maintenance agreement. This new system was budgeted as a \$5.3 million capital investment.

### *Credit policy*

SPP's Integrated Marketplace creates both opportunity and risk for market participants. Risk is manifested in the potential for a credit default and the subsequent socialization of that loss among all participants. SPP's credit group and its stakeholders are reviewing and enhancing the credit policy and processes to strengthen them in the event of a potential credit default. The Credit Practices Working Group has established subgroups to address the policy's quantitative and qualitative aspect. The groups' goals are to identify and research policy and process enhancements by fourth quarter 2019 and seek stakeholder and FERC approval for those recommendations by mid-2020. Implementation of the recommendations would occur in late 2020 for production in early 2021.

## **Engineering**

### *Generation interconnection process*

In 2020, the new three-phase GI study process as approved by FERC will have been implemented. In the first year of the new process, SPP will concentrate on clearing the backlog of almost 200 requests from 2017 (more than 36 GW). The requirements of Order 845, implemented in 2019, will begin to flow into tariff study processes. The greatest impact will be from the new surplus interconnection service product and the new partial-capacity product. The emerging energy storage market will become a significant component of GI studies beginning in 2020.

### *Resource adequacy process*

In 2018, FERC approved new tariff provisions that SPP will implement in 2020. Foremost among these are a new enforcement process and enhanced data collection and monitoring provisions that ensure load responsible entities are planning sufficient resource capacity.

The SAWG recognizes the current gap in SPP policies related to capacity accreditation for storage as a capacity resource. As a result, staff is working to finalize a scope of work to evaluate potential capacity accreditation improvements for storage utilizing the ELCC methodology. These efforts along with HITT initiatives and Engineering's PRPC ESR project are expected to close the technical and policy gap related to storage capacity accreditation while rolling into the existing Attachment AA high level requirements

### *Generation retirement*

Fossil-fueled generation retirements are increasing each year. SPP requires a clear and effective process for member-driven generation retirements. SPP has drafted a new business practice as a defined generation retirement process. The draft has been circulated to impacted working groups. A tariff revision request is scheduled to be published in the July timeframe, with tentative MOPC and board approval in January 2020. The generation retirement revision request will then be filed with FERC. Assuming FERC approval in April 2020, the process will be implemented in the latter half of 2020.

## **Process Integrity**

### *Project management office (PMO) tool replacement*

SPP's project management system is nearing the end of Microsoft support, and it is essential to upgrade or replace it. In 2018 the PMO evaluated prospective systems and selected Microsoft's Daptiv because it supports existing and new functionality to enable greater efficiencies in managing the project pipeline and budget processes.

Daptiv will give the PMO the ability to:

- Create displays and dashboards for internal and external stakeholders, the Finance Committee, the Project Review and Prioritization Committee and the stakeholder prioritization quarterly meeting.
- Easily and accurately track time reporting and metrics, resource forecasting and capacity planning.

### *Compliance tools and audits*

In 2020, SPP's compliance and reliability standards staff will mature and expand use of the governance, reliability and compliance tool. The tool will help compliance staff in its oversight role and should assist in managing NERC standards controls. In addition to responding to and mitigating potential non-compliance issues, compliance staff will continue preparing for a 2020 operations and planning audit that will be led by NERC and the Midwest Reliability Organization.

## 2020 Projects

The Project Review and Prioritization Committee (PRPC) is comprised of all SPP departmental directors and ensures the effective and efficient use of SPP resources, including staff and capital funds. The PRPC reviews all SPP enterprise project requests and only recommends projects that align with SPP’s foundational strategies and are justified by a project business case. The projects listed below represent approved enterprise projects that were added to the project portfolio for the 2020-2022 budget cycle.

Budget Request Summary (2020 - 2022)				
Budget Allocation	2020	2021	2022	Total
<b>Project Capital</b>	\$633,250	\$366,750	\$0	\$1,000,000
<b>IT Capital</b>	\$36,000	\$0	\$0	\$36,000
<b>Dept Operating</b>	\$346,600	\$166,600	\$166,800	\$680,000
<b>IT Operating</b>	\$261,520	\$261,520	\$261,520	\$784,560
<b>Total</b>	<b>\$1,277,370</b>	<b>\$794,870</b>	<b>\$428,320</b>	<b>\$2,500,560</b>

Identity Access Management (IAM) Deployment	Budget Allocation	2020	2021	2022	Total
This Project will build the foundational elements of an IAM program, starting with an access inventory that will also support SPP’s most immediate needs for CIP-004 compliance (i.e., user access certification). Upon completion of that project, which also includes process and procedure development for IAM, SPP will be better	<b>Project Cap</b>	\$300,000	\$200,000	\$0	\$500,000
	<b>IT Capital</b>	\$0	\$0	\$0	\$0
	<b>Dept Operating</b>	\$0	\$0	\$0	\$0
	<b>IT Operating</b>	\$0	\$0	\$0	\$0
	<b>Total</b>	<b>\$300,000</b>	<b>\$200,000</b>	<b>\$0</b>	<b>\$500,000</b>

Ramping Capability Project	Budget Allocation	2020	2021	2022	Total
This initiative is to address the impact that resource ramp shortages in the market cause with respect to short-term spikes in market prices by designing methods to better anticipate the need for responsive resources in the market. The work associated with implementing these methods will be integrated with a market release that contains other	<b>Project Cap</b>	\$200,000	\$0	\$0	\$200,000
	<b>IT Capital</b>	\$0	\$0	\$0	\$0
	<b>Dept Operating</b>	\$0	\$0	\$0	\$0
	<b>IT Operating</b>	\$0	\$0	\$0	\$0
	<b>Total</b>	<b>\$200,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$200,000</b>

<b>Energy Storage Resource (ESR) Project</b>	<b>Budget Allocation</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
As a result of FERC Order 841 and the associated Operations project, ESRs are submitted as Detailed Project Proposals (DPPs) in the 2019 Integrated Transmission Planning (ITP) assessment. SPP engineering will need to scope and implement a solution that can model & study ESRs as generation or as load, or as generation and load.	<b>Project Cap</b>	\$50,000	\$0	\$0	\$50,000
	<b>IT Capital</b>	\$0	\$0	\$0	\$0
	<b>Dept Operating</b>	\$213,300	\$133,300	\$133,400	\$480,000
	<b>IT Operating</b>	\$0	\$0	\$0	\$0
	<b>Total</b>	<b>\$263,300</b>	<b>\$133,300</b>	<b>\$133,400</b>	<b>\$530,000</b>

<b>Replace Human Resources Management System (HRMS)</b>	<b>Budget Allocation</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
Purchasing an Software as a Service (SAAS) application that provides a universal HR solution from a single provider will ensure 100% compatibility and result in very little, if any, ongoing support from SPP IT staff. This should reduce the required SPP IT support to less than 10% of one FTE from the current 60%. Additionally, adopting an SAAS product will eliminate the loss of vendor support for legacy systems that is already occurring with some existing applications.	<b>Project Cap</b>	\$0	\$0	\$0	\$0
	<b>IT Capital</b>	\$0	\$0	\$0	\$0
	<b>Dept Operating</b>	\$350,000	\$250,000	\$250,000	\$850,000
	<b>IT Operating</b>	\$0	\$0	\$0	\$0
	<b>Total</b>	<b>\$350,000</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$850,000</b>

<b>Transmission &amp; Generation Implementation Tracking (TAGIT)/ Standardized Cost Estimation Reporting Template (SCERT) Rewrite</b>	<b>Budget Allocation</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>Total</b>
The goal of this project is to enhance the TAGIT/SCERT platform in a way that would allow operators to focus on data analysis, remove potential barriers for additional operators to cross-train, and improve data integrity. These changes will help streamline the tools and provide more consistent and higher quality NTC letters and project	<b>Project Cap</b>	\$83,250	\$166,750	\$0	\$250,000
	<b>IT Capital</b>	\$36,000	\$0	\$0	\$36,000
	<b>Dept Operating</b>	\$33,300	\$33,300	\$33,400	\$100,000
	<b>IT Operating</b>	\$11,520	\$11,520	\$11,520	\$34,560
	<b>Total</b>	<b>\$164,070</b>	<b>\$211,570</b>	<b>\$44,920</b>	<b>\$420,560</b>

## Stakeholder Initiatives

### Markets and Operations Policy Committee

In July 2018, MOPC created the Schedule 1-A Task Force to develop a new cost recovery methodology that is simple, better aligns payer costs and benefits, and includes energy transactions. A four-rate structure methodology represented in revision request 358 is scheduled to be presented to MOPC for approval in July 2019. System and process changes would occur in 2020 with an effective date of January 2021.

MOPC is also tasked with reviewing and approving revisions to SPP’s Integrated Marketplace. MOPC has approved 11 revision requests that would require approximately \$2.9 million in capital investment to place into production. The table below illustrates the scope of these revisions.

RR Number	Title	Estimated Cost	MWG Review	MOPC Action	Estimated Implementation Date
0365	Day-Ahead Market Timeline Enhancement	Vendor cost A (0k-20k)	6/18/2019	TBD	TBD
0361	Ramp Capability Products	Vendor Cost E (300k-600k)	6/18/2019	TBD	TBD
0352	DA RUC Process Timing	Vendor cost A (0k-20k)	6/18/2019	TBD	TBD
0323	Order 841 Compliance ESR	\$853,500	9/11/2018	Approved	Q4 2020
0306	Multi-Day Minimum Run Time	\$267,448	6/12/2018	Approved	Post SSRP Implementation
0288	DVER Dispatch Instruction Rules Clean-up	\$47,280	8/14/2018	Approved	Post SSRP Implementation
0266	JOU Combined Single Resource Modeling post Settlement Share Allocation	\$200,170	7/10/2018	Approved	Q2 2020
0252	OOME Enhancement	\$168,176	11/14/2017	Approved	Q1 2020
0229	Order No. 831 Compliance (Offer Caps)	\$474,600	05/16/2017	Approved	Q1 2020
0210	Contingency Reserve Deployment Tests	\$100,000	04/17/2017	Approved	Q1 2020
0116	Quick-Start Real-Time Commitment	\$200,000	10/20/2015	Approved	Pending FERC 206 filing

Approximately 68 revision requests are in open status, awaiting stakeholder implementation, or progressing through the stakeholder process. Annually, SPP receives 60-70 revision requests to be evaluated and implemented.

## **Board of Directors**

SPP's board is refocusing on the company's strategic direction. In the past, board discussions have tended to address more tactical and technical issues and have not been as deliberate when looking at strategic issues. The board adjusted its meeting structure in 2019 to include dedicated time for board and member committee discussion of strategic issues and SPP's approach to addressing those issues.

### *Holistic Integrated Tariff Team (HITT)*

In March 2018, the board created the Holistic Integrated Tariff Team (HITT) to comprehensively review SPP's cost allocation model, transmission planning processes, Integrated Marketplace services, and disconnects or synergies between planning and real-time reliability and economic operations. The HITT's goal was for this integrated review to be broad and holistic, taking into consideration the highly interdependent nature of SPP's processes and how changes to one area would impact other business functions.

The team was tasked with recommending solutions to the challenges SPP and its members face. The board appointed 15 stakeholders to the HITT, including board members, state regulators from the Regional State Committee, and members representing diverse sectors. A senior SPP executive served as the staff secretary.

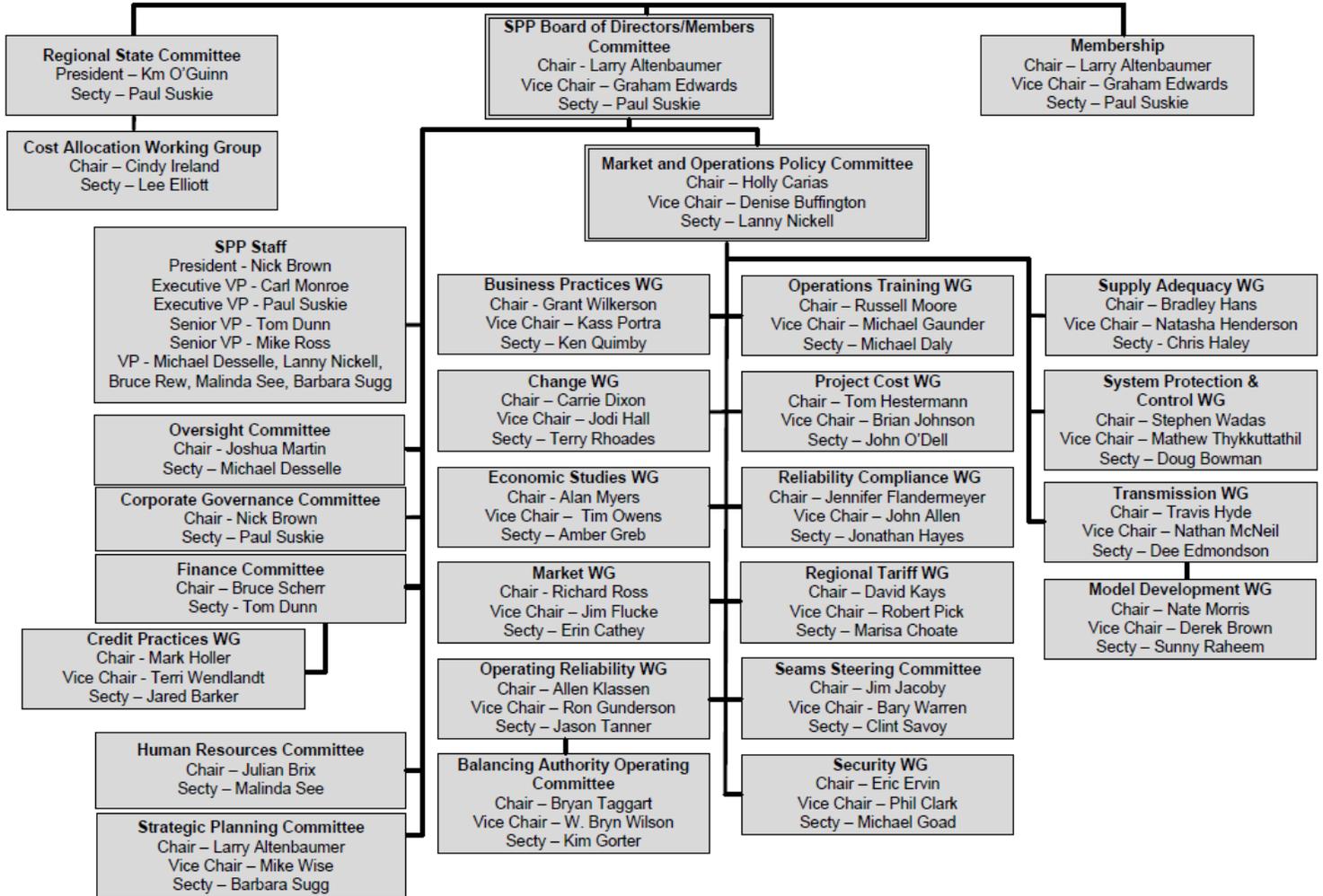
In conducting this holistic review, the HITT met 17 times over the course of a year. In-person meetings included team members and invited guests, while all stakeholders were invited to attend remotely. The group held educational sessions, reviewed 94 requests for information, and reviewed and listened to stakeholder presentations before drafting recommendations.

After vigorous debate and discussion, the HITT agreed on 21 high-level recommendations for the board's consideration. The recommendations were made from a broad perspective rather than a more narrow view of SPP's functions. The recommendations are presented in four categories: reliability, marketplace enhancements, transmission planning and cost allocation, and strategic.

In reaching these recommendations, the HITT used volumes of educational information, data and industry knowledge. Team members settled on recommendations that were a result of extensive discussions, debates, brainstorming, collaboration and compromise. The final package of high-level recommendations represents a holistic, consensus-based set of solutions to implement and/or evaluate to improve many of SPP's critical functions, with the principal goal of reliably providing the lowest-cost electricity to end-use customers.

Upon the board's approval of the HITT's 21 recommendations, the HITT expects these recommendations will be assigned to SPP's committees and working groups for more detailed development and approval, as well as implementation. The HITT has recommended an implementation action plan for board consideration with implementation timelines under oversight of the Strategic Planning Committee.

## Appendix 1: SPP Working Groups



Updated 5/22/19

## Appendix 2: SPP Staff Organization



SPP Organizational Chart - July 2, 2019  
 Officer with detailed headcount  
 Full Headcount 604

