Southwest Power Pool, Inc.

FINANCE COMMITTEE

Recommendation to the Board of Directors

December 5, 2017

2018 Budget

Organizational Roster

The following persons are members of the Finance Committee:

Larry Altenbaumer	SPP Director
Bruce Scherr	SPP Director
Sandra Bennett	American Electric Power
Kelly Harrison	Westar
Laura Kapustka	Lincoln Electric
Mike Wise	Golden Spread

Background

Section 6.5 of the SPP Bylaws identifies establishment of annual and long-term budgets as a primary duty of the Finance Committee.

Analysis

SPP's management proposed a 2018 budget to include expenditures as follows:

	$millions
Total Expenses	$190.8
Net Revenue Requirement	$164.0
Debt Repayment	$23.4
FERC Assessments	$20.3
Capital Expenditures	$17.9
2017 Over/(Under) Recovery	$1.5

SPP management utilized an incremental approach to prepare the 2018 budget.

Management documented an Operating Plan for 2018 outlining the significant initiatives and plans for the company during 2018. This Operating Plan was presented to the Finance Committee, Strategic Planning Committee, and SPP Board of Directors to seek input and consensus. SPP's 2018 budget was developed to accomplish the plan.

Recommendation

The Finance Committee recommends the SPP Board of Directors approve the 2018 SPP operating and capital budgets as submitted.

Approved:	SPP Finance Committee Unanimous vote	October 30, 2017

Action Requested: Approve Recommendation

Southwest Power Pool, Inc.

FINANCE COMMITTEE

Recommendation to the Board of Directors

December 5, 2017

2018 Schedule 1A Rate

Organizational Roster

The following persons are members of the Finance Committee:

Larry Altenbaumer	SPP Director
Bruce Scherr	SPP Director
Sandra Bennett	American Electric Power
Kelly Harrison	Westar
Laura Kapustka	Lincoln Electric
Mike Wise	Golden Spread

Background

Section 8.4 of the SPP Bylaws requires SPP to annually develop an assessment rate based on budgeted expenditures for the upcoming fiscal year and estimated billing determinants for that year.

Analysis

The 2018 SPP operating budget indicates a net revenue requirement ("NRR") for the year of $164.0 million (inclusive of expected over-recovery of $1.5 million in 2017) and estimated billing determinants of 382,100,000 MWh. NRR is derived by adjusting SPP's gross cash outflows (exclusive of capital expenditures) by all non-administrative fee revenue forecast to be earned in the year. The billing determinants are calculated by analyzing the current year to date transmission usage and estimating usage through the remainder of the year.

Billing determinants are estimated based on the billing criteria detailed in the SPP tariff. Presently, network integration transmission service is charged the SPP schedule 1A administrative fee based on the average 12 monthly peaks from the previous year; point-to-point transmission service is charged the SPP schedule 1A administrative fee based on the reserved transmission capacity. Through July 2017, SPP has realized year-over-year growth in average monthly peaks of 1.6%. SPP expects peaks realized for the remaining months to be flat or below the prior year peaks due to more difficult comparisons with the second half of 2016 (particularly 4Q'16 comparisons) and general comments from SPP's larger utilities regarding the low demand they realized during the summer of 2017. SPP is modeling 2% reductions in monthly peaks for August through November and a 12% reduction in December peak demand compared to 2016.

Recommendation

The Finance Committee recommends the SPP Board of Directors establish an assessment rate and tariff administrative fee (schedule 1-A) of 42.9¢/MWh beginning on January 1, 2018.

Approved:	SPP Finance Committee	October 30, 2017
	Unanimous vote	
Action Requested:	Approve Recommendation	

2018 BUDGET ASSUMPTIONS

The 2018 budget is based on the 2018 operating plan, and identifies resources deemed necessary to achieve the objectives described in the operating plan.

Major assumptions used to create the 2018 budget include, but are not limited to, the following.

- Regional Entity Dissolution: SPP reached consensus in mid-2017 to terminate the Delegation Agreement which authorized SPP to provide compliance enforcement and monitoring services for SPP registered entities. The termination of these services is to conclude no later than December 31, 2018. The 2018 budget assumes these services are terminated as of June 30, 2018. This assumption eliminates receipt of NERC funding after June 30, 2018 and also eliminates all expenditures for RE activities as of June 30, 2018. Staff currently performing RE services are expected to either seek employment with another Regional Entity or remain an employee of SPP (approximately 50%/50% split). Staff remaining with SPP are incremental to the RTO headcount throughout 2018.
- 2017 True-Up of Schedule 1A: Higher than expected 2017 schedule 1A revenues coupled with lower than expected outside service engagements resulted in an expectation for over-recovery of SPP's costs in 2017. The expected over-recovery of $1.5 million is included in the 2018 budget as an offset to the 2018 Net Revenue Requirement.
- Salaries and Benefits: Existing salaries are expected to increase by 3.75% for merit and promotion funding for 2018 per the approval by the SPP Human Resources Committee. SPP's fully employed headcount per the budget is 610, though compensation expense has been reduced by 3% to account for staff turnover expected to occur during the year. SPP experienced 3% staff turnover during 2017. Pension expense was calculated assuming an annual rate of return on the pension assets of 7% (consistent with the assumed rate of return in SPP's investment policy statement). Pension plan assets have returned 9.08% through 3Q'17.
- Billing Determinants: Billing determinant forecasts are a key component in determining an appropriate rate for SPP to charge for its services. Year-over-year comparisons through July 2017 indicate a 1.6% increase in average monthly peak demand. For budget purposes, SPP assumed a 1% reduction in billing determinants based on feedback from individual members on electricity consumption in their areas and the difficulty in using comparative data for the second half of 2016 versus the first half of 2016.
- Maintenance: Costs are driven by the expansion of the SPP infrastructure to sustain the continued health and operation of the system. The budget assumes capital asset acquisitions occur more or less evenly throughout the fiscal year which results in incremental maintenance expense also occurring evenly throughout the fiscal year.

SPP Southwest Power Pool

2018 BUDGET

PREPARED BY ACCOUNTING DEPARTMENT

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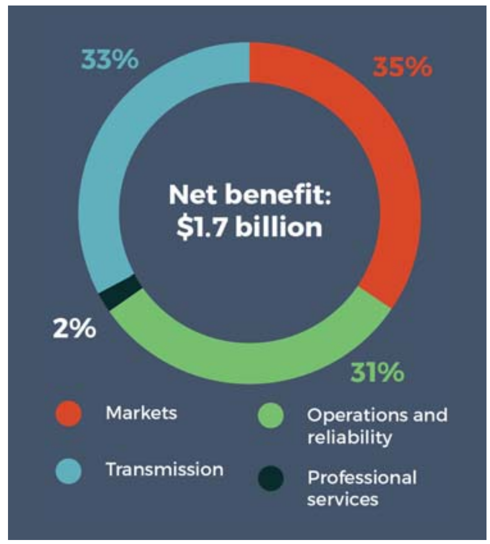
I. EXECUTIVE SUMMARY

SPP VALUE

SPP has a proven record of creating value for our diverse member companies. The integrated marketplace, transmission planning, and reliability and professional services provide significant benefits to members and customers throughout the region.

SPP's services provide net benefits to its members in excess of $1.7 billion annually at a benefit-to-cost ratio of more than 11-to-1. For the typical end-use customer using 1,000 kWh per month, this means their $100 electric bill would be $105.71 without the services SPP provides.



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.

A diligent focus on continuous improvement and efficiency has led SPP staff to implement numerous enhancements to its processes, tools and services as noted in the Process Improvement section of the supplemental materials to this document.

OPERATING PLAN

SPP's 2018 Operating Plan is similar in strategy to the current-year operating plan, with additional focus on cybersecurity, the proliferation of renewable energy resources and the impact of energy efficiency on load. Changes to the plan are reflected in the regulatory arena as a result of the new presidential administration bringing about changes in policy and in regulatory and legislative leadership.

The operating plan was drafted by SPP staff and evaluated at a joint meeting of the SPP Finance Committee and Strategic Planning Committee to ensure alignment with SPP's current strategic plan. The operating plan documents specific activities SPP will undertake during 2018 and links those activities to strategic plan initiatives.

The 2018 Operating Plan segregates work across three platforms:

- Major project investments: Represents investments driven by customers, regulators or SPP staff that generally have broad impacts to services provided by SPP.
- Major technology investments: Represents investments in technology to maintain existing capabilities of the technology infrastructure and for enhancements to address system demands, cybersecurity requirements and incremental additions to SPP's service menu.
- Keeping the lights on: Represents ongoing and incremental investments in SPP foundation activities to ensure reliability.

Major 2018 project investments include:

- Settlement Systems Replacement: This multi-year project that started in 2016 will replace current market and transmission settlement systems with a custom designed, single, high-performance, scalable system solution. The new system will expand automation of the settlements processes to improve accuracy, timeliness and auditability. A significant reduction in long-term support costs for the settlements function is expected as a result of the implementation. The new system is expected to be in production by May 2019, with the bulk of the development work to occur throughout 2018.
- Voltage Security Assessment Tool (VSAT): The online VSAT will identify constraints on the transmission system that enables staff to prepare for and react to stability concerns and therefore enhance reliable operation of the bulk electric system. VSAT implementation began in 2017 and will complete before the end of 2018. Initial capital

costs include purchase of software, hardware and new functionality added to the energy management system (EMS) software to facilitate the export of data.

- Transient Stability Assessment Tool (TSAT): The TSAT application will monitor transient stability to help prevent damage to generating equipment. TSAT will be used to ensure power transfers do not cause a voltage collapse event or blackout. The project will begin once the VSAT application is completed and in production in 2018.

- Training and Testing Simulated Environment (TTSE): Phase 1 of the project initiated in 2016 and resulted in the implementation of a stand-alone training simulation environment for SPP's operations staff. Phase 2 of the project will result in the addition of market simulation capability and contains two components: 1) assembly of market simulation hardware and environment, and 2) build and integrate market simulation software. Phase 3 of the project will add visualization tools to the simulation environment closely mimicking the screens available at the real-time desks. Phase 3 work will complete in 2018 while the second component of Phase 2 is planned for 2019.

Various other projects were determined valuable to SPP and its members but were not recommended for approval. Reasons for not recommending the projects were generally due to uncertainty concerning regulatory requirements and timelines.

The operating plan document in its entirety is included following the Supplementary Schedules in Section XI.

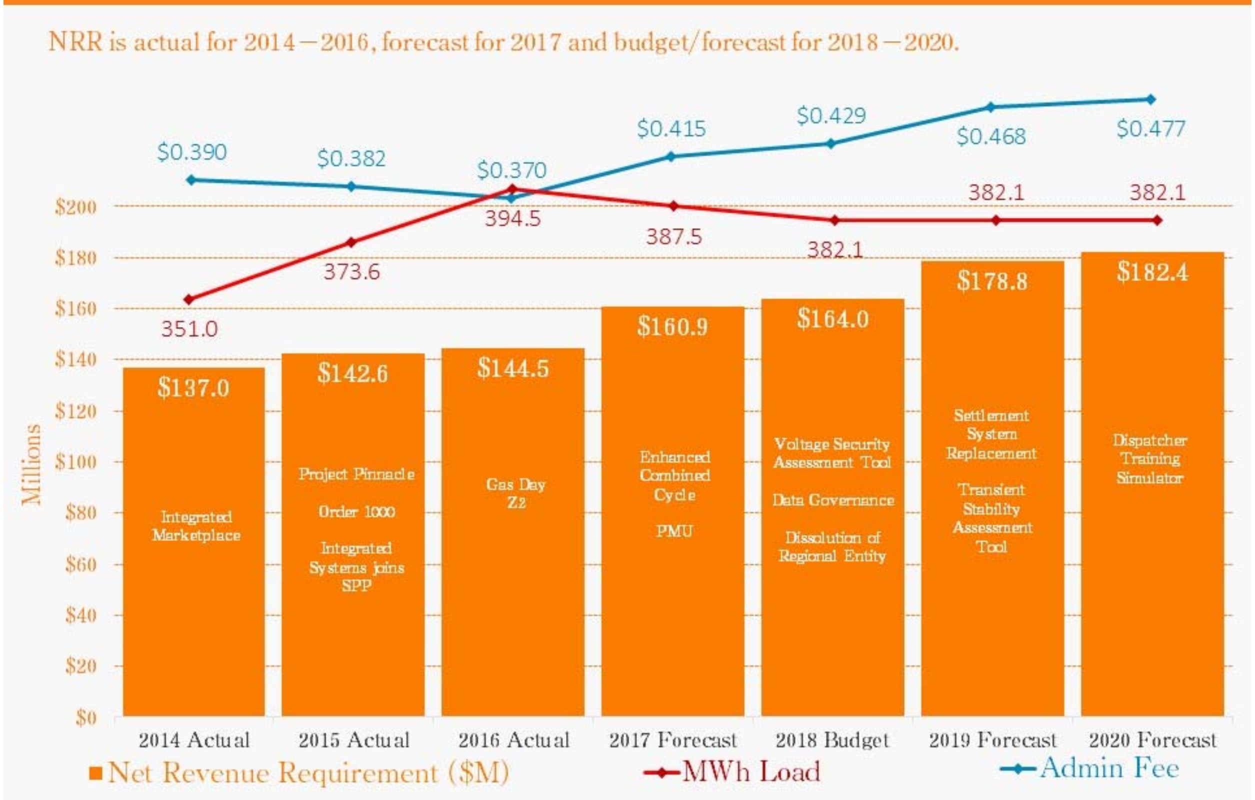
NET REVENUE REQUIREMENT (NRR)

The NRR represents the amount of funding necessary to provide services throughout the footprint. The main components are operating expenses (net of 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.

The 2018 proposed admin fee rate of 42.9¢/MWh is based on a net revenue requirement (NRR) of $164.0 million.

Revenues from various activities including Northern American Electric Reliability Corporation (NERC) funding for the Regional Entity (RE) function and reimbursements for engineering studies are included as an offset to the expenses in calculating the NRR. SPP projects an NRR over-recovery of $1.5 million for 2017.

NET REVENUE REQUIREMENT AND SPP INITIATIVES



The 2017 over-recovery is related to various offsetting factors. Favorable factors include lower operating costs primarily associated with maintenance, outside services and interest; and a slight increase in load resulting in higher revenues in 2017. Items offsetting the favorable impact to NRR include higher operating costs associated with compensation due to a lower vacancy rate as compared to budget, and certain litigation and penalty expenses not reflected in the 2017 budget. The 2017 over-recovery is reflected as an offset to the 2018 budgeted NRR.

The 2018 proposed admin fee rate of 42.9¢/MWh is based on an NRR of $164.0 million, compared to $160.9 million forecasted NRR for 2017. The 2018 NRR increase is driven by dissolution of the Regional Entity and associated NERC funding and by increases in various operating expenses (compensation, maintenance, communications infrastructure, etc.).

The proposed administrative fee rate for 2018 of 42.9¢/MWh remains just under the admin fee tariff cap of 43.0¢/MWh.

CAPITAL EXPENDITURES

The 2018 budget identifies capital expenditures totaling $47.4 million for 2018-2020. These projects represent investments in various initiatives. Each initiative was driven by either stakeholder requests, compliance-related concerns or capital spending intended to improve and strengthen information technology and operations foundation.

Projects are consistently evaluated throughout the year under oversight of SPP's internal Project Review and Prioritization Committee (PRPC). Reprioritization due to new developments and/or resource/time constraints throughout the rest of 2017 and into 2018 could potentially impact the project portfolio. Capital expenditures planned for 2018 could be impacted by: 1) addition of projects not currently reflected in the budget, 2) deferrals of projects into future years, 3) elimination of projects due to time constraints and/or completion of the project without incurring external costs, or 4) costs carried forward into 2018 for projects not completed as planned during 2017.

The Capital Projects Section V. describes noteworthy projects in greater detail, and a complete list of initiatives and associated capital budgets appear in the Supplementary Schedules Section X.

SPP HEADCOUNT

SPP management continues to diligently evaluate staffing levels and responsibilities in response to SPP's evolving array of services and the challenges of the regulatory environment.

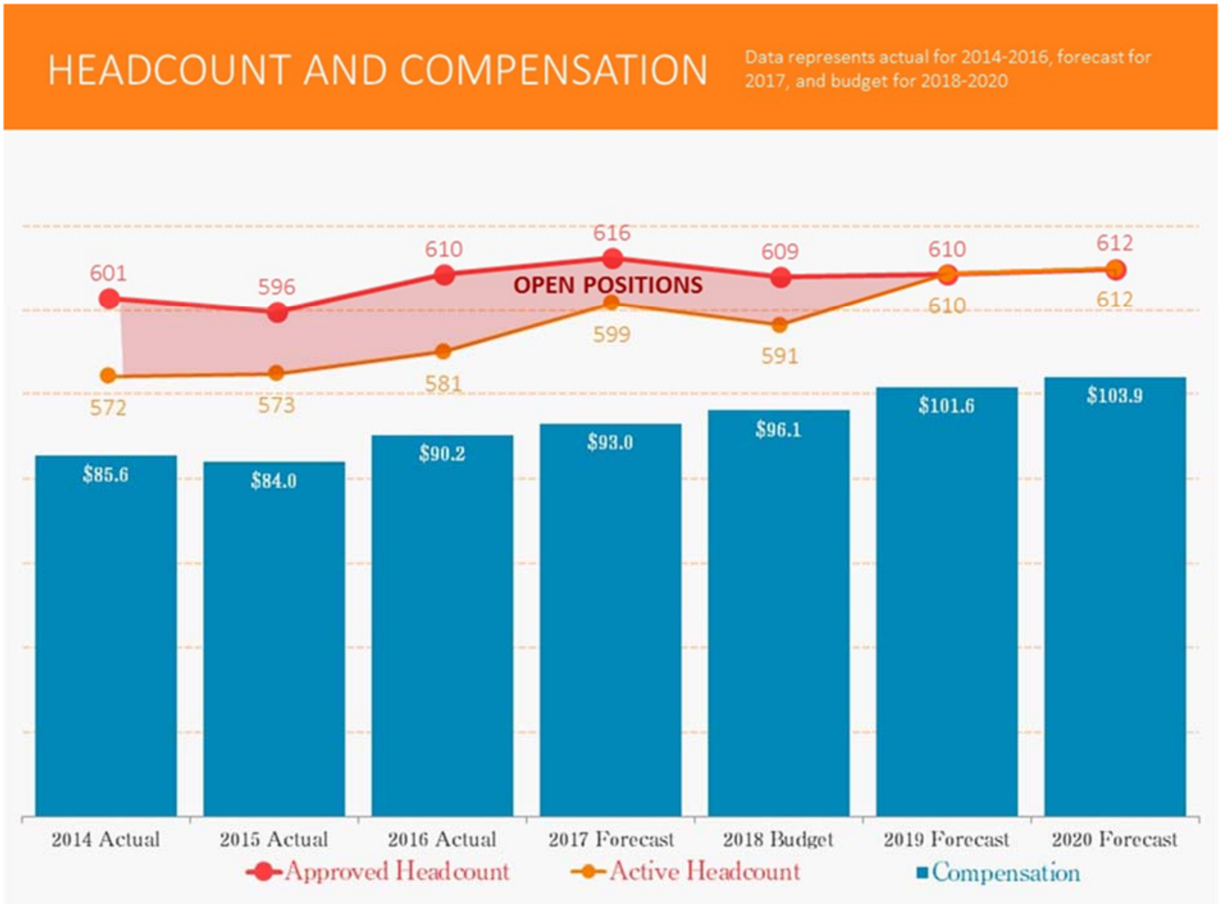
The total number of staff in 2018 is expected to decrease from 2017. The 2018 staffing level is budgeted at 609, compared to 616 projected last year for 2018 and compared to 616 in the 2017 forecast. Compensation includes salaries, benefits and taxes.

Headcount Changes	
2017 Budget	610
Out-of-budget requests	8
Eliminations added back	3
RE open positions removed	(5)
2017 Forecast	616
2018 Incremental positions	5
Reduction in RE staff	(12)
2018 Budget	609

The net decrease in headcount is associated with various offsetting factors. The decision to terminate the Regional Entity delegation agreement with NERC resulted in a reduction of 5 open positions in 2017 and 12 additional positions by July 2018. Increases over the 2017 budget include eight incremental out-of-budget positions added to the 2017 forecast as a result of assessing SPP's compliance-related responsibilities and repurposing positions required for staffing needs for 2017 and beyond.

The unidentified headcount reductions originally proposed in the 2017 budget were added back to the 2017 headcount forecast as a result of the commitment to absorb additional staff upon the termination of the RE delegation agreement. The 2018 budget includes five incremental staff.

More details on the staffing budget is included in Resource Utilization Section VI.



II. SPP VALUE

SPP's stakeholders are a diverse group made of our member companies and the customers they serve. SPP strives to be a prudent steward of its members' valuable resources and continually partners with stakeholders and local, state and federal regulators to do so.

Member-Driven Culture

SPP is value-oriented and works to ensure that its people and processes are aligned in support of its members' goals.

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

SPP's approach to business is not to be cheaper, faster or bigger than its peers.

SPP focuses on creating and maintaining a strong, unique culture in which our staff and stakeholders collaborate to be as effective and efficient as possible.

SPP takes pride that today it still embodies its early principles of collaboration with an unwavering commitment to remain member-focused. SPP derives value from the diverse perspectives of its member companies 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 regardless of each member company's size.

SPP's membership includes investor-owned utilities, rural electric cooperatives, municipalities, public power, and state and federal agencies. SPP shares its members' values and equally understands the challenges of managing transmission in rural areas together with maintaining reliability in large population centers. SPP serves seven of the 100 largest cities in the U.S., but at the same time maintains a keen understanding of rural America where SPP has primarily served for the past 75 years.

SPP seeks career employees and encourages community service. It values transparency in all actions and communications; flexibility in its approach to customer service and response to industry trends; and integrity and trust in all actions.

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.

SPP's regional tariff and integrated marketplace provides customers one-stop shopping and trading which results in production cost savings and additional sales of energy. SPP understands the benefits of a robust transmission system with the ability to transfer power reliably and economically, and also recognizes the significance of providing access to markets that create further savings for members and customers.

SPP's Integrated Marketplace continues to deliver value to its membership, providing over $1.5 billion in cumulative benefits to the region through September 2017 and an estimated $422 million in net savings annually to market participants.

SPP's regional approach to transmission planning optimizes the existing transmission system while determining the best opportunities for transmission expansion needed to ensure reliability, to promote more efficient energy markets and to meet public policy objectives. Even with some increase in initial cost, a 2015 study found that transmission expansion in the then-current SPP region has a 3.5-to-1 benefit-to-cost ratio over its lifespan.

These and other services provide net benefits to SPP's members in excess of $1.7 billion annually at a benefit-to-cost ratio of more than 11-to-1. For the typical end-use customer using 1,000 kWh per month, this means their $100 electric bill would be $105.71 without the services SPP provides.

SPP also provides the tools, services, markets and forums for members and market participants to manage current and future challenges. Several projects are planned for 2018 to enhance the value SPP provides members today and in the future. Some of these projects include the replacement of the settlements system, development of voltage security assessment and transient stability assessment tools, and an upgrade of the training and testing simulated environment. These projects are discussed in detail in the Capital Projects Section V.

SPP works to ensure the supply of the most reliable and cost-efficient electric power for the entire region. The company's expertise, along with the economies of scale afforded by SPP's business model, ensures our membership realizes the above benefits.

The benefits of SPP membership are numerous, including production-cost savings during all manner of system conditions, optimized use of existing transmission facilities, increased competition, improved regional system planning, cost savings related to generating capacity planning, improved access to low-cost renewable resources, transmission cost allocation, interregional seams management and a multitude of other operational and reliability benefits.

III. 2018 NET REVENUE REQUIREMENT

NET REVENUE REQUIREMENT (NRR)

Operating expenses (excluding depreciation and FERC fees) are the main component of the NRR. The 2018 operating expenses are expected to increase by three percent over the 2017 forecast.

SPP's services provide net benefits to members in excess of $1.7 billion annually at a benefit-to-cost ratio of more than 11-to-1.

SPP's role is to ensure the reliable supply of power, adequate transmission infrastructure and competitive wholesale electricity prices for a 546,000-square-mile region. The reliable planning and operation of the wholesale electric grid is SPP's main focus. Resources identified in the annual budget allow SPP to successfully perform these responsibilities.

Income Statement

$ millions	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Income				
Tariff Administration Service	$160.5	$162.4	$164.0	$168.2
Fees & Assessments	28.1	26.7	26.1	28.8
Contract Services Revenue	0.5	0.5	0.2	0.5
Miscellaneous Income	5.0	5.2	4.0	5.1
Total Income	**$194.1**	**$194.8**	**$194.2**	**$202.6**
Expense				
Salary & Benefits	$91.3	$93.0	$96.1	$94.0
Depreciation	30.5	$29.1	19.4	23.7
Communications & Maintenance	22.2	$20.3	22.8	25.6
Outside Services	14.5	$13.2	14.6	15.8
Administrative / Other	16.1	$15.4	14.5	16.3
Assessments & Fees	18.6	$21.7	20.3	19.2
Travel & Meetings	3.3	$3.1	3.1	3.5
Total Expense	**$196.4**	**$195.8**	**$190.8**	**$198.1**
Net Income (Loss)	**($2.3)**	**($1.0)**	**$3.5**	**$4.5**
Debt Repayment	$23.2	$23.2	$23.4	$28.0
MWh Forecast (in millions)	383.0	387.5	382.1	383.0
Net Revenue Requirement	$160.5	$160.9	$164.0	$168.2
Recommended Admin Fee / MWh	$0.419	$0.419	$0.429	$0.439

Operating expenses (excluding depreciation and FERC assessments) are expected to be $151.0 million in 2018, an increase of $3.7 million compared to the 2017 budget. Growth in operating expenses results primarily from compensation increases due to additional staff and merit increases; and enterprise technology maintenance and communication infrastructure increases as SPP continues to expand the quality and quantity of its services through IT-intensive capital projects and investments in SPP's IT infrastructure. The increase is partially offset by lower interest expense in 2018 due to delays in funding requirements.

Maintenance expense is expected to increase in 2018 by $1.7 million over the 2017 forecast. The increase results from new capital expenditures and projects expected to be implemented throughout 2018. For new capital expenditures, the majority of maintenance expense will support new and replacement servers, new storage and networking equipment (primarily driven by critical infrastructure protection (CIP) and electronic security perimeter (ESP) separation) and increased software licensing.

Debt repayments comprise the second largest component of NRR after operating expenses. Although debt repayments remain relatively consistent with the 2017 budget and forecast, the 2018 budget is lower than the 2018 prior budget. The prior budget assumed additional funding for capital expenditures would be necessary in 2017, with principal payments due beginning in 2018. Capital purchases trailed budget during 2017 therefore the need for additional funding also was delayed.

BILLING DETERMINANTS

The 2018 budget assumes a 1 percent reduction in billing units from the 2017 forecast.

SPP allocates the NRR to transmission customers based on their purchase of point-to-point transmission service (PtP) and/or network integrated transmission service (NITS). Customers purchasing PtP represent approximately 10 percent of total annual billing determinants while NITS customers represent approximately 90 percent of total annual billing determinants. PtP service is billed based on reserved hourly transmission capacity. NITS is billed based on the prior year's 12- month average monthly peak demand (12CP) for each customer.

SPP collected monthly peak demand data from its membership for the months of January through July 2017. The average monthly peak demand through July 2017 is 1.52 percent higher than the same period in 2016 and 0.74 percent below the same period in 2015.

The growth in monthly peak demand experienced in the SPP footprint in 2017 is largely due to higher peak demand in the first quarter of 2017 compared to the first quarter of 2016. Average peak demand in the first quarter of 2017 increased over 3 percent compared to the same period in 2016. This growth was largely due to the extremely weak demand experienced in the first quarter of 2016, which was down over 10 percent from the first-quarter peak demand of 2015. Peak demand in the April–July period of 2017 is consistent with the same period of 2016.

Several of SPP's larger utility systems have indicated disappointment with the energy demand in the months of August and September of 2017. Based on this information and the knowledge that fourth-quarter peak demand from 2016 was unexpectedly strong, SPP forecasts a 2 percent year-over-year reduction in peak demand for the months of August through November.

A 12 percent reduction in peak demand will be used for December to bring the December forecasted peak demand to 2015 levels.

Based on the above analysis and illustrated in the table below, the 2018 budget assumes a 1 percent reduction in billing units from the 2017 forecast. The units below represent Schedule 9 average monthly peaks.

	Peak Demand (GW)			Percent Change Year over Year		
	2015	2016	2017	2016 vs. 2015	2017 vs. 2016	2017 vs. 2015
Jan	41.7	38.2	40.3	-8.53%	5.61%	-3.40%
Feb	39.5	36.1	35.4	-8.60%	-2.08%	-10.50%
Mar	38.2	32.9	34.8	-13.85%	6.02%	-8.66%
Apr	32.0	32.6	33.0	1.91%	1.22%	3.15%
May	34.7	36.9	39.6	6.34%	7.43%	14.24%
Jun	46.6	48.7	46.9	4.56%	-3.71%	0.68%
Jul	50.2	51.0	50.7	1.71%	-0.55%	1.16%
Aug	49.3	50.9	49.9	3.29%	-2.00%	
Sep	46.6	44.8	43.9	-3.95%	-2.00%	
Oct	36.3	37.8	37.0	4.03%	-2.00%	
Nov	33.0	34.2	33.5	3.50%	-2.00%	
Dec	35.6	41.0	36.1	15.23%	-12.00%	

COMPONENTS OF 2018 NRR AND ADMINISTRATIVE FEE

The following table illustrates the calculation of the administrative fee. The 2018 calculation includes funding of the 2018 capital reserve and an adjustment to NRR to account for expected over-recovery in 2017.

Net Revenue Requirement (NRR) & Administrative Fee ($ millions)	2017 Budget	2017 Forecast (1)	2018 Budget	2018 Prior Estimate (2)
Total expense (excluding deprec. and FERC exp.)	**$147.3**	**$146.5**	**$151.0**	**$155.2**
Debt service	23.2	23.2	23.4	28.0
Capital expenditure reserve	3.9	3.9	3.6	5.6
Gross revenue requirement	**$174.4**	**$173.7**	**$177.9**	**$188.8**
Less:				
NERC revenue	($10.8)	($10.0)	($4.7)	($11.2)
Other revenues	(6.1)	(6.5)	(4.7)	(6.2)
NRR adjustments (3)	3.0	3.7	(4.5)	(3.2)
Net revenue requirement	**$160.5**	**$160.9**	**$164.0**	**$168.2**
Billing determinants (MWh millions) (4)	383.0	387.5	382.1	383.0
Calculated admin fee / MWh	$0.419	$0.415	$0.429	$0.439
Proposed admin fee / MWh	**$0.419**	**$0.419**	**$0.429**	**$0.439**
Admin fee tariff cap	$0.430	$0.430	$0.430	$0.430

(1) Total expense for 2017 also excludes $1.6 non-cash items such as swap valuation adjustments and realized/unrealized gains on investments

(2) 2018 Prior Year Estimate refers to the 2018 estimate made during the 2017 budget presentation

(3) Refer to section below

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

NRR Adjustments ($ millions)

NRR Adjustments ($ millions)	2017 Budget	2017 Forecast	2018 Budget	2018 Prior Estimate (2)
Pension & retiree healthcare (non-cash)	($2.5)	($3.0)	($2.6)	($2.8)
Capital lease maintenance (non-cash)	(0.4)	(0.4)	(0.4)	(0.4)
2016 Under-recovery	5.9	7.1		
2017 Over-recovery			(1.5)	
Total NRR adjustments	**$3.0**	**$3.7**	**($4.5)**	**($3.2)**

FUTURE FORECASTING

SPP constructs a three-year budget plan each year in accordance with the tariff. The 2018–2020 budget is used as the basis for the five-year forecast. Consistent with the original three-year budget, the billing units for 2021 and 2022 remain equal to the 382.1 MWh forecast for 2018 thru 2020, and only inflation adjustments were applied to the operating expenses.

Capital expenditures also are assumed to be consistent with the 2020 forecast with inflation adjustments. SPP has included in its rate recovery in 2021 and 2022 collection of 20 percent of the forecast capital expenditures for each year. This collection will serve to reduce interest costs going forward.

SPP Five Year Forecast

	2018 Budget	2019 Budget	2020 Budget	2021 Budget	2022 Budget
Income					
Tariff Administration Service	$164.0	$178.8	$182.4	$189.5	$196.3
Fees & Assessments	26.1	21.4	21.4	21.8	22.3
Contract Services Revenue	0.2	0.0	0.0	0.0	0.0
Miscellaneous Income	4.0	4.0	4.1	4.1	4.2
Total Income	**$194.2**	**$204.2**	**$207.9**	**$215.6**	**$222.8**
Expense					
Salary & Benefits	$96.1	$101.6	$103.9	$106.0	$108.1
Depreciation & Amortization	19.4	22.0	22.7	23.1	23.6
Communications & Maintenance	22.8	24.3	25.6	26.1	26.6
Outside Services	14.6	13.7	12.8	13.1	13.4
Administrative / Other	14.5	14.2	13.8	14.1	14.4
Assessments & Fees	20.3	20.3	20.3	20.7	21.1
Travel & Meetings	3.1	2.9	2.9	3.0	3.1
Total Expense	**$190.8**	**$198.9**	**$202.0**	**$206.1**	**$210.2**
Net Income (Loss)	**$3.5**	**$5.3**	**$5.9**	**$9.5**	**$12.6**
Debt Repayment	$23.4	$26.6	$28.2	$32.2	$35.7
MWh Forecast (in millions)	382.1	382.1	382.1	382.1	382.1
Net Revenue Requirement	$164.0	$178.8	$182.4	$189.5	$196.3
Recommended Admin Fee / MWh	$0.429	$0.468	$0.477	$0.496	$0.514

IV. BUDGET OVERVIEW

This budget document provides an overview and outlines details of the cost of services and components of the net revenue requirement, which consists of the following:

- Capital projects (discussed in Section V)
- Operating expenses (discussed in Sections VI and VII)
- Debt service (discussed in Section VIII)

Operating expenses represent the largest component of the net revenue requirement and consist of budgeted costs for ongoing operations.

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 to maintain existing capabilities.

In addition to the foundation projects, the budget identifies nine capital projects impacting 2018–2020. Foundation projects include capital spending to replace or extend the useful life of existing assets or systems. The foundation budget also includes expenditures for new enterprise technologies (servers, data storage, networking equipment and software licenses) driven by security requirements, application and architectural enhancements, and legacy growth.

SPP's longstanding policy has been to fund capital expenditures through issuance of debt with terms somewhat consistent with the expected useful life of the assets acquired. This policy is designed to best recover the cost of the assets from the customers benefiting from the assets. Debt service costs are principal payments and interest expense related to various borrowings obtained to fund SPP's capital expenditures.

BUDGET GUIDANCE AND ASSUMPTIONS

The SPP 2018 Operating Plan was used as a guide for development of the budget, with the strategic plan serving as the foundation.

Planning meetings that began in June 2017 provided guidance in developing the 2018 budget. Although a zero-based methodology was utilized in certain previous years, under the direction of the executive team, each department director created an incremental-based budget for operating expenses. The incremental-based method also was utilized in the 2017 budget process.

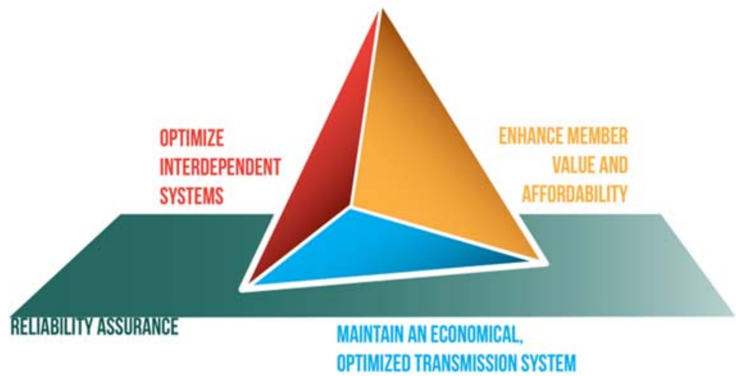
Adhering to SPP's fiscal responsibility, justifications for significant changes from the current 2017 forecast were required and reviewed by management. These material changes are discussed in detail in the Resource Utilization Section VI.

The combined efforts of identifying required operating expenses, and planning for capital projects along with the associated funding resulted in the recommended NRR and associated administrative fee.

ALIGNMENT OF 2018 BUDGET WITH SPP'S STRATEGIC PLAN

The Finance Committee (FC) and the Strategic Planning Committee (SPC) endorsed the 2018 Operating Plan as consistent with the alignment with SPP's strategic plan.

The four foundational strategies of SPP's strategic plan are 1) ensuring reliability in planning and operation of the electric power grid, 2) optimizing interdependent systems, 3) enhancing member value and affordability, and 4) 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," which are issues that may require adjustments to the way the organization strategizes and tactically addresses industry trends that may affect SPP and its members. During its 2017 annual meeting, the SPC reviewed a number of trends including organized markets, reduced demand for energy, declining marginal energy prices, new generation, distributed energy, demand response, energy efficiency and member-company retail rate considerations.

The committee also discussed other pressing concerns affecting the market and transmission planning services SPP provides on behalf of its membership. With all these items identified, the SPC maintained that the four foundational strategies inherent in the most recent strategic plan remain relevant to the organization today.

Changes to the previous plan include the revision of the initial strategic initiatives under each of the foundational strategies to reflect either their completion or reprioritization. The committee also added new strategic initiatives to foundational strategies based on signpost observations.

More information on the relationship between these foundational strategies and major projects investments in 2018 can be found in the 2018 Operating Plan document in the Supplementary Schedules Section X.

V. CAPITAL PROJECTS

SPP expects 2018-2020 capital expenditures to be approximately $47.4 million.

Beginning in early 2017, a comprehensive list of new and ongoing projects was compiled in consideration for the 2018–2020 budget under the direction of SPP's project review and prioritization committee (PRPC) and in collaboration with staff from the project management office (PMO), accounting and IT departments. These projects are in addition to the foundation capital expenditures for IT, operations, settlements and facilities for routine refresh and upkeep.

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

The PRPC reviewed 18 new and carryover project requests for the 2018-2020 budget cycle. The committee reviewed, ranked and assessed the value of the submitted projects and ultimately submitted its recommendation to the SPP officers in August 2017 for the approval of all foundation initiatives and 9 of the 18 proposed projects. The projects that were not recommended were declined generally due to uncertainty concerning regulatory requirements and timelines.

CAPITAL PROJECTS AND THE STRATEGIC PLAN

The capital budget was designed to support foundational strategies within the 2018 Strategic Plan, with the capital initiatives acting as guidelines for the tactical implementation.

The IT foundation initiatives are discussed in greater detail in the Foundation Capital Expenditures section following the discussion on capital projects and the strategic plan.

Following is a table with budgeted amounts for each of the foundational strategies including a list of deferred, contingent or declined projects, which are not included in the 2018–2020 capital budget.

2018 - 2020 Capital Expenditures ($ millions)	Prior Year(s)	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Reliability Assurance	$ 1.8	$ 1.0	$ 3.8	$ -	$ 6.6
Enhance and Optimize Interdependent Systems	-	2.7	2.4	2.3	7.4
Enhance Member Value and Affordability	1.9	3.8	1.0	0.4	7.1
IT Service Management Tool Upgrade	-	1.0	-	-	1.0
IT Foundation *	-	9.3	9.4	10.3	29.0
Total Capital Budget	**$ 3.7**	**$ 17.9**	**$ 16.6**	**$ 13.0**	**$ 51.2**
2018 - 2020 Capital Budget					**$ 47.4**
Deferred, Contingent or Declined Projects					
Reliability Communications Tool	$ -	$ 0.3	$ -	$ -	$ 0.3
Replicated Data Server	-	0.2	-	-	0.2
Freeze Date Replacement Allocation Calculator	-	-	0.2	-	0.2
Storage & Distributed Generation	-	-	0.2	-	0.2
Total Deferred or Contingent Projects	**$ -**	**$ 0.5**	**$ 0.5**	**$ -**	**$ 0.9**
Gen DC Market Modeling	-	0.4	-	-	0.4
Online SSAT	-	-	-	0.2	0.2
Enhanced Public Data	-	-	0.1	-	0.1
Order 831 Offer Cap	-	0.1	-	-	0.1
Shadow Allocation Calculator	-	-	0.0	-	0.0
Total Declined Projects	**$ -**	**$ 0.5**	**$ 0.1**	**$ 0.2**	**$ 0.8**
Original Recommendation	**$ 3.7**	**$ 18.8**	**$ 17.2**	**$ 13.2**	**$ 52.9**

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

The following narrative provides a brief explanation of how major initiatives are designed to support the strategies. Capital expenditures for IT foundation include expenditures for both improving and maintaining SPP's technology infrastructure. Such expenditures support services across all areas of the company and are not specifically tied to any specific foundational strategy. The IT Service Management Tool Upgrade project also supports improving and maintaining the technology infrastructure.

RELIABILITY ASSURANCE

The reliability assurance foundation strategy seeks a proactive approach to the changing dynamics of the transmission system to maintain and enhance the reliable transmission of energy over member facilities.

	Prior Year(s)	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Reliability Assurance					
Training and Testing Simulated Environment (TTSE)	$ 0.3	$ -	$ 3.0	$ -	$ 3.3
Voltage Security Assessment Tool (VSAT)	1.3	0.1	-	-	1.4
Transient Stability Tool (TSAT)	-	0.6	0.8	-	1.4
Identity and Access Management (IAM)	0.2	0.3	-	-	0.5
Total Reliability Assurance	**$ 1.8**	**$ 1.0**	**$ 3.8**	**$ -**	**$ 6.6**

- Training and Testing Simulated Environment (TTSE): The TTSE initiative will fully integrate energy management system (EMS) and Integrated Marketplace data into existing operator training systems. This will provide SPP's operators with real-time and real-world training scenarios to prepare for better management of the system when faced with challenging real-time situations.

- Voltage Security Assessment Tool (VSAT): The VSAT will help determine at what point a voltage collapse might occur on the transmission system for a defined set of contingencies. This will allow SPP's operators and engineers to take proactive measures to protect highly valued transmission assets if certain scenarios appear plausible.

- Transient Stability Assessment Tool (TSAT): The TSAT will help detect transient stability constraints on the transmission system that current tools cannot identify. Situational awareness will increase, resulting in SPP operators' ability to respond to potentially critical events in a timelier manner.

- Identity and Access Management System (IAM): The IAM system will provide centralized provisioning and removal of access to certain critical SPP reliability and market systems. This will help increase SPP's cybersecurity posture and compliance objectives.

ENHANCE AND OPTIMIZE INTERDEPENDENT SYSTEMS

This foundational strategy seeks to both enhance and protect the interdependency of critical energy systems within the region and along regional seams, and includes the further optimization of SPP's Integrated Marketplace.

	Prior Year(s)	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Enhance and Optimize Interdependent Systems					
Operations Foundation *		$ 2.4	$ 2.3	$ 2.3	$ 7.0
Data Lake Phase 3	-	0.3	0.1	-	0.4
Total Enhance and Optimize Interdependent Systems	**$ -**	**$ 2.7**	**$ 2.4**	**$ 2.3**	**$ 7.4**

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

- Operations Foundation Capital Spending: Enhancements to the Integrated Marketplace systems are continually contemplated by staff and stakeholders. These changes offer opportunities for increased efficiencies, regulatory compliance and other benefits for a robust market.

- Data Lake Phase 3: The Integrated Marketplace has created 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.

ENHANCE MEMBER VALUE AND AFFORDABILITY

This strategy seeks to improve the value SPP provides to its members through efficiency and effectiveness of processes and deliverables.

	Prior Year(s)	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Enhance Member Value and Affordability					
Settlement Systems Replacement	$ 1.8	$ 3.3	$ 0.2	$ -	$ 5.3
Facilities Foundation *		0.2	0.3	0.3	0.8
Settlements Foundation *		0.3	0.1	0.1	0.5
Project Management Tool Replacement	-	-	0.4	-	0.4
Circuit Redesign	0.2	0.0	-	-	0.2
Total Enhance Member Value and Affordability	**$ 1.9**	**$ 3.8**	**$ 1.0**	**$ 0.4**	**$ 7.1**

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

- Settlement Systems Replacement: Development of a new settlement system will provide SPP settlement analysts with greater flexibility to respond to SPP and member-driven initiatives with respect to transmission and market transactions. The system will be wholly supported by SPP staff resulting in significant long-term savings.

- Facilities Foundation Capital Spend: Enhancements to SPP's facilities are often required for security, safety and extension of its usable life. Capital spending associated with

SPP's facilities are designed to support the company's compliance, contractual and fiduciary requirements.

The following section describes noteworthy projects in greater detail. A complete list of initiatives and associated capital budgets appears in the Supplementary Schedules Section X.

MAJOR CAPITAL PROJECTS

Settlement Systems Replacement

The objective of this project is to replace the current market and transmission settlement systems with a custom designed, single, high-performance and scalable system solution that will provide greater flexibility to respond to SPP initiatives and member requests.

The new settlement system solution will be supported by internal IT staff, which will improve the response time for enhancements and reduce support costs. The current settlement system solution includes two separate systems for market and transmission settlements. These systems currently experience performance and stability issues and create obstacles for the settlements department to seamlessly execute the processes and procedures required to meet SPP's tariff obligations. This project kicked off in 2016 and is expected to be completed by mid-2019.

Training and Testing Simulated Environment (TTSE)

This project is a phased evolution of the dispatcher-training simulator (DTS) to a more fully integrated training and testing simulated environment that incorporates the energy management system (EMS) and market systems. This fully integrated simulator will provide a platform to help simulate the operations environment and prepare SPP operators for normal and emergency situations.

Phase 1 was completed in 2016 and included an independent, stand-alone DTS environment for EMS along with some vendor enhancements. Phase 2 considers the addition of a stand-alone interactive market simulator and is not expected to be completed until 2019 following a thorough analysis and testing of potential solutions. Phase 3 consists of the addition of visualization tools and is expected to be completed in 2018.

Voltage Security Assessment Tool (VSAT)

VSAT will identify constraints on the system to enable real-time operators to mitigate the constraints by using current congestion-management tools. VSAT also will enable real-time operators and operational planning engineers to prepare for and react to stability concerns to maintain reliable operation of the bulk electric system. The tool will provide more in-depth data to determine at what point voltage collapse will occur for the defined contingencies. This allows SPP to make proactive decisions if studies indicate post-contingent voltage collapse could occur outside the threshold of current criteria.

The project kicked off in 2017 with the installation of the VSAT software in the quality assurance (QA) environment along with testing and training on the tool. The project will conclude in 2018 with the implementation into the production environment.

Transient Stability Assessment Tool (TSAT)

The TSAT application will enable real-time operators and planning engineers to perform transient stability assessments to prepare for and react to stability concerns. The system will monitor transient stability by taking an EMS snapshot and performing power system transfers that stress the current case. If the tool indicates transient stability issues, corrective actions will be made to maintain reliable operation of the transmission system. TSAT will be used to ensure power transfers do not cause a voltage collapse event or blackout. The inability to monitor transient stability could hinder SPP's reaction to a system disturbance as SPP's footprint continues to increase its usage of renewable generation.

The project is scheduled to start in 2018 after the VSAT project is in production. Software enhancements, interfaces and QA hardware setup is expected to be completed in 2018 with additional hardware for the production environment to be acquired in early 2019. TSAT is anticipated to be ready for real-time operations during the first quarter of 2019.

IT Service Management Tool Upgrade

The current version of SPP's service management system will no longer be supported by the vendor beginning in February 2018. The tool is critical for performing processes related to change and configuration management that provide evidence of compliance with CIP standards and with the service organization control (SOC 1) audit report. The project will consist of a complete review of service management needs to determine whether an upgrade to the next available version is appropriate or if a complete replacement of the system with an alternative solution provides greater value.

Failure to complete this project would expose SPP to the risks associated with utilizing a system that is unsupported by the vendor (i.e. receiving no functional or security patches). Implementation of a newer system should result in the reduction of IT support and maintenance costs. Work has already begun in 2017 with the research of potential vendors. The project should be completed by the end of 2018.

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. SPP is exposed to significant cybersecurity and compliance risk along with reduced operating efficiency due to continued use of manual processes.

An integrated software solution that manages identity and access has become a necessity for SPP due to various factors including the constant threat of external and internal cyberattacks, the addition of the Integrated Marketplace, and the increased rigor of SOC 1 objectives and NERC CIP Version 5. The project kicked off in 2017 and is expected to be completed in early 2018.

Data Lake Phase 3

The maturation of SPP's Integrated Marketplace resulted in the need to access a higher volume (than originally anticipated) of historical data for business analytics and reporting by certain groups. The data growth and new business requirements resulted in the origination of the Data Lake project, which commenced in 2016 as an IT foundation project.

In phase 1 of the project, less frequently used data from high-capacity data warehouse appliances were successfully offloaded to a cost-economical BigData storage solution that provides SQL access to the data, scales incrementally at both compute and storage levels depending on the need, and postpones the need for purchasing new high-capacity data warehouse appliances for the production environment. Data Lake phase 2 (currently in progress) concentrates on the data access controls, improving the checkpoint/restart capabilities, improving the SQL query performance, evaluating/implementing transactional capabilities, offloading more historical data from high capacity data warehouse appliances, and evaluating technologies to feed data directly to Data Lake infrastructure.

The 2018 goals for Data Lake Phase 3 are to 1) provide more functionality to allow business users the ability to run the existing processes on the Data Lake infrastructure, 2) provide high availability infrastructure between data centers (i.e. providing greater automation in a fail-over situation between locations), 3) provide visualization and data analysis capabilities using the tools supported by the data services team, 4) implement technologies to allow certain data to bypass the data storage warehouse and feed directly to the Data Lake, and 5) reduce the dependency on costly high capacity data warehouse type appliances.

Project Management Tool Replacement

The current project management tool is utilized for project and program management as well as for resource management in the IT applications and engineering departments. Mainstream support for the tool expires in 2018 and hardware reaches end of life in 2020. This project will encompass a cost-benefit analysis to evaluate whether an upgrade to the current product or selection of an entirely new solution is more feasible. Failure to upgrade or replace the current system along with its underlying infrastructure would expose SPP to the risks associated with utilizing a system that is not supported by the vendor and maintaining hardware that is operating past its recommended lifespan. The project is currently scheduled to be completed in two phases. Phase 1 would occur in 2018 and would include discovery and analysis activities. Phase 2 would follow in 2019 with the implementation of the proposed solution.

FOUNDATION CAPITAL EXPENDITURES

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

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Foundation				
IT Operations	$ 6.4	$ 5.3	$ 7.3	$ 19.0
IT Applications	0.9	2.0	0.8	3.7
IT Cyber Security and Controls	0.7	0.6	0.7	2.0
IT Architecture	0.2	0.8	0.7	1.7
Miscellaneous Departments	1.2	0.8	0.8	2.7
IT Foundation Total	$ 9.3	$ 9.4	$ 10.3	$ 29.0
Operations Foundation	2.4	2.3	2.3	7.0
Facilities	0.2	0.3	0.3	0.8
Settlements	0.3	0.1	0.1	0.5
Total Foundation *	$ 12.2	$ 12.1	$ 13.0	$ 37.3

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

IT Operations

The IT operations budget is subdivided between the following primary areas: systems administration, network/telecom and service management.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
IT Operations				
Systems Administration	$ 4.0	$ 3.3	$ 4.6	$ 11.9
Network / Telecom	2.1	1.8	2.4	6.3
Service Management	0.3	0.2	0.3	0.7
IT Operations Total	$ 6.4	$ 5.3	$ 7.3	$ 19.0

Systems Administration

The systems administration budget encompasses all enterprise hardware and software infrastructure, including servers, storage, backup systems, operating systems and systems-management tools. The major initiatives in the 2018 budget include the following:

- Technology/server refresh: IT's policy is to replace physical server hardware after a five-to-six year useful life based on exposure to increased hardware failure rates, discontinued or unaffordable vendor support, operating system incompatibility and the need for faster application performance and connectivity requirements.

- Additional data storage: Based on the current outlook, nominal amounts of additional storage will be needed for the production and test/development environments, as well as for backup capacity at Chenal, Maumelle and the third offsite location. The additional production capacity will likely be in the form of "flash storage" technology, given its declining cost curve and heightened performance capabilities.

- Incremental software license: A relatively small amount of incremental purchases will be needed in 2018 related to software and licenses for anti-virus, server security, virtualization and backup/recovery.

Network/Telecom

Network/telecom encompasses the hardware and software network, including the core data network as well as voice, telephony, firewall and network security solutions. A large portion of the 2018 budget is earmarked for hardware/software upgrades, as described below:

- Network lab: Over the next few years, several production appliances utilized within the IT network/security lab will require technology refreshes due to the expiration of vendor support or increased performance requirements. These production upgrades will introduce new equipment into the lab environment and will include new firewalls, internet protection software and zero-day vulnerability tools.

- Load-balancing platform: Support agreements for the current platforms used to provide load-balancing services across multiple systems to achieve higher availability will expire in 2018. It is anticipated that current physical appliances will be replaced with virtual appliances.

- Routing platform: The current routing platform provides connectivity between the SPP data centers. The platform is seven years old and lacks the physical interface capacity to upgrade beyond 10G. The plan is to refresh the technology to support future capacity growth beyond 10G.

- Communications services: The current suite of communications tools provides session management, voice, video, messaging, mobility and web-conferencing services. The current version is nearing end-of-support and will require a software and hardware upgrade.

- Firewall refresh: It is anticipated that the current firewall management station hardware will require a technology refresh in 2018. This is based on storage capacity for log files and the performance requirements to push policies to the firewall.

- IPS upgrades: The corporate intrusion prevention system (IPS) is becoming more saturated with high volumes of traffic. It is anticipated that either a technology refresh or additional modules (that allow for performance gains while inspecting traffic) will be required in 2018.

Other items within the networking budget include additional firewall capacity, data center cabling and consulting services required for the communications upgrade.

Service Management

Service management encompasses IT's process and control systems, including performance/asset monitoring, change management and enterprise support services (i.e. service desk).

The 2018 budget includes a relatively small amount that will be used for additional licenses and upgrade/consulting services for the monitoring and discovery products. Additional licenses are anticipated for SPP's baseline management product, along with implementation services associated with up to two major releases that incorporate software updates, new asset support and security enhancements. Due to the size and complexity of these releases, assistance is required from the vendor for appropriate installation in SPP's environment.

IT Applications

The majority of the items budgeted for 2018 for IT applications are targeted for additional software licenses and/or new software tools.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
IT Applications	$ 0.9	$ 2.0	$ 0.8	$ 3.7

Incremental Software License

- Database platform: The anticipated growth in new production and QA servers in 2018 will drive the need for additional database program licenses.
- Data management: SPP utilizes a data-management tool to develop, manage and transform the flow of data within the data warehouse environment. Staff anticipates additional licenses to support an increase in usage and data in 2018.

New Software Tools/Upgrades

- Data-services workflow efficiency: A dynamic mapping module will allow streamlined support and consolidation of data-management tool flows used for table mappings.
- Automated test tools: Additional software tools are required for automating testing activities.
- Database security: Data-encryption mechanisms are necessary to improve the SPP security posture and application infrastructure upgrades in support of SPP's evergreen roadmap.
- Data warehouse: SPP's data warehouse runs on a high-capacity platform that continues to experience growth (currently at 70 percent capacity) and will go out of vendor support in September 2019. Evaluation of a replacement plan will occur during 2017, with implementation likely in 2018 involving new equipment and capacity.

IT Cybersecurity and Controls

The budget for cybersecurity and controls generally encompasses costs associated with SPP's compliance efforts with cybersecurity standards, as well as the implementation and enforcement of quality security practices throughout the organization. A number of budget items have been identified given the increased focus in this area by SPP.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
IT Cyber Security and Controls	$ 0.7	$ 0.6	$ 0.7	$ 2.0

Software Enhancements and Consulting

- Identity and Access Management (IAM): IAM is the security discipline that ensures appropriate access to resources across diverse technology environments, allowing SPP to meet increasingly rigorous compliance requirements. Continued enhancements to the current IAM software are planned in 2018 to keep up with the growing demands of cybersecurity.

- Security software customization: Security software provides insight into machine data generated from security technologies such as network, endpoint, access, malware, vulnerability and identity information. Several customizations have been identified to the current software, which may require implementation services from the associated vendor.

- Risk-management software customization: The current software solution assists SPP in measuring and managing potential risk to network security. Several customizations to the software have been identified, which may require implementation services from the associated vendor.

Incremental Software, License and Storage

- Security software license and storage: More assets and data are anticipated to be added to the current security software application in 2018, which will require additional licenses and physical storage to meet compliance, auditing and security requirements.

- Risk-management software licenses: A second instance of the current risk-management software is planned for implementation in 2018. This will allow for separation of the ESP and non-ESP environments, which will enhance compliance efforts with NERC/CIP requirements for performing vulnerability assessments. Licenses will be purchased to handle incremental qualifying assets during 2018.

- Application whitelisting software: Implementation of a software solution known as application whitelisting is planned for 2018. This solution will only allow programs recognized as trustworthy instead of attempting to identify and block malicious files and activity. Whitelisting is considerably more effective in that it changes the traditional anti-virus model from a "default allow" to a "default deny" for all executable files.

- Public key infrastructure (PKI): PKI entails hardware, software and processes for the creation and management of encryption keys to encrypt sensitive data. Implementation of PKI will improve SPP's security posture and provide protection from accidental exposure of sensitive data.

IT Architecture

The budget for architecture generally encompasses costs associated with IT's architectural roadmap, which includes current investments that are expected to yield longer-term technical, financial, security and productivity benefits. The 2018 architecture budget includes initiatives to consolidate development infrastructures between IT and operations, as well as software to allow the use of application containers to automate application deployment.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
IT Architecture	$ 0.2	$ 0.8	$ 0.7	$ 1.7

The following architecture initiatives identified for 2018 are related to the Data Lake Phase 3 project, which is discussed in detail in an earlier section along with other enterprise projects.

- Real-time analytics and data visualization
- Data Lake high-availability deployment

Miscellaneous Departments (included in IT Foundation)

Items included in this foundation budget encompass all other software and hardware needs for departments outside of IT. A significant amount of the 2018 budget relates to the engineering department's investments in tools and systems to improve modeling, planning and study activities. Further enhancements to transmission congestion rights (TCR) and other custom applications, as well as additional licensing for engineering-support software are anticipated in 2018.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Miscellaneous Other Departments				
Engineering	$ 1.0	$ 0.6	$ 0.6	$ 2.3
Human Resources and Training	0.1	0.1	0.1	0.2
Corporate Communications and Regulatory	0.1	0.1	0.1	0.2
Total Miscellaneous Other Departments	$ 1.2	$ 0.8	$ 0.8	$ 2.7

Operations Marketplace and Other System Enhancements

The operations foundation budget primarily consists of planned enhancements to the market operations system (MOS). This includes modifications to the market operator interface (MOI), market user interface (MUI) and market clearing engine (MCE) applications as well as the market database (MDB). Maintenance costs to these systems are budgeted separately from the operations foundation capital budget.

	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Operations Marketplace and Other System Enhancements				
Market Operation System (MOS)	$ 2.0	$ 2.0	$ 2.0	$ 6.0
Dispatch Training Simulator (DTS)	0.1	0.1	0.0	0.2
Control Room Operations Window (CROW)	0.1	0.0	0.0	0.1
Energy Management System (EMS)	0.1	0.1	0.1	0.2
Open Access Technology Int'l/ Native Network Limit (OATI/NNL)	0.1	0.1	0.1	0.2
Miscellaneous Other *	0.2	0.2	0.1	0.5
Total Operations Marketplace and Other System Enhancements	$ 2.4	$ 2.3	$ 2.3	$ 7.0

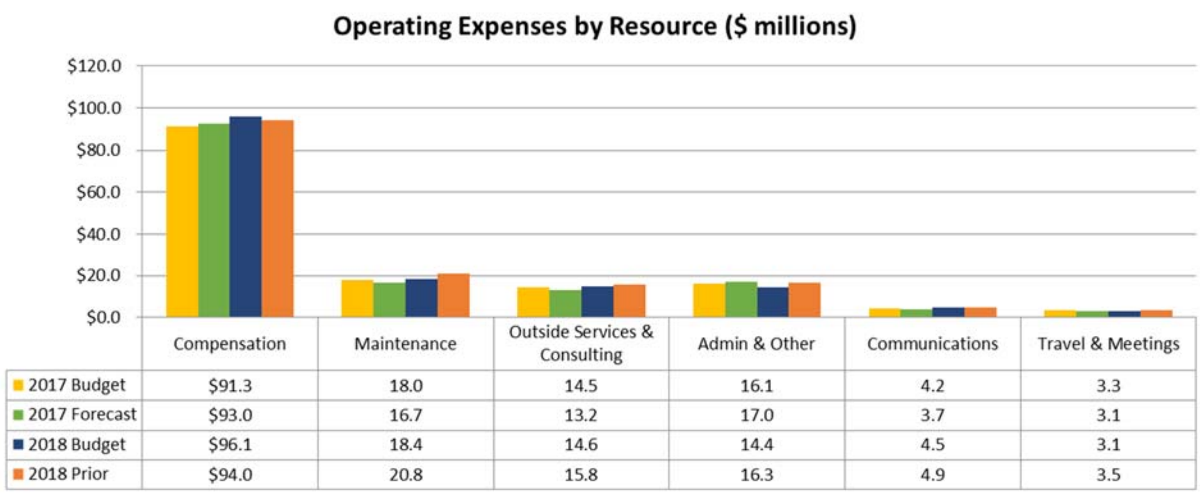
* Includes Open Access Same-Time Information System (OASIS), Centralized Modeling Tool (CMT), Phaser Measurement Unit (PMU), Seams and PI.

The existing MOS was implemented with the SPP Integrated Marketplace go-live March 1, 2014. The SPP marketplace will continue to experience the need for higher levels of modification as both staff and market participants identify opportunities for continuous improvement for market efficiency. The budget also reflects funding for system changes as mandated by FERC orders. This trend is expected to continue throughout upcoming years as design changes are needed to improve upon certain assumptions made during the earlier stages of market rules development. This has been a consistent practice observed with other RTO energy markets.

MOS enhancements represent approximately 80 percent of the operations foundation budget. The remaining 20 percent includes budgeted enhancements for the energy management system (EMS), control-room operations window (CROW), open access same-time information system (OASIS), dispatch training simulator (DTS), centralized modeling tool (CMT) and PI systems.

VI. RESOURCE UTILIZATION

SPP's 2018 budget encompasses the resources necessary for SPP to carry out strategic goals and organizational objectives. The chart below shows SPP's resources and the corresponding 2018 budget amounts in comparison to 2017 budget and forecast, as well as a comparison to amounts forecast for 2018 during the 2017 budget cycle. The following section discusses each component in detail.



Operating Expenses by Resource ($ millions)

	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Compensation	$91.3	$93.0	$96.1	$94.0
Maintenance	18.0	16.7	18.4	20.8
Outside Services & Consulting	14.5	13.2	14.6	15.8
Admin & Other	16.1	17.0	14.4	16.3
Communications	4.2	3.7	4.5	4.9
Travel & Meetings	3.3	3.1	3.1	3.5
Total Operating Expense *	**$147.3**	**$146.5**	**$151.0**	**$155.2**

** Excludes depreciation & FERC fees. Other expense in 2017 Forecast also excludes non-cash items.*

STAFFING

Valuing Resources

SPP's recruiting process includes outreach practices that promote diversity in the workplace. SPP management is committed to recruiting and attracting candidates who best match its culture and to retaining career employees by providing an environment where employees are challenged and engaged. Doing so allows SPP to provide the highest level of service and value for its members.

Management regularly evaluates staffing levels across all areas of the organization and makes organizational changes as necessary to align with evolving resource needs. Such efforts are evident and described in detail in the following section.

The SPP Human Resources Committee is responsible for the review and approval of employee and executive benefit plans, organizational structure and compensation programs. SPP benefit plans support the organization's goal of attracting and retaining career employees that are well-suited to the SPP corporate culture.

Dedication to continuous improvement is demonstrated by the numerous training opportunities available to employees.

The committee periodically engages consultants to benchmark SPP compensation and benefit programs and annually reviews these plans to ensure competitiveness in the marketplace while adhering to a cost-effective budget. Compensation elements are developed using benchmarks of the peer group as determined by the SPP Human Resources Committee. SPP establishes compensation elements that competitively target the 50th percentile for paygrades.

Dedication to continuous improvement is one of SPP's culture drivers. In adherence to this, the compensation budget includes funds for annual employee training and tuition reimbursement. Employees are offered various learning opportunities, including an annual leadership conference, supervisor-approved outside training and access to multiple online and in-person training classes through the SPP corporate training and professional development department. SPP administers an in-house Engineer-in-Rotation program, which seeks the most talented engineering graduates for an expansive training program. The rotating staff of engineers gain experience through on-the-job training and are placed in permanent roles as positions become available through normal employee turnover.

Staffing costs include funding for base salaries, benefits and taxes. The compensation budget includes assumptions for vacancy rates, merit increases and promotions. These assumptions are discussed in detail in the staffing components section.

Staffing Levels

2017 Staffing Changes

“Evolutionary, not revolutionary” is one component of SPPs value proposition. As the organization matures and resource needs evolve, staffing levels throughout the organization are assessed. As a result, various changes were made in the 2017 headcount forecast as compared to the 2017 budget.

The focus on cybersecurity has become increasingly more critical, and SPP has consequently become increasingly proactive in its emphasis on preparedness, response, recovery and resiliency. SPP evaluated the staffing requirements necessary to foster a robust security and compliance program befitting an organization with SPP’s responsibilities on the bulk electric system and to ensure compliance with CIP standards. As a result, SPP officers approved the recommendation for five incremental staff (four in IT and one in compliance) in 2017 to facilitate these goals.

Headcount	2017 Budget	2017 Forecast	2018 Budget
RTO Total	582	593	598
Regional Entity	28	23	11
SPP Total	610	616	609

Operations management identified the need to evaluate the staffing requirements of real-time operations due to an increased attrition rate pending upcoming staff retirements. The operator-in-training (OIT) program is utilized for the development of qualified personnel to facilitate the staffing of system operator vacancies as they occur through natural attrition. A review of future attrition risks indicated the SPP operations division required the development of three additional operators in preparation of expected vacancies due to anticipated retirements and normal turnover. SPP officers approved the recommendation for three incremental OIT positions in early 2017.

In July 2017, it was announced SPP and NERC mutually agreed to terminate the Amended and Restated Delegation Agreement between NERC and SPP, which will result in the dissolution of the SPP Regional Entity (RE). Five open positions within the RE were removed from the 2017 forecast after the announcement. SPP remained committed to ensure the continued employment of the remaining SPP RE staff. As a result of this commitment to absorb additional staff upon the dissolution of the RE, the

2017 Staffing Changes	
2017 Budget	610
Out-of-budget in 2017	8
Eliminations added back	3
Removed RE open in 2017	(5)
2017 Forecast	616

unidentified headcount reductions originally proposed in the 2017 budget were added back to the 2017 headcount forecast.

Various other positions were reprioritized and responsibilities were reassigned throughout the year as positions became vacant due to staff turnover, retirements or internal transfers.

2018 Staffing Changes

Future staffing needs were evaluated during the 2018 budget process. Management identified the need for incremental staff associated with the Settlement System Upgrade and other member services. These five incremental positions were assessed by the senior management team and recommended for inclusion in the 2018 budget.

Total RE staff was 23 after removing 5 open positions in 2017. Although SPP committed to ensuring the continued employment of the RE staff, the 2018 budget includes assumptions that some of the staff will either retire or seek employment with another electric reliability compliance enforcement authority.

The 2018 budget assumes the RE will be dissolved by July 2018, and SPP will retain 11 of the 23 staff members, a net reduction of 12. This assumption is for budgeting purposes only and does not negate the possibility of retaining all 23 staff members if necessary.

Approved Staffing Levels

	2017	2018	2019	2020
2017 Budget	**610**			
Net incremental (5 IT/Compliance, 3 Operations)	8			
Net reductions (5 RE reductions)	(2)			
2017 Forecast	**616**			
IT Applications (2 Settlements project) *		3		
Communications (Web content)		1		
Training (Reliability trainer)		1		
Net reductions (12 RE reductions)		(12)		
2018 Budget		**609**		
Compliance (GRC administrator) *			1	
2019 Forecast			**610**	
IT Applications (DTS, SSAT) *				2
2020 Forecast				**612**
Prior Budget / Forecast		616	617	n/a

** Refer to capital project section for details on project descriptions*

The table below shows the staff numbers by executive division:

2017 - 2020 APPROVED POSITIONS BY DIVISION

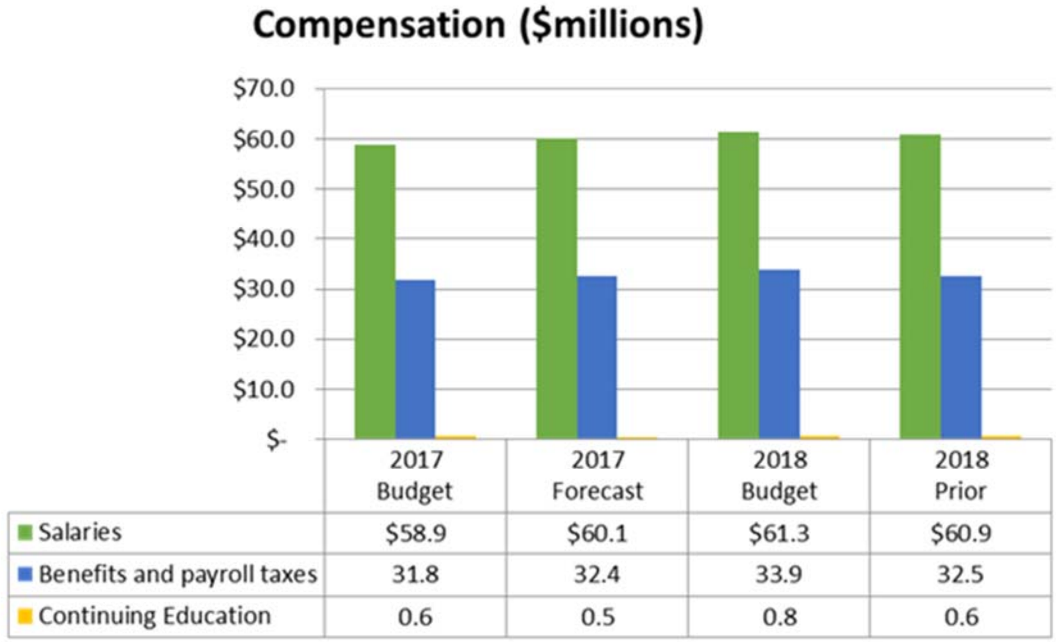
Headcount	2017 Budget	2017 Forecast	2018 Budget	2019 Forecast	2020 Forecast
Operations	158	162	162	162	162
Information Technology	156	161	164	164	166
Engineering	80	80	80	80	80
Finance & Corporate Services	69	68	68	68	68
Process Integrity (1)	52	53	54	55	55
Regulatory & Legal	27	27	27	27	27
Market Monitoring (MMU)	16	16	16	16	16
Officer	11	11	11	11	11
Interregional Relations & Market Design	9	9	9	9	9
Corporate Communications & Gov't Affairs	6	6	7	7	7
Other (2)	-2	0	11	11	11
RTO Total	582	593	609	599	601
Regional Entity	28	23	0	0	0
SPP Total	610	616	609	610	612

1) The Process Integrity division includes compliance, project management, training, customer relations, internal audit and interregional relations departments.
2) "Other" in the 2017 Budget represents 2 unidentifed reductions (1 additional reduction was reflected in Operations). The Regional Entity positions committed to be retained by the RTO are included in "Other" in the 2018 - 2020 budgets.

Staffing Components

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

The staffing budget for 2018 includes funding for salaries (including base salary and overtime pay), benefits and payroll taxes, and continuing education.



The 2017 salary forecast exceeds the 2017 salary budget as a result of variances from the vacancy rate assumed in the original budget and incremental staff added during the year. The 2017 budget assumed a 5 percent vacancy rate; however, the 2017 forecast reflects an average vacancy rate of 3 percent based on the year-to-date trend.

Salary Expenses ($ millions)	**2017 Budget [1]**	**2017 Forecast**	**2018 Budget [2]**	**2018 Prior**
Base salaries at beginning of year	$58.6	$58.6	$59.6	$60.4
Incremental staff	0.1	1.0	0.3	0.3
RE reductions	0.0	(0.5)	0.0	0.0
Merit Increase	1.7	1.7	1.8	1.8
Promotions	0.5	0.5	0.5	0.5
Premium Pay	1.0	1.1	1.0	1.1
Vacancy	(3.0)	(2.2)	(1.9)	(3.1)
Total Salary Expenses	**$58.9**	**$60.1**	**$61.3**	**$60.9**

(1) 2017 budget vacancy 5.0%, merit 3.0%

(2) 2018 budget vacancy 3.0%, merit 3.0%

Vacancy and Merit Assumptions

During the 2017 budget planning process, 2016 vacancy levels averaged 5.5 percent. A vacancy factor of 5 percent was applied to 2017–2019 based on this data. By the end of 2017, headcount is expected to be within 2.8 percent of the projected 2017 level (599 of 616). SPP anticipates staff turnover in 2018 to be consistent with its experience in 2017. A vacancy rate of

3 percent was applied to the 2018 budget. This equates to turnover averaging 18 positions during the calendar year (591 of 609 positions).

Zero vacancy rate was applied to the 2019 – 2020 forecast based on the commitment to integrate the RE positions.

	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Vacancy rate	5.0%	3.0%	3.0%	5.0%

The Human Resources Committee (HRC) recommended an overall merit increase of $1.8 million (3.0 percent) for 2018 based on their review of several regional and industry factors, including SPP members. The promotion pool budget of $0.5 million is also based on the HRC recommended percentage and remains consistent with the past several years at 0.75 percent.

Merit and Promotion Budget

	2014	2015	2016	2017	2018
Merit Increase	$1.4	$1.1	$1.4	$1.7	$1.8
Promotion Pool	$0.4	$0.4	$0.4	$0.5	$0.5
Merit %	2.4%	2.0%	2.5%	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 performance compensation; retirement plan contributions; medical, dental and life insurance benefits; relocation expenses; employee events; and payroll taxes. Below is a breakdown of employee benefits and taxes:

Benefits & Taxes ($ millions)	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Retirement Plans (401k and Pension)	$11.1	$11.1	$11.7	$11.4
Performance Compensation	9.5	10.0	10.2	9.8
Payroll Taxes	4.6	4.7	5.0	4.8
Medical Benefits	5.0	4.7	4.9	4.9
Other Employee Benefits	0.8	1.1	1.3	0.8
Dental Benefits	0.4	0.4	0.4	0.4
Life Insurance Benefits	0.4	0.4	0.4	0.4
Total Benefits & Taxes	**$31.8**	**$32.4**	**$33.9**	**$32.5**
Continuing Education	0.6	0.5	0.8	0.6
Total Benefits, Taxes & Con't Education	**$32.4**	**$32.9**	**$34.7**	**$33.1**

Retirement plan expense comprises the largest component of benefits and taxes, followed by performance compensation, payroll taxes and medical benefits.

The 2017 forecast and 2018 budget amounts for pension and retiree healthcare expense are based on the most recent actuarially calculated pension costs. SPP will make cash contributions of $5.2 million to the pension plan during 2017. Contributions to the plan are expected to be $5.9 million in 2018. The accrued expenses are included in compensation, but have no cash impact to the current year NRR. The difference between the accrued amounts and the expected cash contributions is included as a non-cash adjustment in the NRR calculation.

	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Pension				
Cash contribution	$5.7	$5.2	$5.9	$5.7
Accrued pension expense	7.3	7.0	7.4	7.5
Non-cash adjustment	$1.6	$1.8	$1.5	$1.8
Retiree healthcare				
Cash contribution	$0.3	$0.0	$0.0	$0.3
Accrued retiree healthcare expense	1.2	1.1	1.1	1.2
Non-cash adjustment	$1.0	$1.1	$1.1	$1.0
Total NRR impact	**$2.5**	**$3.0**	**$2.6**	**$2.8**

Performance compensation is budgeted at the target level of 15 percent of base salary and is paid in March of the following year. Funding for 401(k) matching contribution is estimated at 4.7 percent of the salary expense (including performance compensation) based on recent company trends.

Insurance benefits are budgeted based on projected per participant costs, with medical benefits as the primary component.

Medical Benefits Costs

The net cost of the self-funded medical plan in the 2018 budget is $4.9 million, which is in line with the 2017 budget and represents a 2.7 percent increase from the 2017 forecast.

Healthcare Costs ($ millions)	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Gross Claims	$5.4	$5.2	$5.3	$5.4
Admin Fees	1.0	1.0	1.0	1.0
Employee Contributions	(1.4)	(1.4)	(1.4)	(1.4)
Net Expenses	$5.0	$4.7	$4.9	$4.9
Number of employee participants	539	556	549	556

SPP experienced an increase in medical claims beginning in 2015 and continuing throughout 2016. The increase has since leveled off during 2017. Total gross claims are estimated to be $5.3 million in 2018, which is consistent with the 2017 forecast.

Approximately 93 percent of employees participate in the medical plan, which is comparable with previous years. The total estimated number of employee participants in 2018 is 549, compared to 556 in 2017. SPP retirees were removed from SPP's self-funded plan in 2015. SPP now provides eligible retirees fixed monthly payments through a tax-free health reimbursement account to pay for individual Medicare supplement health-insurance plans or other eligible healthcare expenses. This change decreased SPP's medical funding exposure for those retiree participants.

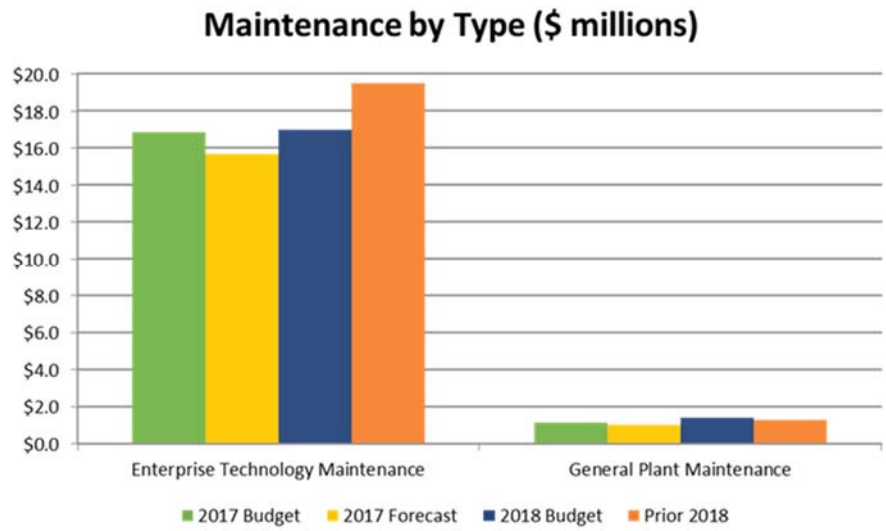
Fees are paid to the insurance provider to cover administrative costs and insure against excessive losses at both the participant and corporate level. These fees are estimated to be $1.0 million in 2018, which is also consistent with 2017. Staff plans to implement certain changes to the plan in 2018 to limit the increase in claims and administrative costs, as well as provide cost savings to employees with differing medical insurance needs and priorities.

Employee contributions to the medical plan offset the overall cost and are estimated to be $1.4 million in 2018. The net annual cost of the medical plan to SPP per participant is expected to be approximately $8.9 thousand in 2018. SPP's Human Resource Committee continues to target an 80/20 cost share between employer and employee for the medical benefit costs.

MAINTENANCE

The increase in the maintenance budget is primarily driven by capital expenditures for incremental hardware and software, which contributes to the continued expansion of SPP infrastructure and results in increases in maintenance costs to sustain the health and operation of the system.

Although housed in the IT division, the enterprise technology maintenance budget includes expenses to maintain SPP's enterprise hardware and applications. Another component of maintenance expense is for corporate facilities (general plant maintenance).

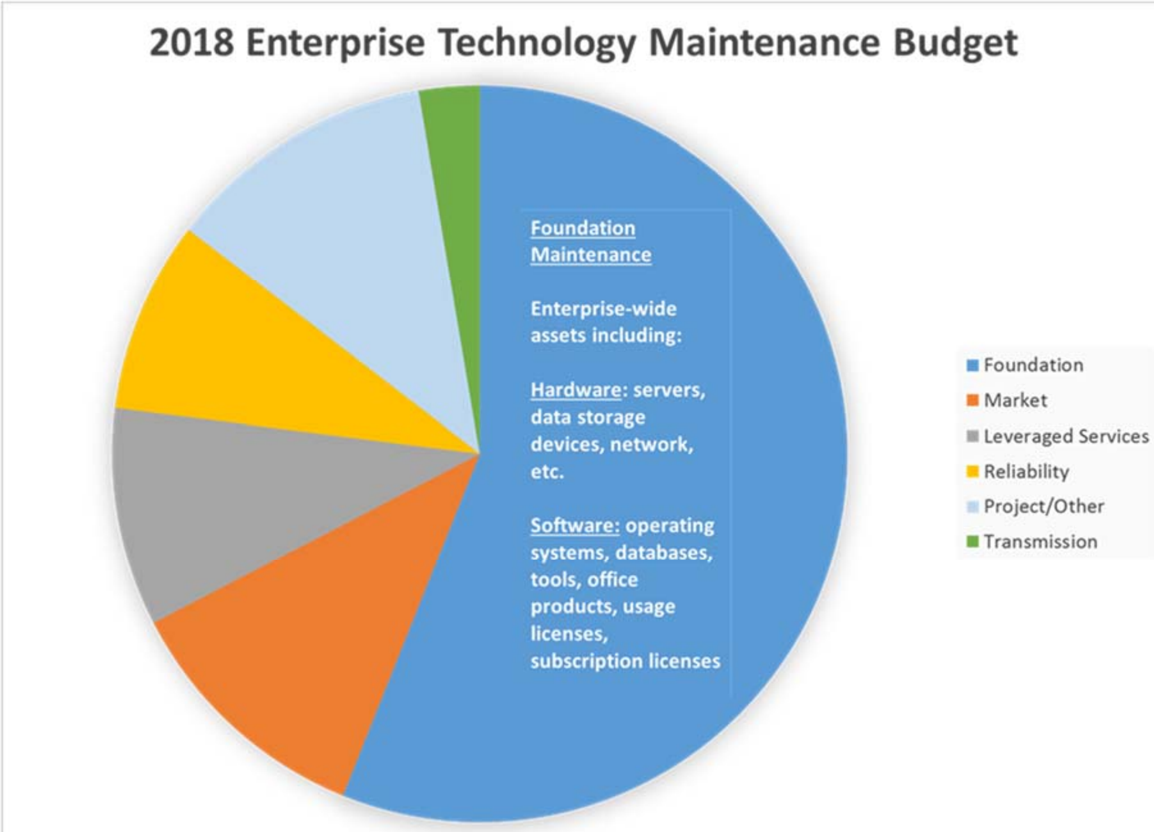


Maintenance Expense ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Enterprise Technology Maintenance	$16.8	$15.7	$17.0	$19.5
General Plant Maintenance	1.1	1.0	1.4	1.3
Total	**$18.0**	**$16.7**	**$18.4**	**$20.8**

Enterprise Technology Maintenance

Enterprise technology maintenance expense covers hardware and software assets in the existing portfolio as well as incremental purchases or 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 installed hardware and software currently in use. The level of maintenance is selected based on several factors including the criticality of the application and the environment (testing, development or production).



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, leveraged services, etc.)

Enterprise technology maintenance budget includes expenses to maintain SPP's enterprise hardware and applications across the company, not only specific to the IT division.

Approximately 80 percent of the maintenance budget is under a multi-year contract in support of the existing environment, with expenses being amortized over the life of the agreement and carried forward each year. In addition to maintaining the existing environment, the budget is also driven by new capital projects requiring annual support agreements to maintain the health and operation of the system.

Approximately 80 percent of the maintenance budget is under a multi-year contract in support of the existing environment.

The IT sourcing staff remains focused on scrutinizing maintenance costs and trends. The staff makes every effort to minimize maintenance costs through negotiating multi-year term and price-protection agreements, alignment and leveraging of product purchases, and rightsizing the level of support with the criticality of the environment.

Over the past few years, the foundation maintenance budget was estimated to correspond with original business plans under the expectation that new capital expenditures (which drive incremental maintenance) would occur early in the project cycle. Based on research and analysis, many budgeted capital expenditures become deferred (or avoided altogether), resulting in a corresponding delay or elimination of maintenance expenses. In consideration of this recurring trend, a more aggressive approach was utilized in 2018, which results in a maintenance budget of $17.0 million. This is relatively flat as compared to the 2017 budget and significantly lower than previous estimates for 2018.

General Plant Maintenance

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

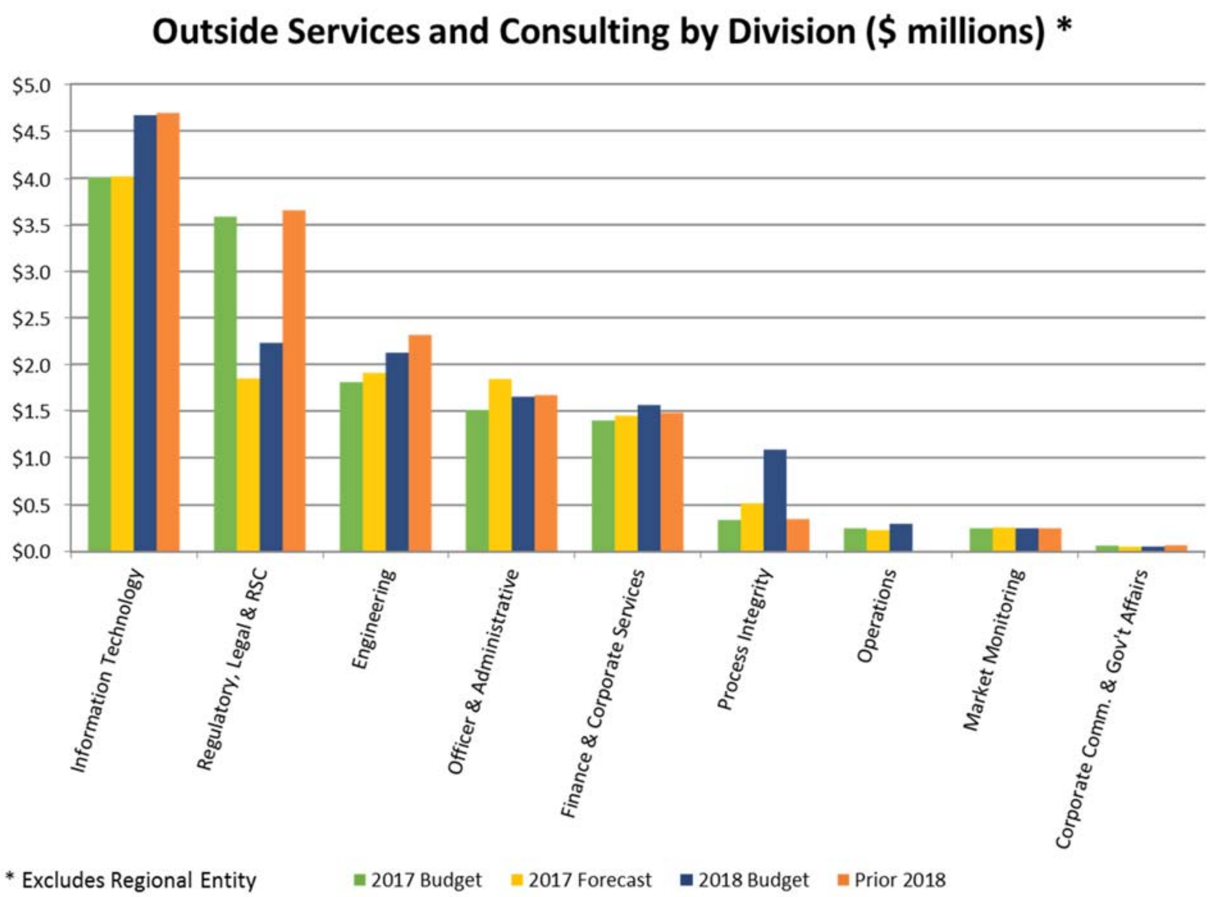
SPP utilizes historical data to estimate costs associated with general upkeep such as waste removal, landscape maintenance, janitorial services, etc. These costs remain fairly constant with only minimal increases projected. Costs associated with facilities systems and equipment maintenance are generally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

Additional maintenance costs are required for general repairs and upkeep of the SPP facilities.

OUTSIDE SERVICES AND CONSULTING

Outside services and consulting expenses have increased from the 2017 forecast but still remain lower than previous estimates for 2018.

Outside services consist of third-party expertise to assist SPP in deploying various services, from providing legal representation and advice to satisfying audit requirements.



Outside Services and Consulting by Division ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Information Technology	$4.0	$4.0	$4.7	$4.7
Regulatory, Legal & RSC	3.6	1.9	2.2	3.7
Engineering	1.8	1.9	2.1	2.3
Officer & Administrative	1.5	1.8	1.7	1.7
Finance & Corporate Services	1.4	1.4	1.6	1.5
Process Integrity	0.3	0.5	1.1	0.4
Operations	0.3	0.2	0.3	0.0
Market Monitoring	0.2	0.3	0.2	0.2
Corporate Comm. & Gov't Affairs	0.1	0.1	0.1	0.1
RTO Total	**$13.2**	**$12.1**	**$13.9**	**$14.5**
Regional Entity	1.2	1.0	0.7	1.3
SPP Consolidated Summary	**$14.5**	**$13.2**	**$14.6**	**$15.8**

Consulting services for the Regional Entity is related to trustee compensation, audits and legal services. The dissolution of the Regional Entity is expected to be complete by July 2018, therefore the 2018 budget only reflects consulting costs for half of the year.

Information Technology

The largest component of the 2018 outside services budget resides in the information technology (IT) department.

Outside Services and Consulting by Division ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Information Technology	$4.0	$4.0	$4.7	$4.7

The IT department utilizes outside services for a variety of functions including:

- Hosted services (i.e., “Software-as-a-service”) for WebOasis, Webtrans and related transmission reservation services
- Third-party data center services for remote data storage
- Consulting for key projects and initiatives (security assessments, etc.)
- Vendor support for key application systems (e.g., settlements)
- Staff augmentation for interim resource and/or skill requirements
- Interchange distribution calculator (IDC) association fees

- Data center cabling/wiring services, asset disposal services
- Vendor security and related testing services

Although the IT staff continually analyzes options and seeks opportunities to leverage existing staff, in many cases the utilization of external entities is more cost-efficient based on the required skillsets or longevity of the project.

The increase in outside services from 2017 to 2018 is attributed to the following new initiatives within the IT Cybersecurity and Controls and IT Enterprise Operations departments:

- <u>Cyber-Risk Information Sharing Program (CRISP)</u>: Provides cyber threat, incident and vulnerability information in near real-time to enhance collaboration and better understand security threats to improve network defense
- <u>Risk and vulnerability assessments</u>: Identifies vulnerabilities and assigns monetary value representing the associated cost or loss from a breach

The increase in IT outside services is attributed to several new initiatives mostly related to cybersecurity.

- <u>Incident response services</u>: Investigates network intrusions and targeted attacks to mitigate data loss and re-secure the network
- <u>Security monitoring services</u>: Provides after-hours monitoring and notification services, including receiving alerts on physical servers and providing services for SPP operations department
- <u>Data governance services</u>: Optimizes data management including an evaluation of data retention, duplication and/or deletion policies and processes
- <u>Distributed denial of service (DDoS)</u>: To prevent an attack where multiple systems are compromised and/or unavailable to intended users, such as a temporary or indefinite interruption or suspension of services of a host connected to the internet.

Regulatory, Legal and Regional State Committee

The regulatory department reflects a notable decrease in the 2018 budget for outside services and consulting as compared to the 2017 and 2018 prior budgets, which included costs for an industry expert panel (IEP) related to competitive bidding of transmission projects subject to

FERC Order 1000. The prior budgets also included revenue to be recovered from the participants in the competitive bidding process, which offsets the expense in outside services and consulting. It is impossible to predict how many (or if any) projects will be approved in a given year. Given no projects qualified for the bidding process in 2017 and the offsetting revenue has no impact to the NRR, no consulting expense or revenue was included in the 2018 budget.

A notable decrease in regulatory consulting services is related to FERC Order 1000 costs excluded from the 2018 budget (with no net impact to NRR).

Outside legal counsel is employed for various litigation matters throughout the year in the legal department. These services provide unique legal expertise on specific FERC matters and allows SPP to leverage the counsel's relationships with FERC staff, while also utilizing their knowledge of RTO-specific matters. Consulting expense in the legal department remains reasonably consistent year-over-year, with a slight increase reflected in the 2018 budget for litigation contingency.

Outside Services and Consulting ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Legal	$2.1	$1.6	$1.9	$2.1
Regulatory	1.2	0.0	0.0	1.3
Regional State Committee	0.3	0.2	0.3	0.3
Regulatory, Legal & RSC	$3.6	$1.9	$2.2	$3.7

Engineering

The engineering division engages consultants for many aspects of the planning and tariff services processes, with the largest components related to staff augmentation for engineering studies and administering the detailed project proposal (DPP) process and transmission project cost estimation related to FERC Order 1000. The continued growth of renewable generation in the SPP footprint has driven a tremendous increase in generator interconnection study requests, and consulting services are engaged to complete these studies when requests are greater than SPP staff capacity. As appropriate, the consulting costs in these studies are passed through to the participants in the process. Revenue offsetting the consulting expense for studies is $1.4 million, with an additional $1.6 million expected for engineering staff time dedicated to activities, which are also billable to the study participants.

Consultants are also engaged to assess new approaches and tools to refine performance objectives that align with future planning needs. In addition to such research and development activities, consulting for tariff services improvements are budgeted in 2018 to increase efficiency and effectiveness of existing processes related to regional planning as well as the impacts to markets regarding transmission service deliverability and congestion hedging mechanisms. Additional resources will be required to finalize action plans with stakeholder and regulatory approvals, as well as implementation of recommendations for efforts to improve the Generator Interconnection process.

A provision in the tariff requires SPP to perform a regional cost allocation review (RCAR) to evaluate the reasonableness of the base plan allocation methodology and associated factors every three years. The last review was performed in 2016. Estimated costs are included in the 2019 budget for the next review to be performed.

Outside Services and Consulting ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Engineering	$1.8	$1.9	$2.1	$2.3

Other Outside Services Expenses

The 2018 budget includes outside services and consultants in various other areas including the following:

- Officer and Administrative: Board of directors compensation and miscellaneous consulting engagements
  $1.7 million

- Finance and Corporate Services: Security and employee services and financial audits
  $1.6 million

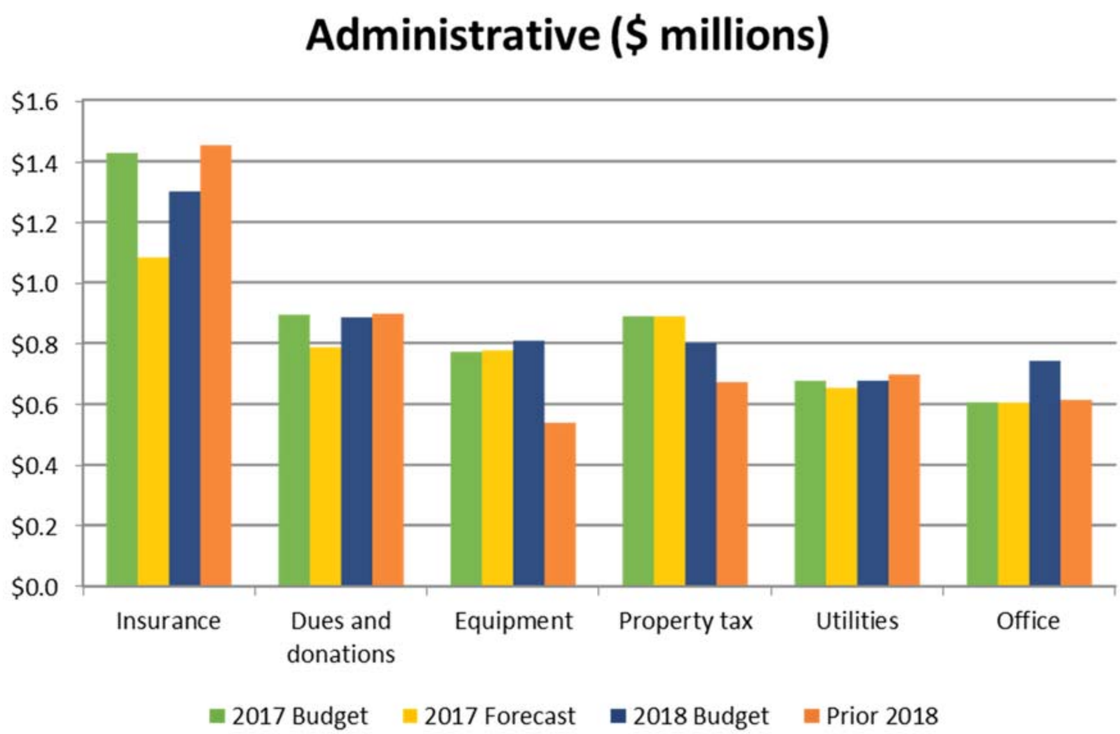
- Process Integrity: Compliance and project management staff augmentation (CIP V5 mock audit, compliance program review, GRC tool support) and SOC 1 audit services
  $1.1 million

- Other Departments: Remaining outside services expense is spread across numerous departments including operations (wind studies), market monitoring (legal counsel and special studies), and communications and government affairs (reporting and data services)
  $0.6 million

ADMINISTRATIVE EXPENSES

Overall administrative expenses are expected to remain relatively consistent with the 2017 budget and forecast.

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



Administrative ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Insurance	$1.4	$1.1	$1.3	$1.5
Dues and donations	0.9	0.8	0.9	0.9
Equipment	0.8	0.8	0.8	0.5
Property tax	0.9	0.9	0.8	0.7
Utilities	0.7	0.7	0.7	0.7
Office	0.6	0.6	0.7	0.6
Total Administrative	**$5.3**	**$4.8**	**$5.2**	**$4.9**
Other *	10.8	12.2	9.2	11.4
Total Administrative & Other	**$16.1**	**$17.0**	**$14.4**	**$16.3**

* Other expense includes interest expense (2017 Forecast also excludes non-cash items)

The largest component of the administrative expense is insurance expense which is discussed in the following section.

Insurance Expense

SPP's corporate insurance policies allow for the transfer of certain insurable risks from the corporation to third-party insurers. The majority of SPP's policies provide additional indemnification related to commercial excess liability and directors' and officers' liability. Commercial excess liability policies provide additional indemnification from claims arising from SPP's administration of its Open Access Transmission Tariff and other contractual arrangements. Directors' and officers' 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 policies include the insurer's obligation to pay for legal costs for claims made, which can be very extensive.

The only notable change is related to pension benefit insurance. The estimate for the 2018 premium is expected to be higher than the actual 2017 premium due to anticipated changes in the life expectancy/mortality tables utilized by the IRS, which would impact the funding measurement component of the premium calculation. The lower expense in the 2017 forecast is the result of continued improvement in the funded level of the plan, which was favorably impacted by significant contributions made in recent years.

Insurance Expense ($ millions)	**2017 Budget**	**2017 Forecast**	**2018 Budget**	**Prior 2018**
Commercial excess liability	$0.8	$0.8	$0.8	$0.8
Directors & Officers (D&O) liability	0.1	0.1	0.1	0.1
General liability and pension	0.5	0.1	0.4	0.5
Workers compensation	0.1	0.1	0.1	0.1
Total	**$1.4**	**$1.1**	**$1.3**	**$1.5**

Dues and Donations

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

A substantial portion of the dues budget is for Electric Power Research Institute (EPRI) membership ($0.4 million), which allows access to research conducted on issues related to the electric power industry. SPP's engagement with EPRI enables the participation in existing programs in 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.

Other Administrative Expenses

Equipment, property taxes, utilities and general office expenses make up the remainder of the administrative expenses and remain reasonably constant. Small equipment purchases reflect items less than $5,000 in value (expensed rather than capitalized) and include such items as personal computers and related equipment, server cabinets and equipment, member routers and LAN access points, and fixtures and furniture.

COMMUNICATIONS INFRASTRUCTURE

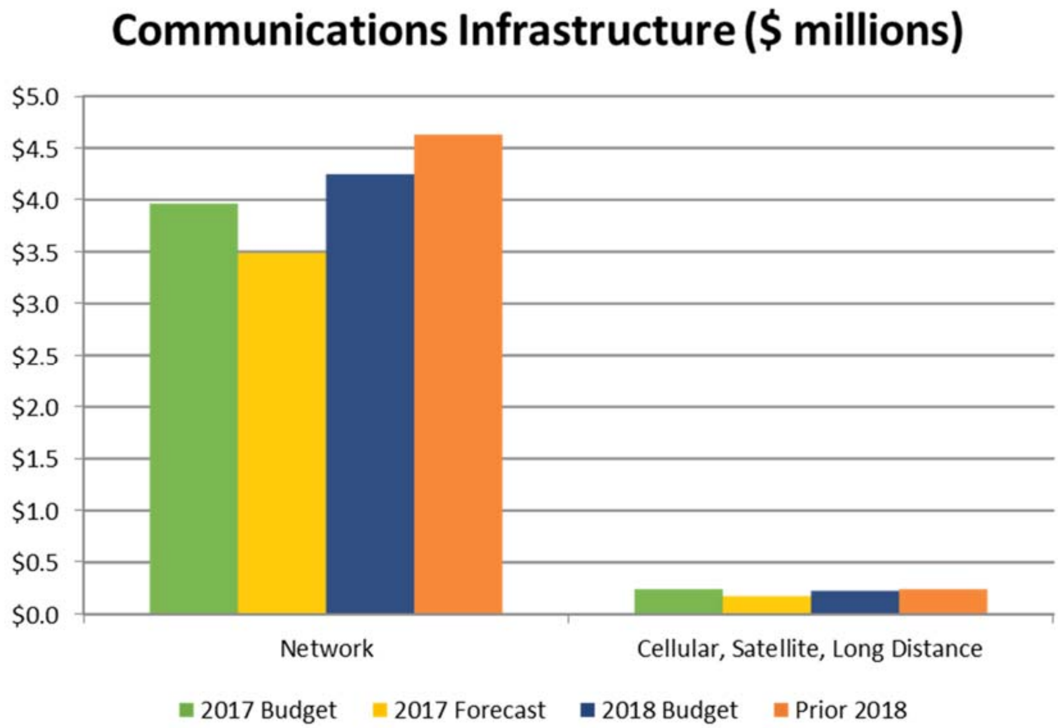
Communications infrastructure includes all expenditures related to SPP's internal and external networks and telecommunications. Network communications include frame relay and circuit costs, including components for bandwidth between data centers, as well as circuits to members, market participants, etc. The majority of expenses within this budget are ongoing and are under long-term contracts, making the composition of the overall spend fairly consistent each year. The increase in 2018 is attributed to a number of factors.

- Circuit costs to share phasor measuring unit (PMU) data over secure network: Phase 1 of the PMU project was implemented during 2017 with the long-term objective of capturing and sharing more granular voltage data with members and other RTOs. A limited amount of PMU data is currently shared across the internet. Additional and more secure bandwidth will be required as the volume of data and number of participants increase.

- Security features on mobile phone devices: SPP employees retain company information on both personal and corporate mobile phones without any security requirements or ability for SPP to manage mobile content. Mobile security management services will secure corporate information and email on cellular phones, as well as allow SPP to manage mobile content.

- Additional bandwidth for cloud storage data backup: SPP's data requirements continue to increase, including the need to store/archive data. IT is exploring the use of cloud technologies for offsite data storage, which, if deemed valuable and secure, will require appropriate internet bandwidth between SPP and the storage provider.

- Additional circuits between Chenal and Maumelle data centers to separate traffic related to the electronic security perimeter (ESP) and general corporate: This requirement is driven by CIP standards of that SPP is required to comply.

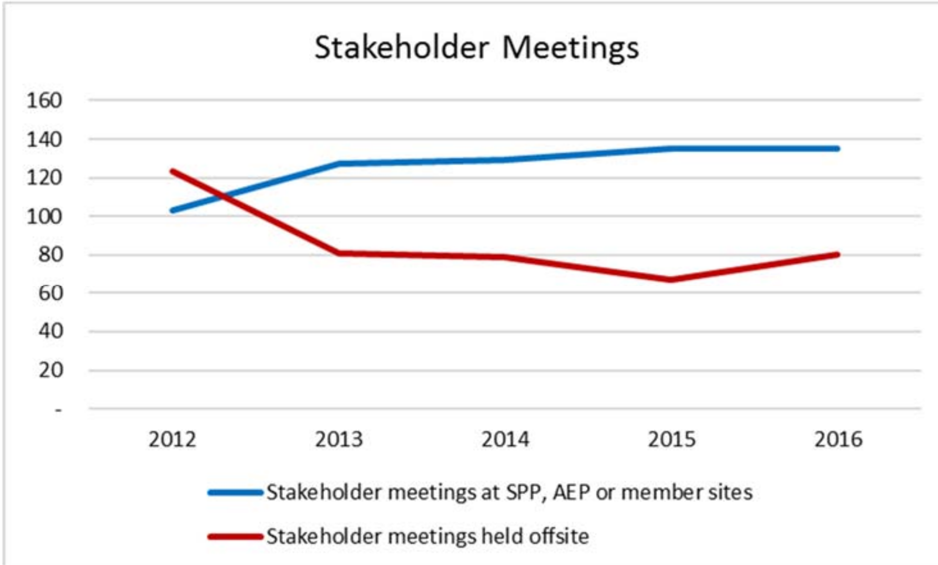


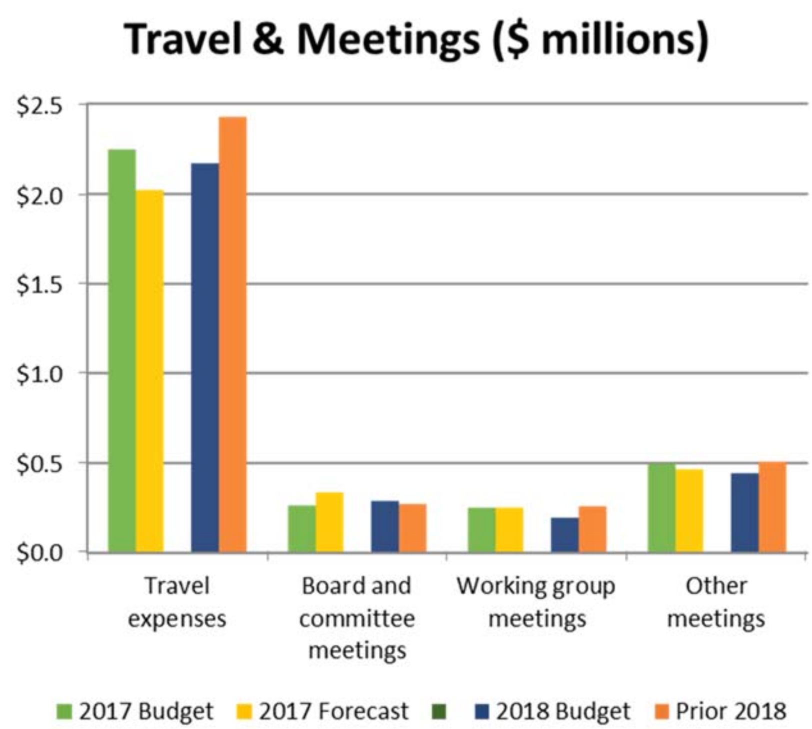
Communications ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Network	$4.0	$3.5	$4.2	$4.6
Cellular, Satellite, Long Distance	0.2	0.2	0.2	0.2
Total	**$4.2**	**$3.7**	**$4.5**	**$4.9**

TRAVEL AND MEETINGS

Travel and meetings expenses in 2018 remain relatively consistent as compared to the 2017 forecast and budget.

In an effort to maintain lower travel and meeting expenses, SPP encourages the use of corporate facilities or member facilities when planning for external meetings. Additionally, SPP encourages organizational groups to include Little Rock in the rotation for working group meetings. There has been a notable decrease in the number of stakeholder meetings held offsite as compared to the number held at SPP or other member sites.





Travel & Meetings ($ millions)	2017 Budget	2017 Forecast	2018 Budget	Prior 2018
Travel expenses	$2.2	$2.0	$2.2	$2.4
Board and committee meetings	0.3	0.3	0.3	0.3
Working group meetings	0.3	0.3	0.2	0.3
Other meetings	0.5	0.5	0.4	0.5
Total	**$3.3**	**$3.1**	**$3.1**	**$3.5**

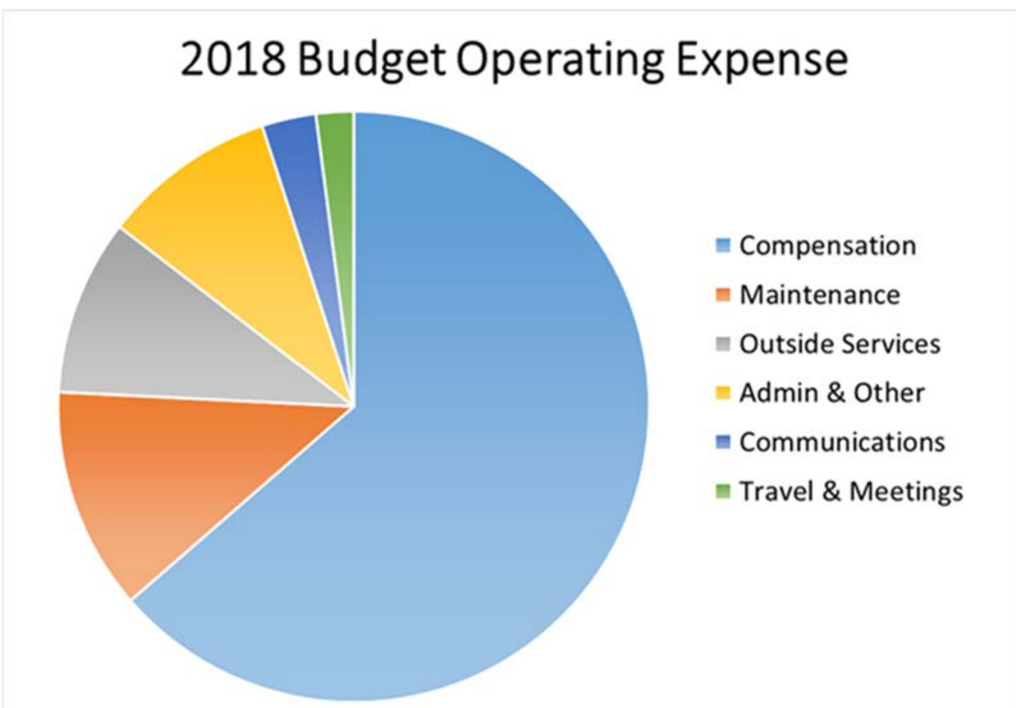
VII. OPERATING EXPENSE BY DIVISION

Total operating expenses for each division is illustrated below.

Operating Expense by Division ($ millions)

	2017 Forecast		2018 Budget		Variance Fav/(Unfav)		
	Expense	Staff	Expense	Staff	Expense	Staff	%
Operating Expense ($ millions)							
Information Technology	$44.3	161	$48.4	164	($4.1)	(3)	-9%
Officer & Administrative	29.9	11	27.6	11	2.3	-	8%
Operations	21.9	162	23.1	162	(1.2)	-	-6%
Engineering	12.6	80	13.7	80	(1.0)	-	-8%
Finance & Corporate Services	12.1	68	13.3	68	(1.1)	-	-9%
Process Integrity	7.9	53	9.4	54	(1.5)	(1)	-19%
Regulatory, Legal & RSC	7.6	27	6.8	27	0.8	-	11%
Market Monitoring (MMU)	2.8	16	3.0	16	(0.3)	-	-10%
Interregional Relations & Market Design	1.2	9	1.3	9	(0.1)	-	-6%
Corp Communications & Gov't Affairs	0.8	6	0.9	7	(0.1)	(1)	-14%
RTO Total *	**$141.2**	**593**	**$147.6**	**598**	**($6.4)**	**(5)**	-5%
Regional Entity	5.4	23	3.4	11	2.0	12	36%
SPP Total	**$146.5**	**616**	**$151.0**	**609**	**($4.5)**	**7**	-3%

** Excludes depreciation & FERC fees. Total expense for 2017 also excludes $1.6 non-cash items such as swap valuation adjustments and realized/unrealized gains on investments.*



Overall Variances in Compensation

The largest expense included in each division is compensation, which also comprises approximately 70 percent of the variance in the 2018 budget compared to the 2017 forecast ($3.0 million of the $4.5 million increase). This increase is primarily attributed to an annual merit increase of 3 percent in the 2018 budget.

After the vacancy rate is determined for the budget, an adjustment for vacancies 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 2017 forecast through August 2017. Since the budgeted vacancy is reflected in the administrative department, a decrease is noted in the 2018 budget in the officer and administrative division as compared to the 2017 forecast.

The Regional Entity shows a favorable variance in compensation due to the reduction of staff in July 2018.

Compensation by Division ($ millions)

	2017 Forecast	2018 Budget	Fav/(Unfav) Variance
Compensation ($ millions)			
Information Technology	$20.1	$21.7	($1.6)
Officer & Administrative	14.6	13.7	0.9
Operations	21.4	22.5	(1.1)
Engineering	9.9	10.6	(0.7)
Finance & Corporate Services	8.1	8.6	(0.5)
Process Integrity	7.1	7.9	(0.8)
Regulatory & Legal	3.8	4.2	(0.3)
Market Monitoring (MMU)	2.3	2.5	(0.2)
Interregional Relations & Market Design	1.1	1.2	(0.1)
Corp Communications & Gov't Affairs	0.6	0.7	(0.1)
RTO Total	**$89.1**	**$93.6**	**($4.5)**
Regional Entity	3.9	2.5	1.4
SPP Total	**$93.0**	**$96.1**	**($3.0)**

Other Notable Variances (Other Than Compensation)

2017 Forecast vs 2018 Budget

	Compensation Variance	Other Variance	Fav/(Unfav) Variance
Variances by Division ($ millions)			
Officer & Administrative	$0.9	$1.4	$2.3
Regulatory, Legal & RSC	(0.3)	1.2	0.8
Information Technology	(1.6)	(2.5)	(4.1)
Process Integrity	(0.8)	(0.7)	(1.5)
Finance & Corporate Services	(0.5)	(0.7)	(1.1)
Engineering	(0.7)	(0.3)	(1.0)
Operations	(1.1)	(0.1)	(1.2)
Market Monitoring (MMU)	(0.2)	(0.1)	(0.3)
Corp Communications & Gov't Affairs	(0.1)	(0.0)	(0.1)
Interregional Relations & Market Design	(0.1)	(0.0)	(0.1)
RTO Total	**($4.5)**	**($1.9)**	**($6.4)**
Regional Entity	1.4	0.5	2.0
SPP Total	**($3.0)**	**($1.4)**	**($4.5)**
RTO Variance Percentage	*70%*	*30%*	*100%*

- Officer and administrative: Interest expense is lower beginning in 2018 as a result of decreased interest payments due to lower outstanding balances on debt, which contributes to the favorable variance in addition to the variance in associated with compensation.
  $1.4 million

- Regulatory, legal and Regional State Committee: The remaining favorable variance is the result of litigation during 2017 that resulted in $1.6 million in fees paid. This is partially offset by additional consulting costs for contingency included in the 2018 budget.
  $1.2 million

- Information technology: The remaining unfavorable variance is driven by: 1) increased *maintenance* costs associated with capital expenditures for incremental hardware and software, 2) increased *communications* expense associated with circuits for securing network shared data (PMU), additional security/encryption for mobile devices, and increased internet costs to support additional bandwidth for cloud storage data backup, and 3) increased *outside services* expense for staff augmentation to support various new

initiatives, mostly associated the with cybersecurity program.
$2.5 million

- Process integrity: Staff augmentation in the project management office (PMO) and compliance departments is the primary driver of the remaining unfavorable variance to budget. The PMO identified the need for short-term assistance in managing the workload for the upcoming 2018 projects. Staff augmentation identified in the compliance budget is related to: 1) CIP V5 mock audit, 2) continued support of the GRC tool, and 3) consulting for an overall compliance program review.
  $0.7 million

- Finance and corporate services: The remaining unfavorable variance is related to the increase in the pension benefit insurance premium and increased maintenance costs associated with the upkeep of the campus facilities.
  $0.7 million

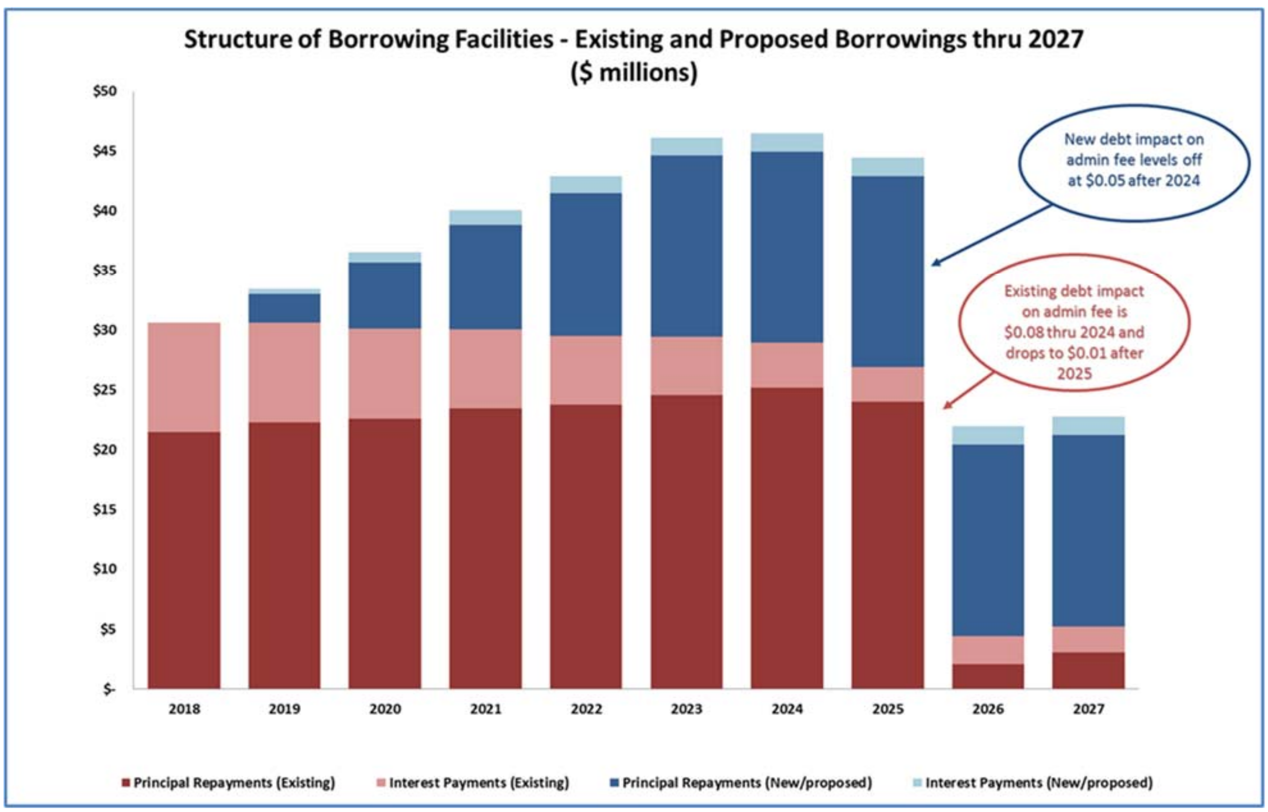
Other variances are individually immaterial.

VIII. DEBT SERVICE

SPP's capital spending is financed through borrowings that SPP has historically successfully secured from 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 acquired through borrowings. 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 considered in the calculation. SPP's outstanding borrowings are projected to equal $239.9 million as of Jan. 1, 2018, with principal payments of $23.4 million, $26.6 million and $28.1 million in 2018, 2019 and 2020, respectively.

SPP anticipates utilizing cash on hand from prior debt issuances of approximately $10.0 million, as well as short-term credit resources to fund capital expenditures during 2018. SPP plans to fund anticipated capital spending in 2019 and 2020 by issuing five-year term debt of approximately $16.0 million each year. The following chart illustrates SPP's principal and interest payment obligations including projected new borrowings through 2027.



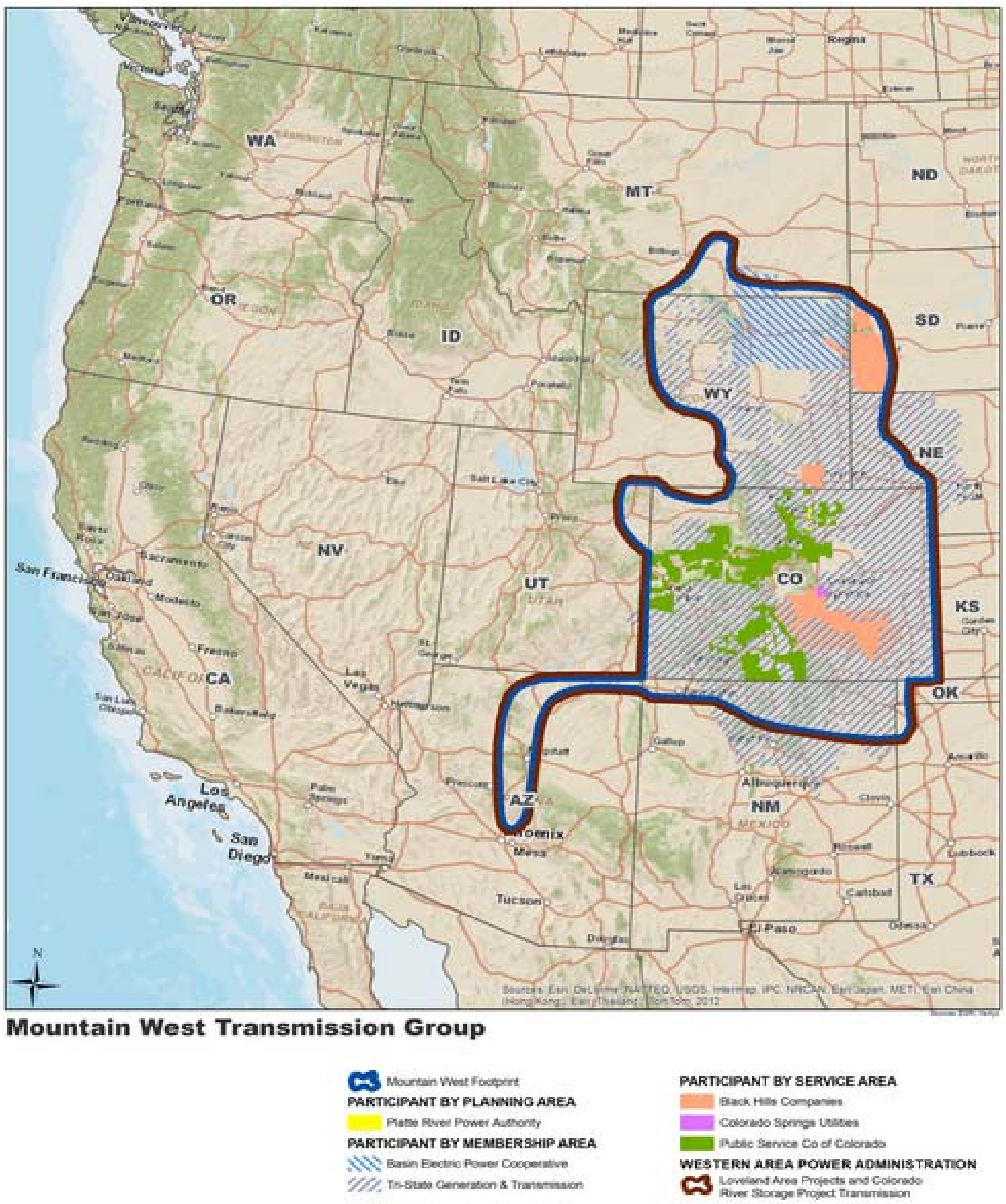
The schedule below shows the principal amounts outstanding for each borrowing at the beginning and end of the 2018-2020 budget periods, as well as annual principal payments.

Future Debt Repayments ($ millions)								
	Issue Date	**Issue Amount**	**Due Date**	**Balance 1/1/2018**	**2018 Prin. Pmts.**	**2019 Prin. Pmts.**	**2020 Prin. Pmts.**	**Balance 12/31/2020**
5.51% notes due 2027	3/23/2007	$5.1	Feb-2027	$2.9	($0.2)	($0.2)	($0.2)	$2.3
4.82% construction notes due 2042 (2010A, 2010B)	10/31 & 12/28/2010	$65.0	Dec-2042	$59.5	($1.3)	($1.3)	($1.3)	$55.6
3.55% integrated markets notes due 2024 (2010C)	3/30/2011	$70.0	Mar-2024	$43.8	($7.0)	($7.0)	($7.0)	$22.8
3.00% capital funding notes due 2024 (2012D-1)	5/30/2012	$50.0	Mar-2024	$31.3	($5.0)	($5.0)	($5.0)	$16.3
3.25% capital funding notes due 2024 (2012D-2)	11/30/2012	$50.0	Sep-2024	$33.8	($5.0)	($5.0)	($5.0)	$18.8
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	$27.8	($3.0)	($3.8)	($4.0)	$17.0
Capital lease obligation	2/1/2015	$6.9	Nov-2019	$4.0	($1.9)	($2.1)	$0.0	$0.0
New borrowing - 2019	3/31/2019	$16.0	Mar-2024	-	-	($2.3)	($3.3)	$10.4
New borrowing - 2020	3/31/2020	$16.0	Mar-2025	-	-	-	($2.4)	$13.6
Total		**$349.0**		**$239.9**	**($23.4)**	**($26.6)**	**($28.2)**	**$193.7**

IX. MEMBERSHIP EXPANSION

MOUNTAIN WEST TRANSMISSION GROUP (MOUNTAIN WEST)

The Mountain West Transmission Group is an informal collaboration of electricity service providers formed in early 2013 to evaluate an array of options ranging from a common transmission tariff to Regional Transmission Organization (RTO) membership.



Source *https://www.wapa.gov/About/keytopics/Pages/Mountain-West-Transmission-Group.aspx*

SPP has cultivated meaningful relationships with certain utilities located in the Western Interconnection, specifically within Mountain West. As a result of these efforts, Mountain West utilities have jointly entered into formal negotiations seeking SPP membership to benefit from the combined services SPP has to offer.

SPP anticipates the negotiations to conclude by the end of 2017 and expects Mountain West utilities to execute membership agreements in 2019. At the time of the membership execution date, the Mountain West transmission facilities will be placed under the SPP tariff and the Mountain West utilities will receive reliability coordination, system planning, market administration and other services provided by SPP as defined in the tariff.

The budget as presented in this document does not include any costs expected for the integration of Mountain West into SPP membership.

Since the timing and costs to implement are dependent on the results of the negotiations, the budget as presented in this document does not include any costs expected for the integration of Mountain West into SPP membership. SPP staff will recommend an addendum to this budget to include incremental operating and capital costs needed for this integration effort at the appropriate time. Such costs will include changes to key reliability and market systems as well as additional staffing resources required to investigate, integrate and operate the additional western transmission facilities.

X. SUPPLEMENTAL ANALYSIS AND SCHEDULES

INCOME STATEMENT 2017-2018 COMPARISON ($ MILLIONS)

	2017 Budget	2017 Forecast	2018 Budget	2018 Prior
Income				
Tariff Administration Service	$160.5	$162.4	$164.0	$168.2
Fees & Assessments	28.1	26.7	26.1	28.8
Contract Services Revenue	0.5	0.5	0.2	0.5
Miscellaneous Income	5.0	5.2	4.0	5.1
Total Income	**$194.1**	**$194.8**	**$194.2**	**$202.6**
Expense				
Salary & Benefits	$91.3	$93.0	$96.1	$94.0
Employee Travel	2.2	2.0	2.2	2.4
Administrative	5.3	4.8	5.2	4.9
Assessments & Fees	18.6	21.7	20.3	19.2
Meetings	1.0	1.1	0.9	1.0
Communications	4.2	3.7	4.5	4.9
Maintenance	18.0	16.7	18.4	20.8
Services	14.2	12.9	14.3	15.5
Regional State Committee	0.3	0.2	0.3	0.3
Depreciation	30.5	29.1	19.4	23.7
Other Expense	10.8	10.6	9.3	11.4
Total Expense	**$196.4**	**$195.8**	**$190.8**	**$198.1**
Net Income (Loss)	**($2.3)**	**($1.0)**	**$3.5**	**$4.5**
Debt Repayment	$23.2	$23.2	$23.4	$28.0
MWh Forecast (in millions)	383.0	387.5	382.1	383.0
Net Revenue Requirement	$160.5	$160.9	$164.0	$168.2
Calculated Admin Fee / MWh	$0.419	$0.415	$0.429	$0.439
Recommended Admin Fee / MWh	$0.419	$0.419	$0.429	$0.439
Tariff Cap on Admin Fee	*$0.430*	*$0.430*	*$0.430*	*$0.430*
Capital Expense	$19.5	$16.0	$17.9	$27.8
Headcount	610	616	609	616

INCOME STATEMENT 2018-2020 ($ MILLIONS)

	2018 Budget	2019 Budget	2020 Budget
Income			
Tariff Administration Service	$164.0	$178.8	$182.4
Fees & Assessments	26.1	21.4	21.4
Contract Services Revenue	0.2	0.0	0.0
Miscellaneous Income	4.0	4.0	4.1
Total Income	**$194.2**	**$204.2**	**$207.9**
Expense			
Salary & Benefits	$96.1	$101.6	$103.9
Employee Travel	2.2	2.0	2.0
Administrative	5.2	5.2	5.2
Assessments & Fees	20.3	20.3	20.3
Meetings	0.9	0.9	0.9
Communications	4.5	4.6	4.6
Maintenance	18.4	19.7	21.0
Services	14.3	13.3	12.5
Regional State Committee	0.3	0.3	0.3
Depreciation	19.4	22.0	22.7
Other Expense	9.3	9.0	8.6
Total Expense	**$190.8**	**$198.9**	**$202.0**
Net Income (Loss)	**$3.5**	**$5.3**	**$5.9**

Debt Repayment	$23.4	$26.6	$28.2
MWh Forecast (in millions)	382.1	382.1	382.1
Net Revenue Requirement	$164.0	$178.8	$182.4
Calculated Admin Fee / MWh	$0.429	$0.468	$0.477
Recommended Admin Fee / MWh	$0.429	$0.468	$0.477
Tariff Cap on Admin Fee	*$0.430*	*$0.430*	*$0.430*
Capital Expense	$17.9	$16.6	$13.0
Headcount	609	610	612

BALANCE SHEET ($ MILLIONS)

	12/31/2017	12/31/2018
ASSETS		
Current Assets		
Cash & Equivalents	$90.5	$92.1
Restricted Cash Deposits	329.7	362.6
Accounts Receivable (net)	31.2	25.9
Other Current Assets	10.3	13.3
Total Current Assets	461.7	493.9
Total Fixed Assets	76.5	75.0
Total Other Assets	4.9	5.0
Investments	23.7	24.0
TOTAL ASSETS	**$566.7**	**$597.9**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable (net)	$34.3	$34.3
Customer Deposits	329.7	362.6
Current Maturities of LT Debt	23.4	24.2
Other Current Liabilities	90.2	102.3
Deferred Revenue	2.3	0.1
Total Current Liabilities	479.9	523.6
Long Term Liabilities		
Long-Term Debt	213.6	191.3
Capital Lease Obligation	2.0	0.0
Other Long Term Liabilities	38.9	47.2
Total Long Term Liabilities	254.4	238.5
Net Income	(1.0)	3.5
Members' Equity	(166.7)	(167.6)
Total Members' Equity	(167.6)	(164.2)
TOTAL LIABILITIES & EQUITY	**$566.7**	**$597.9**

CASH FLOW FORECAST 2018-2020 ($ MILLIONS)

	2018 Budget	2019 Budget	2020 Budget
Operating Activities			
Net Income/(Loss)	$3.5	$5.3	$5.9
Items not Requiring Cash			
Depreciation	19.4	22.0	22.7
Changes in Current Assets and Liabilities	17.7	-	-
Net Cash Provided by Operating Activities	**40.6**	**27.3**	**28.6**
Investing Activities			
Acquisition of Property and Equipment	(17.9)	(16.6)	(13.0)
Net Cash Used in Investing Activities	**(17.9)**	**(16.6)**	**(13.0)**
Financing Activities			
Repayments of Long-Term Debt	(23.4)	(26.7)	(28.1)
Issuance of Long-Term Debt	-	16.0	16.0
Net cash Provided/(Used) in Financing Activities	**(23.4)**	**(10.7)**	**(12.1)**
Increase/(Decrease) in Cash and Cash Equivalents	(0.7)	-	3.5
Cash and Cash Equivalents, Beginning of Year *	**17.8**	**17.1**	**17.1**
Cash and Cash Equivalents, End of Year *	**$17.1**	**$17.1**	**$20.6**

* Operating and capital spending cash accounts

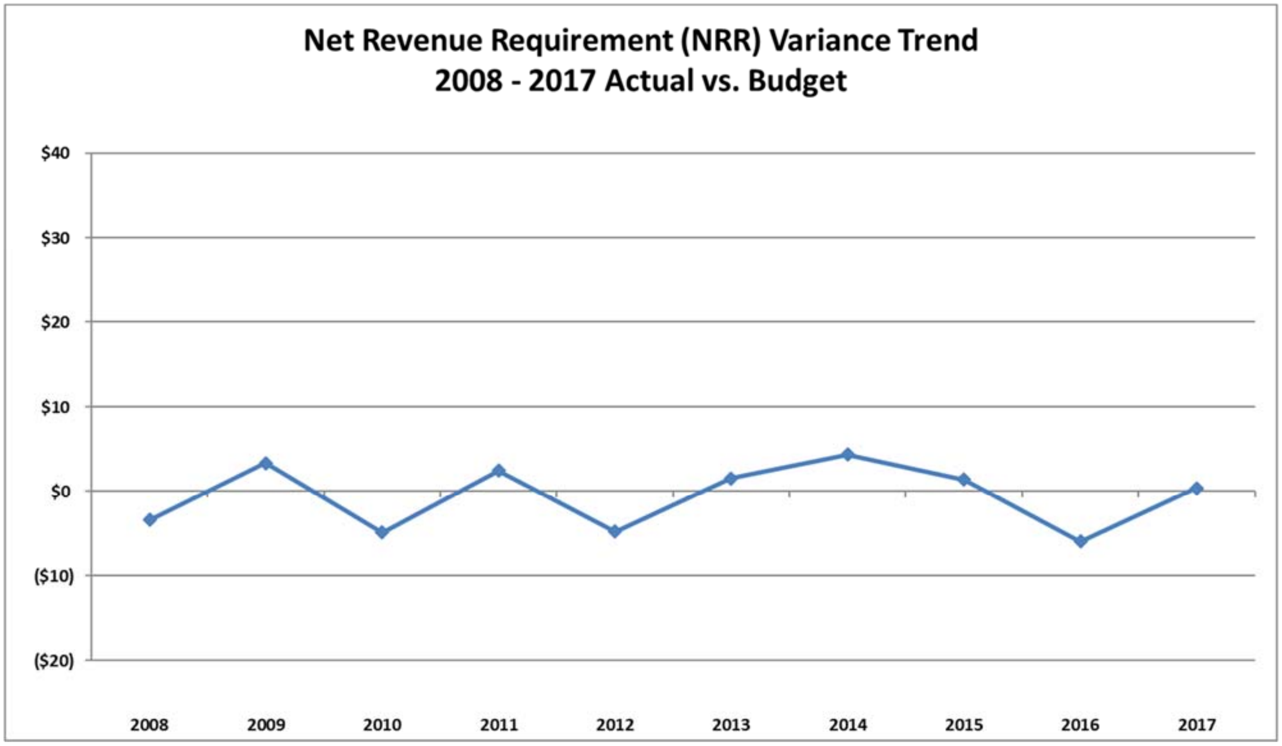
CAPITAL PROJECTS LIST ($ MILLIONS)

	Prior Year(s)	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
Reliability Assurance					
Training and Testing Simulated Environment (TTSE)	$ 0.3	$ -	$ 3.0	$ -	$ 3.3
Voltage Security Assessment Tool (VSAT)	1.3	0.1	-	-	1.4
Transient Stability Assessment Tool (TSAT)	-	0.6	0.8	-	1.4
Identity and Access Management (IAM)	0.2	0.3	-	-	0.5
Total Reliability Assurance	**$ 1.8**	**$ 1.0**	**$ 3.8**	**$ -**	**$ 6.6**
Enhance and Optimize Interdependent Systems					
Operations Marketplace and Other System Enhancements *	$ -	$ 2.4	$ 2.3	$ 2.3	$ 7.0
Data Lake Phase 3	-	0.3	0.1	-	0.4
Total Enhance and Optimize Interdependent Systems	**$ -**	**$ 2.7**	**$ 2.4**	**$ 2.3**	**$ 7.4**
Enhance Member Value and Affordability					
Settlement Systems Replacement	$ 1.8	$ 3.3	$ 0.2	$ -	$ 5.3
Facilities Foundation *	-	0.2	0.3	0.3	0.8
Settlements Foundation *	-	0.3	0.1	0.1	0.5
Project Management Tool Replacement	-	-	0.4	-	0.4
Circuit Redesign	0.2	0.0	-	-	0.2
Total Enhance Member Value and Affordability	**$ 1.9**	**$ 3.8**	**$ 1.0**	**$ 0.4**	**$ 7.1**
IT Service Management Tool Upgrade	-	1.0	-	-	1.0
IT Foundation *	-	9.3	9.4	10.3	29.0
Total Capital Budget	**$ 3.7**	**$ 17.9**	**$ 16.6**	**$ 13.0**	**$ 51.2**
2018 - 2020 Capital Budget					**$ 47.4**

Foundation Details	2018 Budget	2019 Forecast	2020 Forecast	Total Capital
IT Operations	$ 6.4	$ 5.3	$ 7.3	$ 19.0
IT Applications	0.9	2.0	0.8	3.7
IT Cyber Security	0.7	0.6	0.7	2.0
IT Architecture	0.2	0.8	0.7	1.7
Miscellaneous Departments	1.2	0.8	0.8	2.7
IT Foundation Total	$ 9.3	$ 9.4	$ 10.3	$ 29.0
Operations Marketplace and Other System Enhancements	2.4	2.3	2.3	7.0
Facilities	0.2	0.3	0.3	0.8
Settlements	0.3	0.1	0.1	0.5
Total Foundation *	**$ 12.2**	**$ 12.1**	**$ 13.0**	**$ 37.3**

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

NRR VARIANCE HISTORY ($ MILLIONS)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Actual NRR	$58.1	$59.8	$63.5	$80.8	$84.8	$123.3	$137.0	$142.6	$144.5	$160.9	*
Budget NRR	$61.5	$56.5	$68.4	$78.4	$89.6	$121.8	$132.6	$141.2	$150.5	$160.5	
Variance	($3.4)	$3.4	($4.9)	$2.5	($4.8)	$1.5	$4.4	$1.4	($5.9)	$0.4	
	(6%)	6%	(7%)	3%	(5%)	1%	3%	1%	(4%)	0%	

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 2017 NRR represents the forecast as of August 2017.*

PRIOR YEAR BUDGET COMPARISONS ($ MILLIONS)

	2014	2015	2016	2017	2018	2019	2020
Net Revenue Required Estimations							
2014 Budget - NRR Estimations	$132.6	$148.5	$145.2				
2015 Budget - NRR Estimations		$141.2	$147.1	$145.9			
2016 Budget - NRR Estimations			$146.8	$148.5	$158.6		
2017 Budget - NRR Estimations				$160.5	$168.2	$179.9	
2018 Budget - NRR Estimations					$164.0	$178.8	$182.4
Actual NRR	*$137.0*	*$142.6*	$144.5				
Billing Unit Estimations							
2014 Budget - Billing Units Estimations	348.2	348.2	348.2				
2015 Budget - Billing Units Estimations		363.5	398.0	398.0			
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
Actual Billing Units	*351.0*	*373.6*	*394.5*				
Administrative Fee Estimations							
2014 Budget - Admin Fee Estimations	$0.381	$0.426	$0.417				
2015 Budget - Admin Fee Estimations		$0.390	$0.370	$0.360			
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
Actual Admin Fee	*$0.390*	*$0.382*	*$0.366*				

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

PROCESS IMPROVEMENTS

SPP staff and management proactively and continuously review processes and procedures to ensure departmental goals are achieved in an efficient and effective manner in line with SPP's cultural drivers of continuous improvement and efficiency, coupled with productive collaboration.

While many process improvements are quantifiable in terms of time, money and resources, many projects support the success of stakeholders in a qualitative way.

The vision for process improvement in 2017 was two-fold:

1) Increase **value to stakeholders** by implementing process improvements that increase efficiency, improve productivity, reduce risk and cost, and instill quality, trust and confidence.

2) Enhance **employee engagement** by creating opportunities for robust collaboration, critical examination of current state, experimentation and implementation of new ideas.

SPP addressed projects considering both financial and non-financial outcomes. Staff from across the company collaborated on a process-improvement strategic plan to drive actions toward the fulfillment of the vision. While identifying quantifiable process improvements was the goal, creativity of staff was not limited by eliminating nonfinancial improvement ideas. The philosophy and focus was on value and identifying what short-term and long-term value these improvements would bring to the stakeholders — indirectly, directly, financially and non-financially.

A distributed model was used as the framework (performance excellence teams), but many of the improvements were facilitated outside of these performance excellence teams. The business-process-improvement strategic plan was designed to foster continuous improvement throughout the organization.

While 18 process-improvement ideas were actively tracked, many other improvements were occurring on a daily basis throughout the organization.

Listed below are examples of activities and tasks that are now performed more efficiently as a result of process improvement initiatives in various departments.

1) General: Stakeholder data request submission calendar

Working with legal, communications, operations, engineering and compliance, the stakeholder data request submission calendar was posted to the SPP website. Working group staff secretaries were advised to employ this new resource.

Future enhancements include a conversion to true calendar functionality similar to the current calendar of events on the SPP website.

2) General: Improve expense tracking process for revision requests

Efforts are underway to determine the scope of the work and select critical players needed to draft a process for tracking and reporting expenditures associated with member-driven revision requests.

3) General: Transmission market improvement project

Various aspects of this project continue to move forward. In 2017, the settlements department automated approximately 90 percent of the transmission adjustment charge types. Settlements is very close to moving all but three of the settlement validations to a more robust and streamlined application. There have been multiple improvements to the transmission-customer/transmission-owner onboarding process, allowing a provision of more timely and accurate information to the downstream systems. A system enhancement was implemented that reduced the time required to post the price matrix to OASIS from approximately 16 hours to 10 minutes.

Efforts are ongoing to automate the revenue requirements and rates (RRR) process to reduce the manual interventions required to calculate transmission rates and to enter those rates into the appropriate systems. The goal is to implement the new RRR process at the same time the new settlement system goes live in May 2019. Additional efforts are underway to increase consistency by improving load definitions included in the tariff.

4) General: Compliance task analysis project

The project includes working with outside consultants to develop a formal controls inventory based on critical infrastructure protection (CIP) processes and procedures, including mapping National Institute of Standard and Technology (NIST) controls to SPP CIP controls.

5) General: Improvements to SPP.org content management procedures

This communications department plan is underway to migrate SPP.org in-house and assign dedicated resources to its maintenance and ongoing enhancement. SPP is also implementing stricter controls around the timing of postings to provide stakeholders with clearer expectations regarding availability of postings.

6) General: Improvements to the budget process through the Corporate Budget Improvement Task Force

   The task force enhanced the business case template and associated processes used by the directors and the PRPC to approve capital projects for inclusion in the annual budget.

7) General: Develop and implement a crowd collaboration platform for idea sharing and problem solving

   Crowd collaboration looks to address an unresolved problem or unmet need and involves employees collaborating rather than competing to provide a solution.

8) Information technology: SPP CIP hardware asset management process improvements

   This effort to mitigate CIP asset compliance risks will automate and document the checkpoints and stages that each critical infrastructure protection asset must go through in its lifecycle. The information included in this asset lifecycle process will be internal team "build documents" updated to reflect the touchpoints by asset type and/or support team. Asset management checkpoints and stages of an asset through the initial asset build have been designed. System requirements are currently under review.

9) Information technology: ID Asset comparison

   This project involves developing an automation tool to assist in performing CIP asset changes. The tool will turn what was a time-consuming effort into something more streamlined, which will help IT meet CIP compliance requirements related to baseline comparisons.

10) Operations: Request Management System (RMS) ticket enhancements

   Operations staff identified a more user-friendly public data layout to enhance the public data portal and provide job aids to SPP stakeholders. File descriptions have been standardized and drafted by each business area and are now consolidated into the public data guide. Efforts are pending an IT build-out in lower environments.

11) Operations: A methodology to consolidate all real-time operation contact lists into a master list that feeds all or most of the other systems that require this information.

This effort will be leveraged with the reliability communications tool.

12) Operations: Implementation of a change in staffing workload to better accommodate responsibilities of the balancing authority (effective Jan. 1, 2018)

Operations staff is redistributing the workload to allow full coverage of both the reliability coordination (RC) and balancing authority (BA) functions at both locations to provide better coverage of the balancing coordination responsibilities during an evacuation. This will ensure the RC and BA requirements are covered at all times, even during an evacuation. Having two balancing coordinators and reliability unit commitment (BC/RUC) operators on shift will also provide benefit for any future expansion. This project is on schedule for the January 2018 implementation.

13) Finance and corporate services: Working group improvements

The impetus of this effort is from stakeholder feedback regarding meeting materials. Staff focused on the following areas:

a) Development of a formal onboarding process for staff secretaries, similar to the process for new supervisor training.

   This onboarding process would include:

   - Checklist and initial meetings with appropriate identified parties
   - Creation of a best practices document and checklist including recommended curriculum for staff secretaries to access via the learning management system (LMS) tool

b) Development of an evaluation and survey for distribution after each meeting

   A draft of the best practices checklist is currently under review, and staff is creating materials for the SPP learning center internal site. The pilot of the new onboarding curriculum is under development in preparation for the official launch of the onboarding experience by the end of 2017.

14) Engineering: Alternating current contingency calculation (ACCC) consistency (contingency analysis)

This effort is complete. Incremental modifications will be made for transmission services and generator interconnection at a later date as specific needs are identified.

Benefits include:

- Improved study results and fewer errors due to consistency within all groups running on same program. This also results in the reduced risk of multiple versions of code. More time for additional analysis based on quicker results may also be considered as a benefit.

- Potential reduction in run time from 105 hours to 8 due to parallel vs. sequential runs.

- Increased efficiency due to centralized data repository for voltage violation reports, etc.

15) Engineering: Standard project naming convention

16) Engineering: Centralized repository for solutions

The goal is to develop applications that quickly search for solutions and associated ideas given a specific SPP steady state criteria violation. Benefits include time savings related to searching for similar solutions or developing new solutions when previous solutions already exist, the ability to identify more severe violations across studies and proactively address, and programmatic use allowing for proactive identification of solutions to members.

17) Engineering: Transmission and generation implementation tracking (TAGIT) backlog cleanup

18) Engineering: Ideas in the pipeline

- System slider files: Create a library of slider files (i.e., specification sheets) for all models that could be used as the basis for quality assurance (QA) and could eventually be automated to indicate GIS coordinates. This could create more visibility into the bigger picture, so engineers can better identify weaknesses in the system.

- Substation information: Create a process for systematically collecting and documenting substation data to assist with siting, detailed project proposals, project solution milestones, etc.

XI. SPP OPERATING PLAN DOCUMENT

The operating plan is attached in its entirety as presented to the Finance Committee on Sept. 26, 2017.

2018 OPERATING PLAN

Published September 26, 2017

By the SPP Finance Department

CONTENTS

BACKGROUND INFORMATION

PURPOSE OF SPP

SPP's mission is "Helping our members work together to keep the lights on ... today and in the future." All of SPP's services are provided on a regional basis, independently, focused on reliability and cost effectiveness. The benefits of SPP are derived from this mission and the diligence to bring value to SPP members and their customers. SPP administers reliability coordination, transmission services and wholesale markets for the benefit of all electric utility operations in the region SPP serves. 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

REGULATORY

SPP is directly regulated by FERC. All changes to the SPP regional tariff must be filed with and approved by FERC prior to implementation. Failure by SPP to comply with tariff provisions and/or FERC directives must be reported to FERC and may be subject to penalties and fines.

GOVERNING DOCUMENTS

OPEN ACCESS TRANSMISSION TARIFF (OATT, OR "TARIFF")

The SPP tariff defines the majority of the required workload for SPP's operations and engineering departments. Significant duties include, but are not limited to:

- Tariff administration services, including scheduling
- Ancillary service provisions
- Market operations
- Balancing authority operations
- Settlement of all transactions under the OATT
- Administration of credit services for OATT customers
- Complete system impact studies
- Completion of the annual SPP Transmission Expansion Plan
- Study generation interconnection requests
- Evaluate long-term transmission service requests
- Administer the competitive process for transmission expansion
- Administer the Southwestern Power Administration transmission system beyond their tariff
- Monitor activities in SPP's energy markets and exercise plans to mitigate market power

MEMBERSHIP AGREEMENT (MA)

The MA is an agreement between SPP and each of its members. The MA obligates SPP to perform the services outlined, including those in the OATT. Additionally, the MA describes other significant duties which include, but are not limited to:

- Act as the reliability coordinator for the bulk electric system (BES)
- Develop regional reliability plans and emergency procedures
- Review and approve all planned maintenance of the BES
- Coordinate the maintenance of generation units
- Administer an Open Access Same Time Information System

BYLAWS

The bylaws describe the organizational operation of SPP, specifically outlining the duties of the board of directors and committees advising the board. SPP has a responsibility to facilitate meetings of every organizational group. The scope of the organizational structure is as follows:

- Board of directors (1)
- Regional State Committee (1)
- Members committee (1)
- Board-level committees (6)
- Working groups (19)
- Task forces, subcommittees, strike teams (35+)

PROTOCOLS AND BUSINESS PRACTICES

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

ORGANIZATIONAL STRUCTURE

SPP operates via two distinct organizational structures. The first, referred to as the governance structure (see Appendix A: Group Organizational Chart), begins with the board of directors and cascades into board level committees and then to working groups. This organizational structure is populated largely with representatives from SPP's member companies. Generally, the output of this structure is directives on the work SPP is expected to accomplish.

The second organizational structure, the internal staff (see Appendix B: SPP Organizational Chart), 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. This structure receives the directives from the external structure and then goes forward in acting on the directives.

FUNDING

SPP funds its ongoing operating costs through charges to customers under the tariff and customers of specific non-tariff services. SPP's operating costs are inclusive of scheduled principal and interest payments on its outstanding debt but are exclusive of 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¢/MWh. SPP is charging customers 41.9¢/MWh for service in 2017.

SPP's capital expenditures are funded with borrowings from periodic debt issuances and with 20% equity allocation included in the transmission service charge referenced above. SPP's debt issuances are generally unsecured, 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 which was last affirmed in August 2017. SPP staff believes SPP will need to issue new notes in 2018 to fund capital expenditures.

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. SPP is soliciting funding for a larger committed guidance line with a 5 year maturity to fund capital expenditures. The key aspect requested in the guidance facility is the ability to convert outstanding balances to fixed rate term notes. Staff expects to complete negotiations with lenders late 4Q'17 and, if successful, present a proposal to the SPP Board of Directors in early 2018.

2018 EXPECTED BUSINESS ENVIRONMENT

The expectations described below largely resemble those in last year's Operating Plan, with attention given to cybersecurity, the proliferation of renewable energy resources, and the impact of energy efficiency on load. An exception, though, is found in the regulatory arena, where a new presidential administration and subsequent changes in policy and regulatory and legislative leadership have brought numerous issues into question.

Cybersecurity

The threat of cyber-attacks continues to be one of SPP's and the entire industry's top risks. Critical infrastructure protection standards continue to evolve to cover areas such as supply chain protection, and such standards serve as robust, base-level requirements to secure our critical assets. The culture throughout the electric industry, though, is maturing from one of compliance to a culture of security.

SPP and its peers must remain involved in the development and implementation of regulations and standards to ensure that they allow for the flexibility needed to meet the security challenges they face in continuing to provide reliable, affordable electricity to consumers. The industry must continue to prioritize cybersecurity maturity above and beyond that which is required for compliance as evolving threats and emerging technologies surface faster than standards can be contemplated and promulgated.

Energy Efficiency

Continued innovation in the arena of energy efficiency, and particularly with regard to consumer goods, will continue to impact the load profiles of SPP and the entire electric utility industry. In the short-term, more efficient appliances and consumer electronics will continue to hold demand low. Soon, though, new technology and products – e.g., electric and autonomous cars – will become cheap enough to proliferate the consumer market, at which time the industry should expect load to grow significantly.

Renewable Proliferation

SPP expects continued growth in wind generation on our system. By the end of 2017, SPP will have more than 17 GW of wind capacity, and there is more than 36 GW of additional wind capacity in the generator interconnection study queue. While SPP has reliably managed wind penetration levels of more than 50 percent and anticipates levels of 60 percent by 2018, a saturation point will be reached at which wind resources will need to be exported to other regions or curtailed to remain economically and reliably viable.

The SPP region has still seen only limited growth in solar, but that is soon expected to change. With regard to pending generator interconnection requests, solar power is second only to wind with more than 7 GW in SPP's study queue.

Distributed Energy Resources

Utility experts continue to wrestle with the question of the eventual impact of distributed energy resources (DER) on the reliability of the grid. Former FERC Chairman Cheryl LaFleur has suggested that decentralization may have already reached a tipping point, meaning utilities and grid operators will be forced to deal with DERs, whether as a threat or compliment to existing models. This may be hastened by the nation's changing resource mix (see "Renewable Proliferation" above), which is driving down the cost of solar photovoltaic and energy storage technology. Regardless of how decentralized the grid of tomorrow will become, adequate transmission infrastructure will play a crucial role in ensuring its reliability. SPP will also need to respond to changes prompted by its members and their customer bases, including those related to market support for locational issues.

Regulatory Changes and the Trump Administration

The election of President Trump and the coupling of his administration with Republican majorities in Congress will likely bring change to the power and utilities sector. Given the decreased threat of a presidential veto, there is potential for comprehensive energy legislation to be passed by Congress for the first time since 2005. Such legislation could lead to a significant amount of planning and analysis by regional transmission organizations (RTO), including SPP. The last attempt at comprehensive energy legislation failed during the previous administration but its policy provisions are likely to resurface during the current session of Congress.

The most notable and potentially relevant policy provisions to SPP are those related to grid hardening and security and provisions related to markets and distributed energy resources. For example, the House version of the 2016 energy bill would have required a "strategic reserve" of spare power transformers and emergency mobile substations to restore the grid after physical or cyberattack, electromagnetic pulse attack, geomagnetic disturbance, severe weather, or seismic events.

In addition to influencing the odds of comprehensive energy legislation, the new administration has resulted in a new FERC with four of the five commissioners being newly appointed to their posts. While there remains some regulatory uncertainty as to the priorities of this new FERC, the Department of Energy's (DOE) grid study provides some insight into the likely policy issues FERC will address in the coming year.

The study calls for FERC to expedite its efforts with states, RTO/ISOs, and other stakeholders to improve energy price formation in centrally-organized wholesale electricity markets, including negative pricing. And it directs the agency to study and make recommendations regarding efforts to require valuation of new and existing essential reliability services by creating fuel-neutral markets.

It is also expected that FERC will continue its focus on energy infrastructure issues that enable policies to streamline permitting for critical energy assets, especially to the degree the facilities support the resiliency and affordability themes laid out in the DOE staff report.

Perhaps the most immediate impact on utilities under the Trump administration is the elimination of aggressive deadlines for carbon emissions reductions from the generation fleet that were prescribed under the Environmental Protection Agency's Clean Power Plan. To comply with the Clean Power Plan, some utilities had taken steps to bring down emission levels, which included the shutting down of old coal-based power plants, investing in emission control equipment, and increasing the share of natural gas and other energy sources in electricity generation.

Although the CPP may be repealed or replaced with a less stringent emission standard, it is unlikely the decline in coal-fired power generation will be reversed; however, coal-focused electric utilities will likely be able to run their coal units for a longer period than expected earlier. This is because in many cases, the switch from coal to natural gas and renewables is being driven by factors beyond federal regulations. The primary driver has been and will continue to be economic. Coal is not competitive with lower-priced and widely-available natural gas, and the cost of developing renewable energy resources continues to decline. Therefore, it is expected that natural gas use increases across the SPP footprint with continued investment in natural gas-fired combined cycle resources while coal consumption decreases as coal loses market share to natural gas and renewable generation in the electric power sector.

Throughout 2018 and beyond, renewable generation will continue to grow. With a continued tax credit and declining capital costs, it is expected that solar capacity growth continues across the SPP footprint in the long term while tax credits provided for plants entering service until, but no later than 2024, provide incentives for new wind capacity in the near term.

MAJOR 2018 PROJECT INVESTMENTS

SETTLEMENT SYSTEM REPLACEMENT (STARTED IN 2016)

Replace the current market and transmission settlement systems with a custom designed, single, high-performance, scalable system solution.

BENEFITS

Expand automation of the settlements processes to improve accuracy, timeliness, and auditability of the processes. Expect significant reduction in long-term support costs for the settlement function.

STRATEGIC PLAN LINKAGE

Enhance member value and affordability: Existing settlement system has proven to be inefficient, resulting in many manual adjustment processes to complete daily settlements.

INVESTMENT AND TIMELINE

The project initiated in 2016 and is expected to complete in 2Q'19. Significant milestones are:

- Research and evaluation of opportunities .... **(completed)** 2016
- RFP and vendor selection........ **(completed)** 2017
- Formula builder........ **(completed)** July 2017
- Calculation engine .... Feb 2018
- User interface .... July 2018
- Development complete, market trials start........ Dec 2018
- Go-live .... May 2019

Capitalized Development Costs ($million)

- Software........ $5.30
- Allocated IT expenditures (virtual servers, storage, etc.)........ $0.98
- **Total Capitalized Development Costs $6.28**

SPP expects an increase of three full-time IT employees responsible for support and maintenance of the system. Once implemented, SPP will no longer pay for vendor provided support and maintenance of approximately $1.4 million annually. Additionally, there will be replacements of hardware assets on SPP's standard five-year replacement schedule.

RISKS

Two significant risks have been identified:

1) New solution requires internal ownership for IT support and development of future enhancements. There is a risk internal IT would not be staffed appropriately to facilitate this required support and anticipated cost savings would not be realized. The project includes significant testing by SPP resources throughout code development to ensure familiarity with

the code. Hiring of incremental IT resources will occur early in 2018. These efforts are intended to mitigate the identified risk.

2) Settlement system solution represents a paradigm shift in the settlement and IT processes, including system and database approach. Cost savings are dependent on a successful shift in data gathering and processing. The vendor has a proven track record in customized financial system implementations and is nearing completion of similar settlement system replacement at a U.S. RTO.

VOLTAGE SECURITY ASSESSMENT TOOL (VSAT) (STARTED IN 2017)

The online VSAT will identify constraints on the transmission system that real-time operators will be able to mitigate using current congestion management tools. The VSAT will enable real-time operators and operational planning engineers to prepare for and react to stability concerns in order to maintain reliable operation of the BES.

BENEFITS

The most significant goal of this project is to identify areas of voltage concerns with real-time and near-term data. This can be done more efficiently using the VSAT's ability to construct a power-voltage curve with multiple defined contingencies. With the increase in variable generation in SPP's service area, power transfers and supply variability will become increasingly less predictable. VSAT will equip SPP to better predict the state of the system in order to facilitate reliable outage coordination, forward unit commitment, reliability assessments, and general reliable operation of the BES. VSAT will bolster SPP's compliance with NERC standards FAC-011-2, IRO-005-3.1a, IRO-008-2, IRO-009-2, and IRO-101-2.

STRATEGIC PLAN LINKAGE

- Reliability Assurance

INVESTMENT AND TIMELINE

VSAT implementation began in 2017 and will complete before the end of 2018. Initial capital costs include purchase of software, purchase of computer hardware, and new functionality added to the energy management system (EMS) software to facilitate the export of data. Total capital investment to bring the VSAT project to functional status is expected to be $1.6 million.

RISKS

VSAT has been implemented at other RTOs that utilize an EMS on the Alstom (now GE) platform. Their implementations have been straightforward. SPP anticipates a similar implementation since this is a proven application and architecture. Internal resource constraints may impact the timeline for implementation but are not expected to be a factor.

TRANSIENT STABILITY ANALYSIS TOOL (TSAT)

Online TSAT helps prevent damage to generating equipment. Rotor angle stability, frequency stability and voltage stability are the three main breakdowns for analyzing power system stability. The TSAT application will monitor transient stability by taking an EMS snapshot case and performing power system transfers that stress the current case. Additional dynamic machine characteristics will be mapped to the EMS case. If the tool indicates transient stability issues corrective actions will be made in order to maintain reliable operation of the transmission system. TSAT will be used to ensure power transfers do not cause a voltage collapse event or blackout. SPP's current tools are not capable of identifying transient stability issues.

BENEFITS

The major benefit of the project is risk avoidance. This project will reduce reliability risk and improve the ability to operate at record variable generation levels. The reliability risk is directly associated with preventing damage to generation equipment. Transient stability is currently not evaluated in real-time operations. The additional awareness will provide SPP operators with increased situational awareness and lead to reduced risk operating the grid. Most North American ISO/RTOs have this tool in operation. SPP is the last to install this type of real-time sophisticated analysis at the ISO/RTO level.

Assuming TSAT prevents damage to one turbine shaft annually and considering the cost of a generator turbine shaft replacement (based on research papers indicating average cost to replace damaged equipment due to transient instability), cost savings would be approximately $12million - $21.5 million.

STRATEGIC PLAN LINKAGE

- **Reliability Assurance**: The increasing amount of volatility from renewable resources has the potential to create unstable conditions that SPP's current tools are not equipped to identify. This project addresses issues found in the last two SPP wind studies, closes a potential compliance gap, and largely increases the reliability of the BES with the large amount of changing resource fuel mix. Wind generation has different characteristics than the conventional coal, gas and hydro generation (inertia, frequency response, voltage and reactive control, response to faults, etc.) Having a substantial part of the load covered with wind generation and less with traditional coal, gas and hydro changes the dynamic behavior of the BES. Other contributing areas that create a more complex behavior of the BES: use of phase shifters, high parallel flows from external RTO's, DC lines parallel to AC lines.

INVESTMENT AND TIMELINE

The project will begin once the VSAT application is complete in production, which is expected to be in 1Q'18. The TSAT application is expected to be in production 1Q'19.

Capitalized Development Costs ($million):

- Hardware $0.77
- Licenses $0.29
- Consulting $0.36
- Other allocated IT Expenditures (virtual servers, storage, etc.) $0.20

Total Capitalized Development Costs..$1.62

Once implemented, the project is expected to require expenditures for annual license fees and software maintenance. Additionally, there will be replacements of the hardware assets on SPP's usual five-year replacement schedule.

RISKS

The most significant risk to timely implementation is the capacity of SPP staff to perform work associated with this project in addition to its routine daily workload. This project will require meaningful attention from SPP's operations engineering staff, already operating at full capacity.

TRAINING AND TESTING SIMULATED ENVIRONMENT (TTSE)

SPP's Dispatcher Training Simulator (DTS) does not meet the requirements of SPP's Operations department with the addition of balancing authority, reliability unit commitment and real-time balancing market functions, due to the lack of an integrated market system. Since the implementation of the Integrated Marketplace and SPP becoming the consolidated balancing authority, market systems have become integral to maintaining reliability and balancing. Realistic simulation training, using market systems, is imperative to SPP operator readiness and ultimately increased reliability for the SPP footprint.

The project was initially proposed in three phases:

- Phase 1: create stand-alone DTS separate from SPP's customer training system
- Phase 2: create market system environment
- Phase 3: add virtualization tools mimicking those available in the control center

BENEFITS

The major benefit of the project is risk avoidance. SPP stakeholders expect operations staff performing SPP's critical real-time functions to be well-trained. Existing capabilities do not contemplate market solutions and impacts, resulting in the unrealistic simulations.

STRATEGIC PLAN LINKAGE

Reliability Assurance: Provides realistic training simulations for SPP's real-time operators to best prepare them for the challenges experienced while on shift.

INVESTMENT AND TIMELINE

Phase 1 of the project initiated in 2016 and resulted in the implementation of a stand-alone training simulation environment for SPP's operations staff. Phase 2 of the project will result in the addition of market simulation capability and contains two components: a) assembly of market simulation hardware and environment and b) build and integrate market simulation software. Phase 3 of the project will add visualization tools to the simulation environment closely mimicking the screens available at the real-time desks.

The completion timelines for each phase are:

- Phase 1: EMS Simulation .... **(Complete)** Dec 2016
- Phase 2: Market Simulation
  - 2A........ Sept 2017
  - 2B........ Dec 2019
- Phase 3: Visualization .... Dec 2018

Capitalized Development Costs ($million)

- Phase 1 .... $0.23
- Phase 2A $0.18

- Phase 2B $3.00
- Phase 3 .... $0.09

Total Capitalized Development Costs........ $3.50

Once implemented, the project is expected to require expenditures for annual license fees and software maintenance of nearly $0.30 million annually. Additionally, replacement of the hardware assets will occur on SPP's standard five-year replacement schedule.

RISKS

The market integration piece of this project (Phase 2B) was based on a proposal from AREVA/Alstom/GE. Due to the $3 million turnkey quote, SPP staff has been evaluating a number of potential in-house solutions. In April 2017, as the complexity of Phase 2 evolved, it was split into A and B sub-phases to get the hardware and initial market environment in place to test potential solutions and determine the best path forward before committing more resources and capital.

The primary challenge is synchronizing the market time, which runs on wall clock/server time, with DTS scenario time. The DTS can be paused or restarted from a previous point, whereas the market runs continually. Unlike other RTOs with a GE market system, SPP's market system has a market control component. This increases the complexity and unknowns of the project, as this is something GE has not utilized in a simulation system before.

DEFERRED, CONTINGENT OR DECLINED PROJECTS

The following projects have been identified as valuable but are not recommended for budget approval at this time. Reasons for not recommending the projects generally are due to uncertainty about regulatory requirements, timelines, solution, etc.

DISTRIBUTED GENERATION FUNCTIONALITY

Project would enhance SPP's markets to allow participation by distributed generation resources and storage devices. FERC has issued a notice of proposed rulemaking but has not issued a final order detailing the requirements for compliance.

Estimated capital investment: $1.8 million

RELIABILITY COMMUNICATIONS TOOL

Project would create an application to facilitate the systematic issuance, receipt, and auditable documentation of operating instructions.

Estimated capital investment: $0.25 million

FREEZE DATE REPLACEMENT

The project will update the process that calculates firm rights used in real-time congestion processes in accordance with new rules and requirements agreed upon by CMP (SPP, MISO, PJM, TVA, AECI, MHEB, LGEE) members.

Estimated capital investment: $0.35 million

REPLICATED DATA SERVER UPGRADE

The replicated data server gives SPP transmission operators and transmission owners a near real-time view of SPP's real-time models, substation one-line drawings, SCADA measurements, powerflow solution results, and real-time contingency analysis warnings and violations.

Estimated capital investment: $0.26 million

2018 MAJOR TECHNOLOGY INVESTMENTS

SPP's ability to provide the vast majority of its services is contingent on a robust and resilient technology infrastructure. SPP operates two data center facilities with full fail-over capacity in the event a single data center is unavailable. Within the data centers exist over 1,900 physical and virtual servers across multiple environments interconnected by a high availability network. Significant investments are made annually to maintain the existing capabilities of the technology infrastructure and enhance it to address new demands on the system, cyber security requirements, and incremental additions to SPP's service menu.

SYSTEMS ADMINISTRATION

The major initiatives in the 2018 fiscal year include:

- Technology refresh of aged server systems *(based on IT's lifecycle policy)*
- Additional data storage for both data center sites *(production and backup capacity)*
- IT service management tool upgrade/replacement

TECHNOLOGY/SERVER REFRESH

The systems administration team manages approximately 450 physical servers and roughly 1500 virtual servers. Generally speaking, IT's policy is to replace physical hardware after a five-year useful life based on exposure to increased failure rates, discontinued or unaffordable vendor support, operating system incompatibility, and the need for faster application performance and connectivity requirements.

SPP has approximately 160 physical servers (dedicated and virtualized) targeted for replacement during 2018 at a total expected replacement cost of $2.8 million. In concert with the server refresh, SPP will continue to deploy and expand virtualization technology to maximize the utilization of computer hardware and software wherever possible.

DATA STORAGE

SPP utilizes multiple storage technologies to manage data based on the speed, confidentiality, and frequency of use of the stored data. The total capacity of all storage platforms and technologies in place at SPP is 1.5 petabytes. SPP's need for additional storage grows annually based on the retention of years of Integrated Marketplace data and due to additional entrants to SPP's transmission and market services. SPP expects to add flash storage technology in 2018 at a cost of nearly $1.0 million.

SERVICE MANAGEMENT

SPP's current tool to perform incident, problem, change, asset, release, service request, and knowledge management functions is nearing its end of life. This tool is critical for performing processes related to change and configuration management for CIP-010 and SOC-1 as well as patch management related to CIP-007. SPP is performing a complete review of the system to determine if an upgrade is viable or if replacing the tool with a different product is the more viable and reasonable solution to ensure SPP is leveraging the best possible ITSM tool for the best value. SPP is also seeking a more user friendly interface that allows for better self-service, full service visibility with dashboards and reporting to make better decisions, and drive improvements with service and asset awareness. The costs of upgrade or full replacement are not known at this time.

IT ARCHITECTURE

SPP maintains an architectural roadmap to guide it's evaluation of and evolution to emerging technologies. The 2018 initiatives aligning with the architectural roadmap include the following:

- Data-Lake and Big Data infrastructure foundation
- Analytic and visualization tools

DATA-LAKE AND BIG DATA

SPP utilized Netezza storage appliances as part of Integrated Marketplace project to store historical operational data for business analysis. The Netezza appliances started running out of storage as marketplace data exceeded initial business expectations. Also, the business started requesting access to more historical marketplace operational data (up to five years' worth) and keeping energy imbalance service production data online for time series analysis, data mining, and to produce reports. Data growth and new business requirements gave birth to the Data Lake project, which started in 2016 as an IT foundation project.

The Data Lake project's phase-one goals were to offload less frequently used data from production Netezza appliances to a cost-economical BigData storage solution that provides SQL access to the data, scales incrementally at both compute and storage levels depending on need, and postpones the need for purchasing new Netezza appliances. Phase 1 was successfully implemented and the purchase of new Netezza appliances was postponed.

Data Lake's Phase 2 is currently in progress and concentrates on data access controls, improving checkpoint/restart capabilities, improving SQL query performance, evaluating/implementing transactional capabilities, offloading more historical data from Netezza appliances, and evaluating technologies to feed data directly to Data Lake infrastructure.

Data Lake Phase 3 is slated for 2018. Its goals were to open more Data Lake functionality to business users to run existing processes on the Data Lake infrastructure, provide active-active infrastructure between data centers, implement technologies to feed data directly to Data Lake infrastructure, provide visualization and data analysis capabilities using the tools supported by the data services team, and reduce the dependency on costly Netezza type appliances.

This project reduces the cost of storing historical data for business analysis by reducing the dependency on large Netezza-type appliances. It eliminates the need for either new business tools or rewriting existing queries. It allows incremental scaling at either compute or storage independently which reduces capital and operation expenses. It eliminates time-consuming data migration and verification processes involved with appliance replacements. It also provides federated query capabilities to join the data for future optimizations in data storage.

SPP offloaded 50+ terabytes of data from production Netezza appliances as part of Data Lake phase 1 and postponed $2.6 million in capital cost (need for purchasing new Netezza appliances).

Phases 1 and 2 included capital costs of $1 million and allocated staff costs for 4.5 FTEs. Phase 3 capital costs are forecast at $0.4 million and allocated staff of 2.25 FTEs. The project is expected to provide a 24.47% internal rate of return based on the seven-year cost model.

CYBER SECURITY

SPP intends to add numerous customizations to its arsenal of cyber monitoring, control, and remediation applications. These customizations will provide additional strength to SPP's already formidable cyber defenses. Additionally, SPP will be adding licenses for its cyber defense applications to allow deployment across other assets and data technologies.

KEEPING THE LIGHTS ON

Reliability is job number one at SPP. It is the central focus of every decision and action undertaken within the organization. Internally, this is known as "keeping the lights on" or KTLO. It is the central theme of the organization's mission statement, "Helping our Members work together to **keep the lights on** … today and in the future." SPP's responsibility toward reliability and other important services is delineated in numerous agreements, contracts, tariff, protocols, standards, etc. Significant resources are dedicated directly to fulfilling these obligations and significant support resources are invested in helping the direct satisfaction of these obligations.

INTERNAL WORK GROUPS

SPP's internal organizational structure is designed to ensure appropriate focus and leadership is deployed to address the KTLO work described above. Many groups have direct responsibilities to accomplish the work while others are available to provide necessary support.

OPERATIONS

Operations	Salary & Benefits	Travel	Services	Other	Total Exp	Cap Ex	Approved Staff
2018 Budget	$ 22.5	$ 0.3	$ 0.3	$ 0.1	$ 23.1		162
2017 Forecast	$ 21.4	$ 0.2	$ 0.2	$ 0.1	$ 21.9		162

SPP's operations department is responsible for many of the duties and responsibilities outlined in the OATT and MA. Operations staff are the front-line employees who engage real-time in the reliability and market aspects of SPP on a 24-hour-a-day, seven-day-a-week basis. Staff consists of engineers, certified system operators and specialized support personnel. The department is organized across three distinct subgroups:

1. System operations
2. Markets
3. Operations support

Significant duties include regional reliability coordination, tariff administration, transmission service, real-time and day-ahead market operations, maintaining models for state estimator and commercial modeling tools, training, and balancing authority operations. Additionally, operations staff work with numerous stakeholder groups including the Markets and Operations Policy Committee, Business Practices Working Group, Balancing Authority Operating Committee, Generation Working Group, Operating Reliability Working Group, and Operations Training Working Group. Finally, staff represents SPP and its members at numerous North American Reliability Corporation working groups.

2018 Priorities	Strategic Plan Linkage
Complete a Renewable Generation Integration Study overseen by the Transmission Working Group. The study will analyze inter-modal oscillations identified in the 2017 Variable Generation Integration Study. Additional studies will analyze the 60% and 80% variable generation penetration cases.	• Reliability Assurance • Optimize Interdependent Systems
Enhance operator tools – Implement voltage stability analysis systems, build transient stability analysis systems, continue analysis of PMU data from members and neighboring systems.	• Reliability Assurance
Enhance operator capabilities – implement formal “learning team” processes, enhance simulation exercises to track closer to real world experiences	• Reliability Assurance

ENGINEERING

Engineering	Salary & Benefits	Travel	Services	Other	Total Exp	Cap Ex	Approved Staff
2018 Budget	$ 10.6	$ 0.3	$ 2.1	$ 0.6	$ 13.7		80
2017 Forecast	$ 9.9	$ 0.3	$ 1.9	$ 0.5	$ 12.7		80

Principal duties of SPP’s engineering department include planning SPP’s transmission system to meet future regional reliability, economic, and public policy needs in an optimized manner; tracking progress and costs of approved transmission expansion projects; and performing longer term (longer than one year) studies necessary to process requests for generation interconnection, transmission service, and transmission congestion rights. The department also performs data gathering and reliability assessment responsibilities in support of the SPP Regional Entity. The predominance of these duties are required by SPP’s tariff, business practices, MA, NERC Reliability Standards, and SPP Criteria.

2017 Priorities	Strategic Plan Linkage
Improved Process Alignment: work with stakeholders to identify and recommend improvements to better align the Aggregate Transmission Service Study (ATSS), GI, congestion hedging, and transmission planning assumptions and processes to alleviate concerns about the planning assumptions and the inability of customers to convert transmission rights into transmission congestions rights.	• Reliability Assurance • Enhance Member Value
Planning Studies: Complete the initial ITP assessment under the processes approved by the Board and stakeholders in 2017. Study will complete in 2019.	• Maintain Economical, Optimized Transmission System
Customer Initiated Service Studies: Implement any improvements approved through the GI Improvement Task Force to enhance SPP's ability to process growing numbers of GI requests.	• Reliability Assurance
Capacity Margin Refinement: Address FERC identified deficiencies in SPP's reserve adequacy processes and implement the improved process.	• Reliability Assurance • Enhance Member Value
Rayburn Country Study: Complete PUCT requested study of the impact of moving Rayburn Country's facilities and load from SPP to ERCOT	• Reliability Assurance • Maintain Economical, Optimized Transmission System

INFORMATION TECHNOLOGY

Information Technology	Salary & Benefits	Travel	Services	Other	Total Exp	Cap Ex	Approved Staff
2018 Budget	$ 21.7	$ 0.1	$ 4.7	$ 22.0	$ 48.4		164
2017 Forecast	$ 20.1	$ 0.1	$ 4.1	$ 20.4	$ 44.6		161

The primary mission of IT is to develop, deploy, integrate and support the applications and infrastructure that supply SPP's operational and corporate systems. IT is divided into five primary groups (Enterprise Operations, Applications, Sourcing Strategy, Quality Control, and Cybersecurity), along with a chief architect.

The Enterprise Operations department provides 24x7-support for all communications and networking systems and all computer hardware and environmental needs for SPP's data centers. Each of these activities is critical to SPP's transmission, market, reliability and business processes. IT-Operations also provides technical direction, leadership, and architectural design for the communications, network, storage, backup/recovery, and computing platforms for all aspects of the IT infrastructure utilized within SPP.

The IT-Applications department provides 24x7-support for existing systems including transmission, reliability, and Integrated Marketplace. The department is responsible for coordinating all software development efforts related to these key business systems, as well as planning and supporting the integration of new members/market participants such as Integrated Systems. IT-Applications plays an integral role in nearly all new projects, including the creation of requirements/test/rollback plans; developing software; providing technical leadership; defining, implementing and reviewing architecture; and providing ongoing maintenance and support for systems.

The Sourcing Strategy team is responsible for managing the IT budget and facilitating/negotiating business activities with major IT vendors. The team works closely with other IT departments to enact an appropriate short- and long-term budget and acquisition philosophy which incorporates vendor leveraging/relationships, asset lifecycles, and adequate maintenance coverage.

The Quality Control team works to identify and implement risk mitigation strategies to assist in compliance and protection of SPP's assets. The team is responsible for conducting timely internal reviews of evidence to ensure ongoing compliance obligations are met. The team owns and maintains the documentation of all processes and procedures related to compliance for IT and select non-IT departments, including the associated and applicable Reliability Standard Audit Worksheets (RSAWs). The team also plays a significant role in IT EMBC/Recovery Planning, owning and facilitating applicable processes, procedures, and testing activities.

The Cybersecurity team was enhanced and consolidated in 2016 to ensure SPP complies with all requirements of the FERC-approved NERC cybersecurity standards. The team proactively evaluates and employs best practices to ensure SPP's overall IT security is at optimal levels. They work closely with IT and SPP's compliance departments to ensure security measures are adopted, implemented and followed according to SPP policies.

2018 Priorities	Strategic Plan Linkage
Automation: Areas of focus that will continue from 2017 into 2018 include patch management, server provisioning, and application testing. In each of these areas, IT staff spends significant time performing manual processes to build, track, replicate, and verify information. Implementation of automated processes will allow the team to reduce manual activities while providing improved quality and consistent outcomes.	• Enhance Member Value

Reduce third-party consultant engagements: increased and aligned skills of internal staff to become more self-sufficient in supporting SPP's infrastructure and applications and better positioned to assume support for enterprise projects (e.g., Z2 and Settlements replacement). Staff augmentation through consultants is projected at less than $0.5 million in 2018 from a high of $1.6 million in 2014	• Enhanced Member Value
Cybersecurity and CIP Compliance: The Cybersecurity team plans to perform routine training for all staff to quantify adherence to SPP policies and best -practices. At a corporate level the team plans to mitigate risk by implementing tighter controls over CIP assets/systems while performing ongoing penetration testing, vulnerability assessments and recovery exercises.	• Reliability Assurance • Enhance Member Value
IT compute and data infrastructure: begin implementation of an alternative compute infrastructure during 2018 and beyond. Migration to the new platform will be a gradual process aligned with the refresh of existing servers and installations of new project requirements. This infrastructure will improve provisioning efficiency and manageability and as SPP adopts new platforms and environments	• Enhance Member Value
Data Governance: IT has attempted to implement a "fit for purpose" approach whereby the most cost-effective storage solution is aligned with user/application requirements. SPP will continue that approach with a focus on implementing effective processes to allocate/control/delete data in accordance with retention policies and/or end-user requirements. Success initiative will eliminate unnecessary/duplicative data and improve data life-cycle management.	• Enhance Member Value

CORPORATE

Corporate *	Salary & Benefits	Travel	Services	Other	Total Exp	Cap Ex	Approved Staff
2018 Budget	$ 30.8	$ 0.9	$ 5.4	$ 6.5	$ 43.7		138
2017 Forecast	$ 30.7	$ 0.9	$ 5.4	$ 5.5	$ 42.4		137

* Includes Admin/Officer, Corporate Services, Reg/Legal/RSC, Interregional Relations/Market Design, Communications/Government Affairs and MMU

The corporate group has responsibility for many broad aspects of the organization and includes the following support areas:

- Executive
- Communications
- Accounting
- Gov't Affairs
- Legal
- Human Resources
- Regulatory
- Administration
- Settlements
- Facilities
- Credit
- Market Monitoring

This group holds the budget for several expenses which are not allocated across the company such as pension expense, corporate liability insurance, and board of director compensation.

2018 Priorities	Strategic Plan Linkage
Membership expansion: to the extent Mountain West Transmission Group proceeds with membership in SPP, considerable focus on ensuring the implementation proceeds timely and smoothly	• Optimize Interdependent Systems
Settlements: build of the replacement system will consume the entire year. The project plan utilizes the "agile" delivery process which enables ongoing testing of the delivered components throughout the construction phase.	• Enhance Member Value

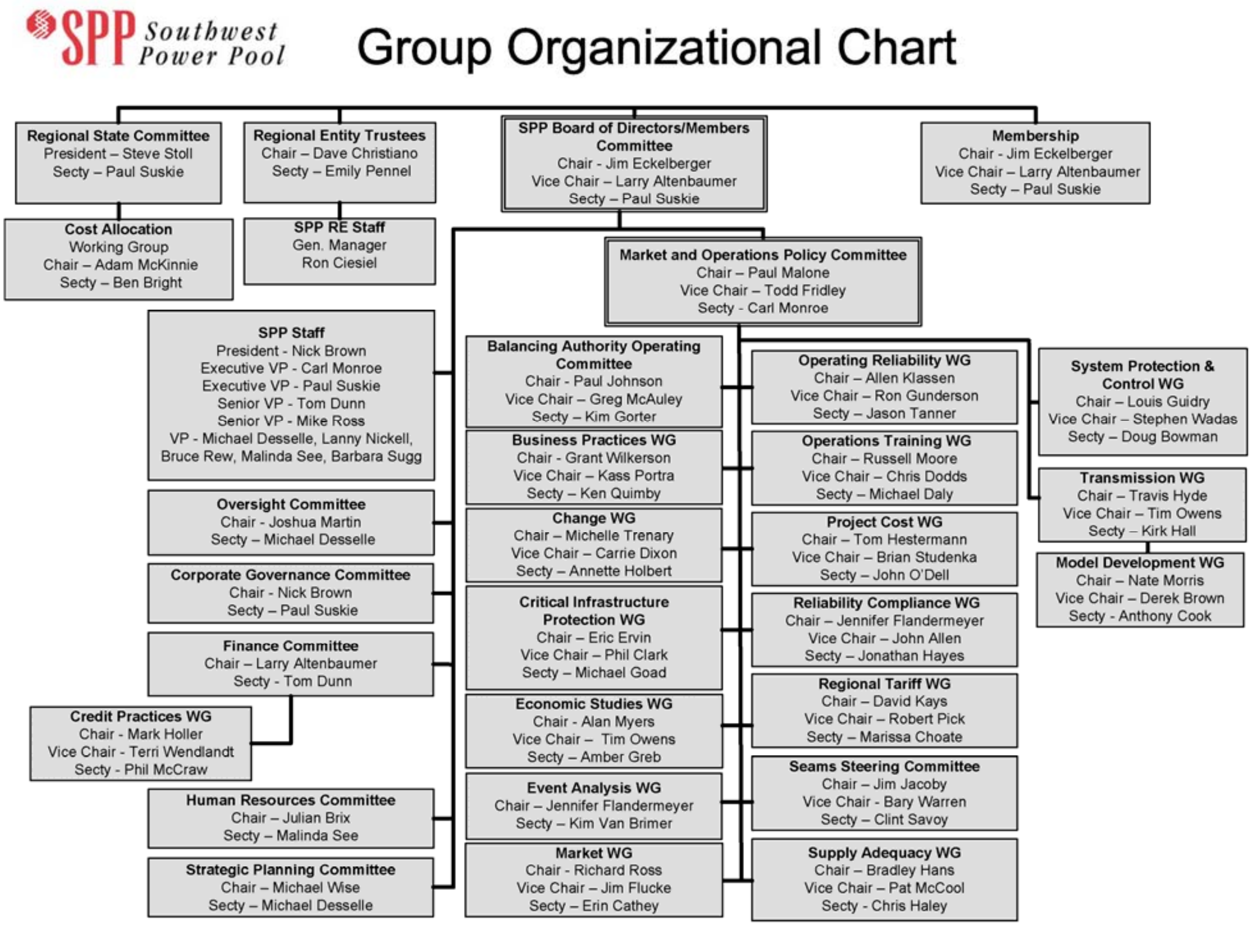
PROCESS INTEGRITY

Process Integrity	Salary & Benefits	Travel	Services	Other	Total Exp	Cap Ex	Approved Staff
2018 Budget	$ 7.9	$ 0.3	$ 1.0	$ 0.1	$ 9.3		54
2017 Forecast	$ 7.1	$ 0.2	$ 0.5	$ 0.1	$ 8.0		53

Primary responsibilities in the Process Integrity group include internal audit, reliability standards compliance, stakeholder services (including external member training and customer service), corporate project management, and interregional activities. Departments in this group work closely with the SPP Oversight Committee.

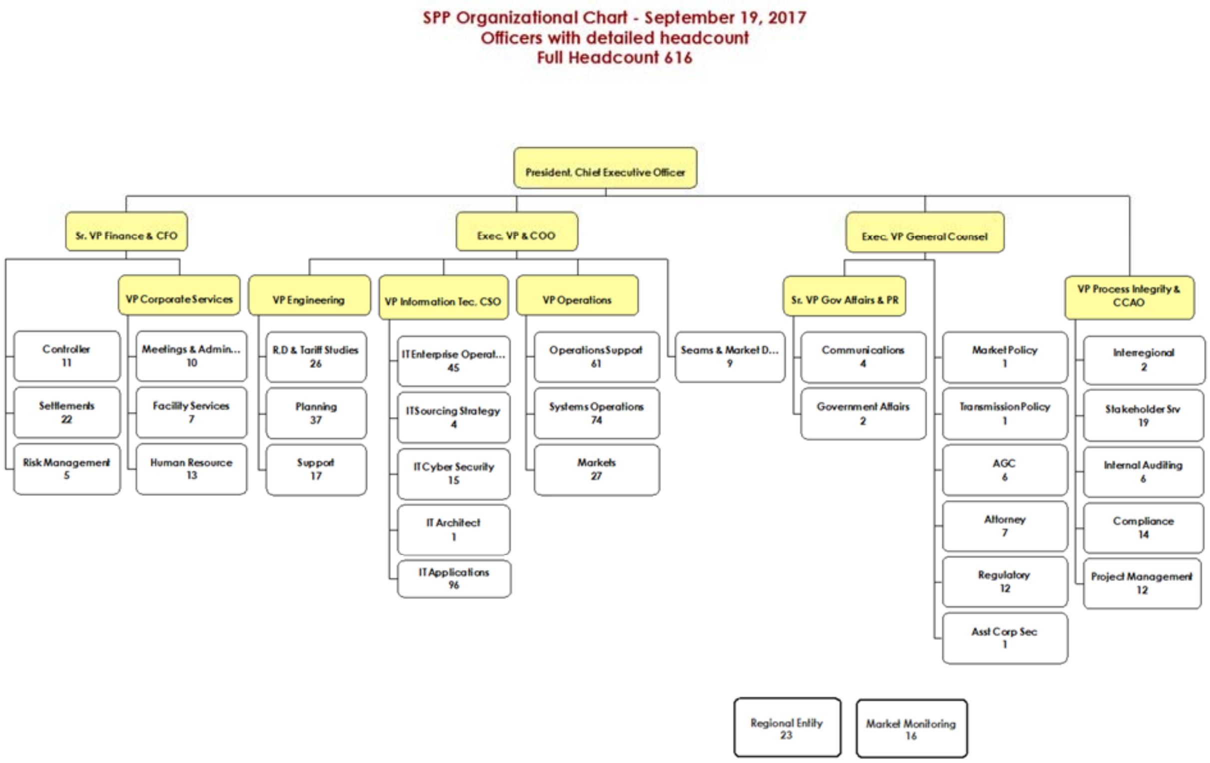
2018 Priorities	Strategic Plan Linkage
Compliance: performance of an internal mock audit to gauge effectiveness of SPP's processes and procedures designed to comply with NERC CIP v5 standards	• Reliability Assurance • Enhance Member Value

APPENDIX A



Updated 08/14/17

APPENDIX B


SPP Organizational Chart - September 19, 2017
Officers with detailed headcount
Full Headcount 616
President, Chief Executive Officer
Sr. VP Finance & CFO
Exec. VP & COO
Exec. VP General Counsel
VP Corporate Services
VP Engineering
VP Information Tec. CSO
VP Operations
Sr. VP Gov Affairs & PR
VP Process Integrity & CCAO
Controller 11
Settlements 22
Risk Management 5
Meetings & Admin... 10
Facility Services 7
Human Resource 13
R.D & Tariff Studies 26
Planning 37
Support 17
IT Enterprise Operat... 45
IT Sourcing Strategy 4
IT Cyber Security 15
IT Architect 1
IT Applications 96
Operations Support 61
Systems Operations 74
Markets 27
Seams & Market D... 9
Communications 4
Government Affairs 2
Market Policy 1
Transmission Policy 1
AGC 6
Attorney 7
Regulatory 12
Asst Corp Sec 1
Interregional 2
Stakeholder Srv 19
Internal Auditing 6
Compliance 14
Project Management 12
Regional Entity 23
Market Monitoring 16